

**APPENDIX E**  
**First Quarter 2023 Analytical Laboratory**  
**Reports, Chain of Custody Forms, and**  
**Validation Reports**

**APPENDIX E**  
**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
1	Arroyo Simi	570-122377-1	January 1, 2023
2	Arroyo Simi	570-122377-2	January 1, 2023
3	Arroyo Simi	570-122377-3	January 1, 2023
4	Arroyo Simi	570-122377-4	January 1, 2023
5	Arroyo Simi	570-122377-5	January 1, 2023
6	Arroyo Simi	570-122423-1	January 3, 2023
7	Arroyo Simi	570-123237-1	January 9, 2023
8	Arroyo Simi	570-123258-1	January 9, 2023
9	Arroyo Simi	570-123258-2	January 9, 2023
10	Arroyo Simi	570-124079-1	January 13, 2023
11	Arroyo Simi	570-124388-1	January 17, 2023
12	Arroyo Simi	570-124899-1	January 21, 2023
13	Arroyo Simi	570-129004-1	February 24, 2023
14	Outfall 001	570-122682-1	January 5, 2023
15	Outfall 001	570-122682-2	January 5, 2023
16	Outfall 001	570-122682-3	January 5, 2023
17	Outfall 001	570-123016-1	January 6, 2023
18	Outfall 001	570-123016-2	January 6, 2023
19	Outfall 001	570-123016-3	January 6, 2023
20	Outfall 001	570-123016-4	January 6, 2023
21	Outfall 001	570-123016-5	January 6, 2023
22	Outfall 001	570-123016-6	January 6, 2023
23	Outfall 001	570-123265-1	January 9, 2023
24	Outfall 001	570-123650-1	January 11, 2023
25	Outfall 001	570-123650-2	January 11, 2023
26	Outfall 001	570-123650-3	January 11, 2023
27	Outfall 001	570-123650-4	January 11, 2023
28	Outfall 001	570-124243-1	January 15, 2023
29	Outfall 001	570-124243-2	January 15, 2023
30	Outfall 001	570-124243-3	January 15, 2023
31	Outfall 001	570-124244-1	January 14, 2023
32	Outfall 001	570-124865-1	January 20, 2023
33	Outfall 001	570-124868-1	January 20, 2023
34	Outfall 001	570-124868-2	January 20, 2023
35	Outfall 001	570-124868-3	January 20, 2023
36	Outfall 001	570-129006-1	February 25, 2023
37	Outfall 001	570-129083-1	February 26, 2023
38	Outfall 001	570-129083-2	February 26, 2023

APPENDIX E

TABLE OF CONTENTS

Number	Outfall/Location	Eurofins Calscience Laboratory Report Number	Sampling Date
39	Outfall 001	570-129083-3	February 26, 2023
40	Outfall 001	570-129853-1	March 4, 2023
41	Outfall 001	570-129907-1	March 5, 2023
42	Outfall 001	570-129907-2	March 5, 2023
43	Outfall 001	570-129907-3	March 5, 2023
44	Outfall 001	570-129989-1	March 6, 2023
45	Outfall 001	570-130078-1	March 7, 2023
46	Outfall 001	570-130078-2	March 7, 2023
47	Outfall 001	570-130078-3	March 7, 2023
48	Outfall 001	570-130857-1	March 10, 2023
49	Outfall 001	570-130859-1	March 11, 2023
50	Outfall 001	570-130859-2	March 11, 2023
51	Outfall 001	570-130859-3	March 11, 2023
52	Outfall 001	570-131818-1	March 20, 2023
53	Outfall 001	570-131945-1	March 21, 2023
54	Outfall 001	570-131945-2	March 21, 2023
55	Outfall 001	570-131945-3	March 21, 2023
56	Outfall 001	570-133102-1	March 30, 2023
57	Outfall 001	570-133102-2	March 30, 2023
58	Outfall 001	570-133102-3	March 30, 2023
59	Outfall 001	570-133103-1	March 29, 2023
60	Outfall 002	570-122386-1	January 1, 2023
61	Outfall 002	570-122386-2	January 1, 2023
62	Outfall 002	570-122386-3	January 1, 2023
63	Outfall 002	570-122390-1	January 2, 2023
64	Outfall 002	570-122390-2	January 2, 2023
65	Outfall 002	570-122390-3	January 2, 2023
66	Outfall 002	570-122390-4	January 2, 2023
67	Outfall 002	570-122390-5	January 2, 2023
68	Outfall 002	570-122390-6	January 2, 2023
69	Outfall 002	570-122425-1	January 3, 2023
70	Outfall 002	570-122503-1	January 4, 2023
71	Outfall 002	570-122671-1	January 5, 2023
72	Outfall 002	570-122949-1	January 5, 2023
73	Outfall 002	570-122959-1	January 6, 2023
74	Outfall 002	570-122959-2	January 6, 2023
75	Outfall 002	570-122959-3	January 6, 2023
76	Outfall 002	570-122986-1	January 6, 2023
77	Outfall 002	570-123264-1	January 9, 2023
78	Outfall 002	570-123414-1	January 10, 2023

**APPENDIX E**  
**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
79	Outfall 002	570-123414-2	January 10, 2023
80	Outfall 002	570-123414-3	January 10, 2023
81	Outfall 002	570-123414-4	January 10, 2023
82	Outfall 002	570-124245-1	January 14, 2023
83	Outfall 002	570-124247-1	January 15, 2023
84	Outfall 002	570-124247-2	January 15, 2023
85	Outfall 002	570-124247-3	January 15, 2023
86	Outfall 002	570-124869-1	January 20, 2023
87	Outfall 002	570-124887-1	January 21, 2023
88	Outfall 002	570-124887-2	January 21, 2023
89	Outfall 002	570-124887-3	January 21, 2023
90	Outfall 002	570-125743-1	January 30, 2023
91	Outfall 002	570-125840-1	January 31, 2023
92	Outfall 002	570-125840-2	January 31, 2023
93	Outfall 002	570-125840-3	January 31, 2023
94	Outfall 002	570-128840-1	February 24, 2023
95	Outfall 002	570-128840-2	February 24, 2023
96	Outfall 002	570-128840-3	February 24, 2023
97	Outfall 002	570-128844-1	February 23, 2023
98	Outfall 002	570-129813-1	March 3, 2023
99	Outfall 002	570-129852-1	March 4, 2023
100	Outfall 002	570-129852-2	March 4, 2023
101	Outfall 002	570-129852-3	March 4, 2023
102	Outfall 002	570-129988-1	March 6, 2023
103	Outfall 002	570-130108-1	March 7, 2023
104	Outfall 002	570-130108-2	March 7, 2023
105	Outfall 002	570-130108-3	March 7, 2023
106	Outfall 002	570-130858-1	March 10, 2023
107	Outfall 002	570-130860-1	March 11, 2023
108	Outfall 002	570-130860-2	March 11, 2023
109	Outfall 002	570-130860-3	March 11, 2023
110	Outfall 002	570-130860-4	March 11, 2023
111	Outfall 002	570-131815-1	March 20, 2023
112	Outfall 002	570-131940-1	March 21, 2023
113	Outfall 002	570-131940-2	March 21, 2023
114	Outfall 002	570-131940-3	March 21, 2023
115	Outfall 002	570-132956-1	March 29, 2023
116	Outfall 002	570-133036-1	March 30, 2023
117	Outfall 002	570-133036-2	March 30, 2023
118	Outfall 002	570-133036-3	March 30, 2023

**APPENDIX E**  
**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
119	Outfall 008	570-122678-1	January 5, 2023
120	Outfall 008	570-122678-2	January 5, 2023
121	Outfall 008	570-122678-3	January 5, 2023
122	Outfall 008	570-122945-1	January 6, 2023
123	Outfall 008	570-122945-2	January 6, 2023
124	Outfall 008	570-122945-3	January 6, 2023
125	Outfall 008	570-122945-4	January 6, 2023
126	Outfall 008	570-122945-5	January 6, 2023
127	Outfall 008	570-122945-6	January 6, 2023
128	Outfall 008	570-122945-7	January 6, 2023
129	Outfall 008	570-123267-1	January 9, 2023
130	Outfall 008	570-123670-1	January 11, 2023
131	Outfall 008	570-123670-2	January 11, 2023
132	Outfall 008	570-123670-3	January 11, 2023
133	Outfall 008	570-123670-4	January 11, 2023
134	Outfall 008	570-124233-1	January 15, 2023
135	Outfall 008	570-124233-2	January 15, 2023
136	Outfall 008	570-124233-4	January 15, 2023
137	Outfall 008	570-124236-1	January 14, 2023
138	Outfall 008	570-124870-1	January 20, 2023
139	Outfall 008	570-124890-1	January 21, 2023
140	Outfall 008	570-124890-2	January 21, 2023
141	Outfall 008	570-124890-3	January 21, 2023
142	Outfall 008	570-129008-1	February 25, 2023
143	Outfall 008	570-129009-1	February 25, 2023
144	Outfall 008	570-129009-2	February 25, 2023
145	Outfall 008	570-129009-3	February 25, 2023
146	Outfall 008	570-129926-1	March 5, 2023
147	Outfall 008	570-129991-1	March 6, 2023
148	Outfall 008	570-129992-1	March 6, 2023
149	Outfall 008	570-129992-2	March 6, 2023
150	Outfall 008	570-129992-3	March 6, 2023
151	Outfall 008	570-130109-1	March 7, 2023
152	Outfall 008	570-130109-2	March 7, 2023
153	Outfall 008	570-130109-3	March 7, 2023
154	Outfall 008	570-130855-1	March 10, 2023
155	Outfall 008	570-130861-1	March 11, 2023
156	Outfall 008	570-130861-2	March 11, 2023
157	Outfall 008	570-130861-3	March 11, 2023
158	Outfall 008	570-131811-1	March 20, 2023
159	Outfall 008	570-131948-1	March 21, 2023

**APPENDIX E**  
**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
160	Outfall 008	570-131948-2	March 21, 2023
161	Outfall 008	570-131948-3	March 21, 2023
162	Outfall 008	570-133054-1	March 30, 2023
163	Outfall 008	570-133054-2	March 30, 2023
164	Outfall 008	570-133054-3	March 30, 2023
165	Outfall 008	570-133104-1	March 29, 2023
166	Outfall 009	570-122379-1	January 1, 2023
167	Outfall 009	570-122379-2	January 1, 2023
168	Outfall 009	570-122379-3	January 1, 2023
169	Outfall 009	570-122381-1	January 2, 2023
170	Outfall 009	570-122381-2	January 2, 2023
171	Outfall 009	570-122381-3	January 2, 2023
172	Outfall 009	570-122381-4	January 2, 2023
173	Outfall 009	570-122381-5	January 2, 2023
174	Outfall 009	570-122381-6	January 2, 2023
175	Outfall 009	570-122381-7	January 2, 2023
176	Outfall 009	570-123266-1	January 9, 2023
177	Outfall 009	570-123393-1	January 10, 2023
178	Outfall 009	570-123393-2	January 10, 2023
179	Outfall 009	570-123393-3	January 10, 2023
180	Outfall 009	570-123393-4	January 10, 2023
181	Outfall 009	570-123393-5	January 10, 2023
182	Outfall 009	570-124239-1	January 15, 2023
183	Outfall 009	570-124239-2	January 15, 2023
184	Outfall 009	570-124239-4	January 15, 2023
185	Outfall 009	570-124241-1	January 14, 2023
186	Outfall 009	570-124871-1	January 20, 2023
187	Outfall 009	570-124891-1	January 21, 2023
188	Outfall 009	570-124891-2	January 21, 2023
189	Outfall 009	570-124891-3	January 21, 2023
190	Outfall 009	570-125741-1	January 30, 2023
191	Outfall 009	570-125839-1	January 31, 2023
192	Outfall 009	570-125839-2	January 31, 2023
193	Outfall 009	570-125839-3	January 31, 2023
194	Outfall 009	570-128846-1	February 24, 2023
195	Outfall 009	570-129010-1	February 25, 2023
196	Outfall 009	570-129010-2	February 25, 2023
197	Outfall 009	570-129010-3	February 25, 2023
198	Outfall 009	570-129851-1	March 4, 2023
199	Outfall 009	570-129959-1	March 5, 2023

**APPENDIX E**  
**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
200	Outfall 009	570-129959-2	March 5, 2023
201	Outfall 009	570-129959-3	March 5, 2023
202	Outfall 009	570-129990-1	March 6, 2023
203	Outfall 009	570-130127-1	March 7, 2023
204	Outfall 009	570-130127-2	March 7, 2023
205	Outfall 009	570-130127-3	March 7, 2023
206	Outfall 009	570-130856-1	March 10, 2023
207	Outfall 009	570-130862-1	March 11, 2023
208	Outfall 009	570-130862-2	March 11, 2023
209	Outfall 009	570-130862-3	March 11, 2023
210	Outfall 009	570-131814-1	March 20, 2023
211	Outfall 009	570-131938-1	March 21, 2023
212	Outfall 009	570-131938-2	March 21, 2023
213	Outfall 009	570-131938-3	March 21, 2023
214	Outfall 009	570-132955-1	March 29, 2023
215	Outfall 009	570-133059-1	March 30, 2023
216	Outfall 009	570-133059-2	March 30, 2023
217	Outfall 009	570-133059-3	March 30, 2023
218	Outfall 010	570-123417-1	January 10, 2023
219	Outfall 010	570-123417-2	January 10, 2023
220	Outfall 010	570-123417-3	January 10, 2023
221	Outfall 010	570-123653-1	January 11, 2023
222	Outfall 010	570-123653-2	January 11, 2023
223	Outfall 010	570-123653-3	January 11, 2023
224	Outfall 010	570-123653-4	January 11, 2023
225	Outfall 010	570-123653-5	January 11, 2023
226	Outfall 010	570-123653-6	January 11, 2023
227	Outfall 010	570-123653-7	January 11, 2023
228	Outfall 011	570-123256-1	January 8, 2023
229	Outfall 011	570-123256-2	January 8, 2023
230	Outfall 011	570-123256-3	January 8, 2023
231	Outfall 011	570-123391-1	January 10, 2023
232	Outfall 011	570-123391-2	January 10, 2023
233	Outfall 011	570-123391-3	January 10, 2023
234	Outfall 011	570-123391-4	January 10, 2023
235	Outfall 011	570-123391-5	January 10, 2023
236	Outfall 011	570-123391-6	January 10, 2023
237	Outfall 011	570-124229-1	January 15, 2023
238	Outfall 011	570-124392-1	January 17, 2023

**APPENDIX E**  
**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
239	Outfall 011	570-124392-2	January 17, 2023
240	Outfall 011	570-124392-3	January 17, 2023
241	Outfall 011	570-124392-4	January 17, 2023
242	Outfall 011	570-124872-1	January 20, 2023
243	Outfall 011	570-124873-1	January 20, 2023
244	Outfall 011	570-124873-2	January 20, 2023
245	Outfall 011	570-124873-3	January 20, 2023
246	Outfall 011	570-129007-1	February 25, 2023
247	Outfall 011	570-129011-1	February 25, 2023
248	Outfall 011	570-129011-2	February 25, 2023
249	Outfall 011	570-129011-3	February 25, 2023
250	Outfall 011	570-129011-4	February 25, 2023
251	Outfall 011	570-131178-1	March 14, 2023
252	Outfall 011	570-131456-1	March 16, 2023
253	Outfall 011	570-131456-2	March 16, 2023
254	Outfall 011	570-131456-3	March 16, 2023
255	Outfall 011	570-131947-1	March 21, 2023
256	Outfall 011	570-132136-1	March 21, 2023
257	Outfall 011	570-132136-2	March 21, 2023
258	Outfall 011	570-132136-3	March 21, 2023
259	Outfall 018	570-122522-1	January 4, 2023
260	Outfall 018	570-122522-2	January 4, 2023
261	Outfall 018	570-122522-3	January 4, 2023
262	Outfall 018	570-123038-1	January 6, 2023
263	Outfall 018	570-123038-2	January 6, 2023
264	Outfall 018	570-123038-3	January 6, 2023
265	Outfall 018	570-123038-4	January 6, 2023
266	Outfall 018	570-123038-5	January 6, 2023
267	Outfall 018	570-123038-6	January 6, 2023
268	Outfall 018	570-123261-1	January 9, 2023
269	Outfall 018	570-123665-1	January 11, 2023
270	Outfall 018	570-123665-2	January 11, 2023
271	Outfall 018	570-123665-3	January 11, 2023
272	Outfall 018	570-123665-4	January 11, 2023
273	Outfall 018	570-124230-1	January 15, 2023
274	Outfall 018	570-124230-2	January 15, 2023
275	Outfall 018	570-124230-3	January 15, 2023
276	Outfall 018	570-124231-1	January 14, 2023
277	Outfall 018	570-124874-1	January 20, 2023
278	Outfall 018	570-124898-1	January 21, 2023



**APPENDIX E**

**TABLE OF CONTENTS**

<b>Number</b>	<b>Outfall/Location</b>	<b>Eurofins Calscience Laboratory Report Number</b>	<b>Sampling Date</b>
279	Outfall 018	570-124898-2	January 21, 2023
280	Outfall 018	570-124898-3	January 21, 2023
281	Outfall 018	570-128843-1	February 24, 2023
282	Outfall 018	570-129084-1	February 26, 2023
283	Outfall 018	570-129084-2	February 26, 2023
284	Outfall 018	570-129084-3	February 26, 2023
285	Outfall 018	570-129850-1	March 4, 2023
286	Outfall 018	570-129968-1	March 5, 2023
287	Outfall 018	570-129968-2	March 5, 2023
288	Outfall 018	570-129968-3	March 5, 2023
289	Outfall 018	570-129985-1	March 6, 2023
290	Outfall 018	570-130128-1	March 7, 2023
291	Outfall 018	570-130128-2	March 7, 2023
292	Outfall 018	570-130128-3	March 7, 2023
293	Outfall 018	570-130920-1	March 13, 2023
294	Outfall 018	570-131459-1	March 16, 2023
295	Outfall 018	570-131459-2	March 16, 2023
296	Outfall 018	570-131459-3	March 16, 2023
297	Outfall 018	570-131817-1	March 20, 2023
298	Outfall 018	570-131952-1	March 21, 2023
299	Outfall 018	570-131952-2	March 21, 2023
300	Outfall 018	570-131952-3	March 21, 2023
301	Outfall 018	570-132958-1	March 29, 2023
302	Outfall 018	570-133047-1	March 30, 2023
303	Outfall 018	570-133047-2	March 30, 2023
304	Outfall 018	570-133047-3	March 30, 2023

<b>Number</b>	<b>Outfall/Location</b>	<b>LuminUltra Laboratory Report Number</b>	<b>Sampling Date</b>
305	Outfall 002	SM23A04007	January 1, 2023
	Outfall 009	SM23A04008	January 1, 2023
	Outfall 018	SM23A09005	January 4, 2023
306	Outfall 001	SM23A09006	January 5, 2023
	Outfall 008	SM23A09007	January 5, 2023
	Outfall 001	SM23A10025	January 9, 2023
307	Outfall 008	SM23A10026	January 9, 2023
	Outfall 011	SM23A10027	January 8, 2023
	Outfall 018	SM23A10028	January 9, 2023
308	Outfall 010	SM23A11054	January 10, 2023

<b>Number</b>	<b>Outfall/Location</b>	<b>Data Usability Summary Reports (Validation Reports)</b>	<b>Sampling Date</b>
309	Various	01_2023_NPDES_Q1_Rad_DUSR	2 through 31 January 2023
310	Various	02_2023_NPDES_Q1_Feb_Mar_Met_DUSR	25 February through 16 March 2023
311	Various	03_2023_NPDES_Q1_Feb_Mar_Diox_DUSR	24 February through 30 March 2023
312	Various	04_2023_NPDES_Q1_Feb_Mar_Diox_Tox_E.coli_DUSR	24 February through 30 March 2023
313	Various	05_2023_NPDES_Q1_Jan_Feb_Mar_DUSR	January through March 2023



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 1/17/2023 4:59:59 PM

## JOB DESCRIPTION

Annual Arroyo Simi-Frontier Park - Dry Weather

## JOB NUMBER

570-122377-1

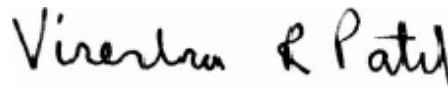
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/17/2023 4:59:59 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	11
QC Sample Results . . . . .	12
QC Association Summary . . . . .	15
Lab Chronicle . . . . .	16
Certification Summary . . . . .	17
Method Summary . . . . .	18
Sample Summary . . . . .	19
Chain of Custody . . . . .	20
Receipt Checklists . . . . .	33

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
LQ	LCS/LCSD recovery above method control limits
PI	Primary and confirm results varied by > than 40% RPD

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

---

## Job ID: 570-122377-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-122377-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/3/2023 5:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.6° C.

#### GC Semi VOA

Method 608.3: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-294075 and analytical batch 570-295061 recovered outside control limits for the following analytes: Aroclor-1016 and Aroclor-1260. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 608.3: The continuing calibration verification (CCV) associated with 570-294290 recovered high and outside the control limits for Endrin on one column. Results are confirmed on both columns and reported from the passing column. The associated samples are: (LCS 570-294075/2-A) and (LCSD 570-294075/3-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision of Magnesium for preparation batch 570-293542 and analytical batch 570-294017 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-294075. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Lab Sample ID: 570-122377-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hardness as calcium carbonate	330		7.1	0.50	mg/L	1		SM 2340B	Total Recoverable
Total Suspended Solids	400		10	8.3	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: 40CFR136A 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Date Collected: 01/01/23 11:30**

**Date Received: 01/03/23 17:05**

**Lab Sample ID: 570-122377-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		01/06/23 12:10	01/13/23 14:27	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		01/06/23 12:10	01/13/23 14:27	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		01/06/23 12:10	01/13/23 14:27	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/06/23 12:10	01/13/23 14:27	1
Dieldrin	ND		0.0033	0.0013	ug/L		01/06/23 12:10	01/13/23 14:27	1
Toxaphene	ND		0.067	0.054	ug/L		01/06/23 12:10	01/13/23 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	90		20 - 139	01/06/23 12:10	01/13/23 14:27	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: 40CFR136A 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Date Collected: 01/01/23 11:30**

**Date Received: 01/03/23 17:05**

**Lab Sample ID: 570-122377-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND	LQ	0.10	0.044	ug/L		01/06/23 12:10	01/10/23 22:12	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/06/23 12:10	01/10/23 22:12	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/06/23 12:10	01/10/23 22:12	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/06/23 12:10	01/10/23 22:12	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/06/23 12:10	01/10/23 22:12	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/06/23 12:10	01/10/23 22:12	1
Aroclor 1260	ND	LQ	0.10	0.052	ug/L		01/06/23 12:10	01/10/23 22:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	36	PI	20 - 139	01/06/23 12:10	01/10/23 22:12	1
DCB Decachlorobiphenyl (Surr)	36		20 - 154	01/06/23 12:10	01/10/23 22:12	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Arroyo Simi\_20230101\_Grab

Lab Sample ID: 570-122377-1

Date Collected: 01/01/23 11:30

Matrix: Water

Date Received: 01/03/23 17:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	330		7.1	0.50	mg/L			01/08/23 16:31	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## General Chemistry

Client Sample ID: Arroyo Simi\_20230101\_Grab

Date Collected: 01/01/23 11:30

Date Received: 01/03/23 17:05

Lab Sample ID: 570-122377-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	400		10	8.3	mg/L			01/06/23 17:51	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (20-139)
570-122377-1	Arroyo Simi_20230101_Grab	90

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)
LCS 570-294075/2-A	Lab Control Sample	69
MB 570-294075/1-A	Method Blank	60

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-122377-1	Arroyo Simi_20230101_Grab	36 PI	36
LCS 570-294075/4-A	Lab Control Sample	61	67 PI
LCSD 570-294075/5-A	Lab Control Sample Dup	69	76
MB 570-294075/1-A	Method Blank	37 PI	55

#### Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-294075/1-A**  
**Matrix: Water**  
**Analysis Batch: 294290**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chlordane (technical)	ND		0.033	0.026	ug/L		01/06/23 08:13	01/09/23 22:50	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		01/06/23 08:13	01/09/23 22:50	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		01/06/23 08:13	01/09/23 22:50	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/06/23 08:13	01/09/23 22:50	1
Dieldrin	ND		0.0033	0.0013	ug/L		01/06/23 08:13	01/09/23 22:50	1
Toxaphene	ND		0.067	0.054	ug/L		01/06/23 08:13	01/09/23 22:50	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	60		20 - 139	01/06/23 08:13	01/09/23 22:50	1

**Lab Sample ID: LCS 570-294075/2-A**  
**Matrix: Water**  
**Analysis Batch: 294290**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDE	0.0333	0.0365		ug/L		110	30 - 145
4,4'-DDT	0.0333	0.0317		ug/L		95	25 - 160
Dieldrin	0.0333	0.0307		ug/L		92	36 - 146

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	69		20 - 139

**Lab Sample ID: LCSD 570-294075/3-A**  
**Matrix: Water**  
**Analysis Batch: 294290**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
4,4'-DDD	0.0333	0.0292	PI	ug/L		87	31 - 141	14	39
4,4'-DDE	0.0333	0.0307		ug/L		92	30 - 145	17	35
4,4'-DDT	0.0333	0.0234	PI	ug/L		70	25 - 160	30	42

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 570-294075/1-A**  
**Matrix: Water**  
**Analysis Batch: 294728**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor 1016	ND		0.10	0.044	ug/L		01/06/23 08:13	01/11/23 00:45	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/06/23 08:13	01/11/23 00:45	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/06/23 08:13	01/11/23 00:45	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/06/23 08:13	01/11/23 00:45	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/06/23 08:13	01/11/23 00:45	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/06/23 08:13	01/11/23 00:45	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/06/23 08:13	01/11/23 00:45	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

**Lab Sample ID: MB 570-294075/1-A**  
**Matrix: Water**  
**Analysis Batch: 294728**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	37	PI	20 - 139	01/06/23 08:13	01/11/23 00:45	1
DCB Decachlorobiphenyl (Surr)	55		20 - 154	01/06/23 08:13	01/11/23 00:45	1

**Lab Sample ID: LCS 570-294075/4-A**  
**Matrix: Water**  
**Analysis Batch: 295061**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor 1016	0.133	0.355	PI LQ	ug/L		267	50 - 140
Aroclor 1260	0.133	0.169		ug/L		127	8 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	61		20 - 139
DCB Decachlorobiphenyl (Surr)	67	PI	20 - 154

**Lab Sample ID: LCSD 570-294075/5-A**  
**Matrix: Water**  
**Analysis Batch: 295061**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294075**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Aroclor 1016	0.133	0.387	LQ	ug/L		291	50 - 140	9	36
Aroclor 1260	0.133	0.199	LQ PI	ug/L		149	8 - 140	16	38

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	69		20 - 139
DCB Decachlorobiphenyl (Surr)	76		20 - 154

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 570-294266/1**  
**Matrix: Water**  
**Analysis Batch: 294266**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Suspended Solids	ND		1.0	0.83	mg/L			01/06/23 17:51	1

**Lab Sample ID: LCS 570-294266/2**  
**Matrix: Water**  
**Analysis Batch: 294266**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Suspended Solids	100	84.0		mg/L		84	77 - 116

**Lab Sample ID: LCSD 570-294266/3**  
**Matrix: Water**  
**Analysis Batch: 294266**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Total Suspended Solids	100	84.0		mg/L		84	77 - 116	0	10

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: 570-122377-1 DU  
Matrix: Water  
Analysis Batch: 294266

Client Sample ID: Arroyo Simi\_20230101\_Grab  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	400		405		mg/L		3	10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## GC Semi VOA

### Prep Batch: 294075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total/NA	Water	608	
MB 570-294075/1-A	Method Blank	Total/NA	Water	608	
LCS 570-294075/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-294075/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-294075/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-294075/5-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 294290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-294075/1-A	Method Blank	Total/NA	Water	608.3	294075
LCS 570-294075/2-A	Lab Control Sample	Total/NA	Water	608.3	294075
LCSD 570-294075/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	294075

### Analysis Batch: 294728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total/NA	Water	608.3	294075
MB 570-294075/1-A	Method Blank	Total/NA	Water	608.3	294075

### Analysis Batch: 295061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-294075/4-A	Lab Control Sample	Total/NA	Water	608.3	294075
LCSD 570-294075/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	294075

### Analysis Batch: 295559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total/NA	Water	608.3	294075

## Metals

### Analysis Batch: 294360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total Recoverable	Water	SM 2340B	

## General Chemistry

### Analysis Batch: 294266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total/NA	Water	SM 2540D	
MB 570-294266/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-294266/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-294266/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-122377-1 DU	Arroyo Simi_20230101_Grab	Total/NA	Water	SM 2540D	



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Lab Sample ID: 570-122377-1**

**Date Collected: 01/01/23 11:30**

**Matrix: Water**

**Date Received: 01/03/23 17:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			1500 mL	1 mL	294075	01/06/23 12:10	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	295559	01/13/23 14:27	N5Y3	EET CAL 4
Instrument ID: GC52A										
Total/NA	Prep	608			1500 mL	1 mL	294075	01/06/23 12:10	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	294728	01/10/23 22:12	UJ3K	EET CAL 4
Instrument ID: GC66										
Total Recoverable	Analysis	SM 2340B		1			294360	01/08/23 16:31	P1R	EET CAL 4
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540D		1	100 mL	1000 mL	294266	01/06/23 17:51	U7UR	EET CAL 4
Instrument ID: NOEQUIP										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-12-22 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-122377-1

Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Method	Method Description	Protocol	Laboratory
608.3	Organochlorine Pesticides in Water	40CFR136A	EET CAL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	EET CAL 4
SM 2340B	Total Hardness (as CaCO <sub>3</sub> ) by calculation	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	EET CAL 4

#### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122377-1	Arroyo Simi_20230101_Grab	Water	01/01/23 11:30	01/03/23 17:05

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

CHAIN OF CUSTODY FORM



570-122377 Chain of Custody

<p><b>Client Name/Address:</b> Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p><b>Project:</b> Boeing-SSFL NPDES Permit 2015 Annual Arroyo Simi-Frontier Park Dry Weather</p>		<p><b>Field Readings   Meter serial # VLJVDUKT</b></p> <p>Field Readings: (Include units) Time of Readings: 130</p>					
<p><b>Eurofins Calscience Project Manager: Virendra Patel</b> 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 ECI Project #44024446</p>		<p><b>Project Manager: Katherine Miller</b> 520.289.8606, 520.904.6944 (cell)</p>		<p><b>Field Readings QC</b></p> <p>pH 8.21 pH unit Temp 53.4 °C/F Velocity 0.1 ft/sec</p>		<p>Checked by: <i>[Signature]</i> Date/Time: 1-1-2023 1:30</p>			
<p><b>Sampler: Adrien Mobeka</b></p>		<p><b>Project Manager: Mark Dominick</b> 978.234.5033, 818.599.0702 (cell)</p>		<p><b>Field readings QC</b></p>		<p>Checked by: <i>[Signature]</i> Date/Time: 1-1-2023 1:30</p>			
<p>Eurofins Calscience's services under this COC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement #2022-26-Eurofins Calscience by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.</p>		<p>Eurofins Calscience will provide the T&amp;Cs with the Blanket Service Agreement #2022-26-Eurofins Calscience by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.</p>		<p>Field Readings: (Include units)</p>		<p>Comments</p>			
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container: Type	# of Cont.	Preservative	Bottle #	MS/MSD	Analysis Required
Arroyo Simi #1032101_Orab	1032101_Orab	1-1-2023 / 1:30	WS	125 mL Sterile Poly	3	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	No	Hardness as CaCO <sub>3</sub> , Recoverable (SM2340B)
Arroyo Simi #1032101_Extra	1032101_Extra	1-1-2023 / 1:30	WS	250 mL Poly	1	HNO <sub>3</sub>	100	No	TCDD (and all congeners) (E1618B)
			WS	1L Glass Amber	2	None	110	No	TSS (Method 160.2 (SM2540D))
			WS	1L Glass Amber	1	None	185	No	Chlorpyrifos, Diazinon (E525.2)
			WS	1L Glass Amber	2	None	275	No	Pesticides Chlordane, 4'-DD, 4-4-DE, 4-4'-D, Dieldrin, Toxaphene + PCBs only (E608)
			WS	1L Glass Amber	2	None	285	No	Week Labs in Hacienda Heights CA
			WS	1L Glass Amber	2	None	110	No	Extract within 24-Hours of sampling at Week Labs
			WS	1L Glass Amber	2	None	275	No	Hold
			WS	1L Glass Amber	2	None	285	No	Hold
			WS	1L Glass Amber	2	None	285	No	Hold

Relinquished By: HA  
Date/Time: 1-3-23 / 17:05

Relinquished By: HA  
Date/Time: 01/03/23 17:05

Relinquished By: HA  
Date/Time: 1-3-23 / 12:45

Received By: HA  
Date/Time: 1-3-23 / 12:45

Received By: HA  
Date/Time: 1-3-23 / 17:05

Received By: HA  
Date/Time: 1-3-23 / 17:05

Received By: HA  
Date/Time: 1-3-23 / 17:05

Received By: HA  
Date/Time: 1-3-23 / 17:05

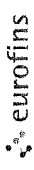
Received By: HA  
Date/Time: 1-3-23 / 17:05

Received By: HA  
Date/Time: 1-3-23 / 17:05

Received By: HA  
Date/Time: 1-3-23 / 17:05

Turn-around time: (Check)  
24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal: \_\_\_\_\_

Sample Integrity: (Check)  
Intact: \_\_\_\_\_ On Ice: \_\_\_\_\_  
Store samples for 6 months: \_\_\_\_\_  
Data Requirements: (Check)  
No Level IV: \_\_\_\_\_ All Level IV: \_\_\_\_\_ X



# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494

<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Carrier Tracking No(s) 570-203133 1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofins.com	Page: Page 1 of 1
Company: Wreck Laboratories, Inc.		Accreditations Required (See note): State Program - California	Job #: 570-122377-4
Address: 14859 E Clark Avenue,		Preservation Codes	
City	City of Industry	A - HCL	M Hexane
State, Zip	CA, 91745	B - NaOH	N None
Phone:		C - Zn Acetate	O AsNaO2
Email:		D - Nitric Acid	P Na2O4S
Project Name:	Annual Arroyo Simi-Frontier Park - Dry Weather	E - NaHSO4	Q Na2SO3
Site:		F - MeOH	R Na2SO3
		G - Amchlor	S H2SO4
		H - Ascorbic Acid	T TSP Dodecahydrate
		I - Ice	U - Acetone
		J - DI Water	V MCAA
		K - EDTA	W pH 4-5
		L - EDA	Y Trizma
		Other	Z other (specify)
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Analysis Requested</b>	
Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Preservation Code
1/1/23	11:30 Pacific	Water	Water
1/1/23	11:30 Pacific	Water	Water
<b>Field Filtered Sample (Yes or No)</b>		<b>Field Filtered Sample (Yes or No)</b>	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Perform MS/MSD (Yes or No)</b>		<b>Perform MS/MSD (Yes or No)</b>	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>SUB (Week-525.2 - Diazinon and Chlorpyrifos (ug/L))</b>		<b>SUB (Week-525.2 - Diazinon and Chlorpyrifos (ug/L))</b>	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>SUB (Week-525.2 - Diazinon and Chlorpyrifos (ug/L)) (Hold)</b>		<b>SUB (Week-525.2 - Diazinon and Chlorpyrifos (ug/L)) (Hold)</b>	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Total Number of containers</b>		<b>Total Number of containers</b>	
2		2	
<b>Special Instructions/Note</b>		<b>Special Instructions/Note</b>	
See Attached Instructions		See Attached Instructions	
See Attached Instructions		See Attached Instructions	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience</p>			
<b>Possible Hazard Identification</b>			
Unconfirmed			
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2			
Empty Kit Relinquished by			
Date		Time	
Date/Time: 01/03/23 1530		Company: Ec	
Date/Time: 01-06-23 1530		Company: Ec	
Date/Time:		Company:	
Date/Time:		Company:	
Date/Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No	
Cooler Temperature(s) °C and Other Remarks: 2.6 70/23		Method of Shipment:	
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months          Special Instructions/QC Requirements</p>			



ICOC No:  
570-203133

**Containers**

Count 4  
Container Type Amber Glass 1 liter - unpreserved

Preservative  
None

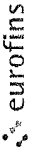
**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed



# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: Weck Laboratories, Inc. Address: 14859 E. Clark Avenue, City of Industry State Zip: CA, 91745 Phone: Email:		Lab PM: Patel, Virendra E-Mail: Virendra.Patel@et.eurofins.com State of Origin: California		Carrier Tracking No(s): 570-203138-1 Page: 1 of 1 Job #: 570-122381-5							
Due Date Requested: 1/17/2023 TAT Requested (days): PO #: WO #:		Accreditations Required (See note): State Program - California									
Project Name: Boeing SSFL NPDES - Outfall 009 COMP Site:		Preservation Codes: M Hexane N None O AsNaO2 P Na2O4s Q - Na2SO3 R - Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V - MCAA W pH 4-5 Y - Trizma Z other (specify)									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	SUB (Week-525.2 - Diazinon and Chlorpyrifos (ug/L))	SUB (Hold)	Analysis Requested	Total Number of Containers	Special Instructions/Note.
Outfall009_20230102_Comp (570-122381-1)	1/2/23	08:00 Pacific	Water	Water	X	X				2	See Attached Instructions
Outfall009_20230102_Comp_Extra (570-122381-1)	1/2/23	08:00 Pacific	Water	Water			X			2	See Attached Instructions
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.											
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____											
Relinquished by: _____ Date/Time: 01/03/23 1530 Company: EC Company											
Relinquished by: _____ Date/Time: _____ Company: _____											
Relinquished by: _____ Date/Time: _____ Company: _____											
Custody Seals Intact: _____ Cooler Temperature(s) °C and Other Remarks: 2.6g 17868											





**ICOC No:**  
570-203138

**Containers**

Count      Container Type  
2              Amber Glass 1 liter - Hydrochloric

Preservative  
Hydrochloric Acid

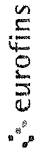
**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed



# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Carrier Tracking No(s): 570-203139 1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@eurofins.com	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California	Job #: 570-122390-4
Address: 14859 E Clark Avenue,		Due Date Requested 1/24/2023	<b>Analysis Requested</b> M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other _____
City: City of Industry		TAT Requested (days)	
State, Zip: CA, 91745		PO #:	
Phone:		WO #:	
Email:		Project #: 44024446	<b>Preservation Codes</b> A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other _____
Site: Boeing SSFL NPDES - Outfall 002 - COMP		SSOW#:	
<b>Sample Identification - Client ID (Lab ID)</b>		Matrix (W=Water, S=solid, O=wash/oil, BT=Tissue, A=Air)	<b>Special Instructions/Note</b> See Attached Instructions See Attached Instructions
Outfall002_20230102_Comp (570-122390-2)	Sample Date: 1/2/23	Sample Time: 09-15 Pacific	
Outfall002_20230102_Comp_Extra (570-122390-3)	Sample Date: 1/2/23	Sample Time: 09-15 Pacific	<input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input type="checkbox"/> SUB (Weck-Hydrzine)/ Weck-Hydrzine <input type="checkbox"/> SUB (Weck-Hydrzine)/ Weck-Hydrzine (Hold) <input checked="" type="checkbox"/> Total Number of containers
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.		<b>Possible Hazard Identification</b> <input type="checkbox"/> Unconfirmed <input type="checkbox"/> Deliverable Requested I, II, III, IV, Other (specify) <input type="checkbox"/> Empty Kit Relinquished by <input type="checkbox"/> Relinquished by <input type="checkbox"/> Relinquished by <input type="checkbox"/> Relinquished by <input type="checkbox"/> Custody Seals Intact: Δ Yes   Δ No	
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements		Method of Shipment: Received by: _____ Date/Time: 01-03-23 1530 Company: Ec Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: 2-Gc 70KG	



ICOC No:  
570-203139

**Containers**

Count                      Container Type                      Preservative  
4                              Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

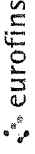
Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
3	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed





# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



**Client Information (Sub Contract Lab)**  
 Client Contact: Shipping/Receiving  
 Company: Weck Laboratories, Inc.  
 Address: 14859 E. Clark Avenue,  
 City: City of Industry  
 State, Zip: CA, 91745  
 Phone:  
 Email:  
 Project Name: IBOEING SSFL NPDES - Influent SWTS-18 GRAB  
 Site:

Lab PM: Patel, Virendra  
 E-Mail: Virendra.Patel@et.eurofins.com  
 State of Origin: California  
 Camer Tracking No(s): 570-203146 1  
 Page: Page 1 of 1  
 Job #: 570-122420-1

Due Date Requested: 1/13/2023  
 TAT Requested (days):  
 PO #:  
 WO #:  
 Project #: 44024446  
 SSOW#:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code*	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrazine/ Week-Hydrazine)	SUB (Week-Hydrazine/ Week-Hydrazine (Hold))	Total Number of Containers	Special Instructions/Note
SWTS-18_Influent_20230103_Grab (570-122420-1)	1/3/23	09:30 Pacific	Water	Water		X	X			1	See Attached Instructions
SWTS-18_Influent_20230103_Grab_Extra (570-122420-2)	1/3/23	09:30 Pacific	Water	Water				X		1	See Attached Instructions

Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Anchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 Other:  
 M - Hexane  
 N - None  
 O - AsNO2  
 P - Na2O4S  
 Q - Na2SO3  
 R - Na2SO3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4-5  
 Y - Trizma  
 Z - other (specify)

**Analysis Requested**

Special Instructions/Note

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody if the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/testis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank. 2  
 Empty Kit Relinquished by  
 Relinquished by  
 Relinquished by  
 Relinquished by  
 Custody Seals Intact: Δ Yes Δ No  
 Custody Seal No

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  
 Disposal By Lab  
 Archive For Months

Special Instructions/QC Requirements

Method of Shipment:  
 Date/Time: Received by: Company: EC  
 Date/Time: Received by: Company:  
 Date/Time: Received by: Company:  
 Cooler Temperature(s) °C and Other Remarks: 2.60 10269



ICOC No:  
570-203146

**Containers**

Count                      Container Type                      Preservative  
2                              Amber Glass 1 liter - unpreserved                      None

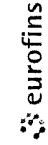
**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed





## Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab Pk: Patel, Virendra		Center Tracking No(s):		COC No: 570-203151 1	
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@eurofins.com		State of Origin: California		Page: Page 1 of 1	
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #:		570-122377-3	
Address: 931 W Barkley Ave, Orange, CA, 92868		Due Date Requested: 1/16/2023		<b>Analysis Requested</b>		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDTA Z - other (specify) Other:	
City: Orange		TAT Requested (days):					
State, Zip: CA, 92868		PO #:					
Phone:		WO #:					
Email:		Project #: 44024446					
Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather		SSOW#:					
Site:		Sample Date: 1/1/23					
		Sample Time: 11:30 Pacific					
		Sample Type (C=comp, G=grab):					
		Matrix (W=water, S=solid, O=organical, B=bitissue, A=Air):		Water			
		Sample Identification - Client ID (Lab ID):		Arroyo Simi_20230101_Grab (570-122377-1)			
		SUB (Quant-Tray - E-Coll - level & required - F-Coll - level & required):		X			
		Field Filtered Sample (Yes or No):		X			
		Random MS/MSD (Yes or No):		X			
		Total Number of Containers:		3		Special Instructions/Note: See Attached Instructions	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

<b>Possible Hazard Identification</b>		Return To Client <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
Unconfirmed Deliverable Requested I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: <i>[Signature]</i>	Date: 01/03/23	Received by: <i>[Signature]</i>	Date/Time: 1/3/23 16:19
Relinquished by:	Date/Time: 16/15	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



### Eurofins Calscience Version 3/10/2022 CHAIN OF CUSTODY FORM

**Client Name/Address**  
**Haley & Aldrich, Inc.**  
5333 Mission Center Road, Suite 300  
San Diego, CA 92108

**Project:**  
**Boeing-SSFL NPDES**  
Outfall 002

**Sampler:** Adrian Mobeka

**Eurofins Calscience Project Manager**  
Virendra Patel  
2841 Dow Avenue, Suite #100  
Tustin, CA 92780  
Tel 714-895-5494  
**ECI Project #44024446**

**Project Manager:** Katherine Miller  
**Phone Number:** (520) 289-8606, (520) 904-6944 (cell)  
**Field Manager:** Mark Dominick  
(978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	Comments
Outfall 002	W	125mL Sterile Poly	3	Outfall002_20230103_Grab	1/3/2023/0940	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By *[Signature]* Date/Time: 1-3-23 / 1245

Relinquished By *[Signature]* Date/Time: 1/3/23 / 1245 EC RECEIVED

Relinquished By *[Signature]* Date/Time: 01/03/23 1705 EC

Turn around Time: (check)  
 24 Hours \_\_\_\_\_ 5 Days \_\_\_\_\_  
 48 Hours \_\_\_\_\_ 10 Days \_\_\_\_\_  
 72 Hours \_\_\_\_\_ Normal \_\_\_X\_\_\_  
 Sample Integrity (check)  
 Intact \_\_\_\_\_ On Ice \_\_\_\_\_  
 Data Requirements (check)  
 No Level IV \_\_\_X\_\_\_ All Level IV \_\_\_\_\_  
 NPDES Level IV \_\_\_\_\_







# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122377-1

**Login Number: 122377**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 1/25/2023 1:06:52 PM

## JOB DESCRIPTION

Annual Arroyo Simi-Frontier Park - Dry Weather

## JOB NUMBER

570-122377-2

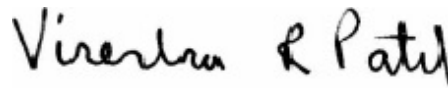
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/25/2023 1:06:52 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	35

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

---

**Job ID: 570-122377-2**

---

**Laboratory: Eurofins Calscience**

## Narrative

### Job Narrative 570-122377-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/3/2023 5:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.6° C.

#### Dioxin

Method 1613B: The continuing calibration verification (CCV) associated with batch 320-648570 recovered above the upper control limit for isotope dilution analyte (IDA) 13C-1,2,3,4,7,8,9-HpCDF. The samples associated with this CCV were non-detect above the reporting limit (RL) for the native analyte 1,2,3,4,7,8,9-HpCDF and the IDA is in control for all associated samples; therefore, the data have been reported. No further corrective action was taken.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

Method 1613B: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: Arroyo Simi\_20230101\_Grab (570-122377-1).

Nominal volume required by method is 1 liter.

preparation batch 320-644871  
method: 1613B\_Sox\_Sep\_P  
matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Lab Sample ID: 570-122377-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.0000014	J,DX MB q	0.000053	0.00000011	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000030	J,DX q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000020	J,DX q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000017	J,DX MB q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000021	J,DX	0.000053	0.0000002	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000018	J,DX q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000037	J,DX MB q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000021	J,DX q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000041	J,DX MB	0.000053	0.0000004	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000029	J,DX MB	0.000053	0.0000002	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000017	J,DX MB q	0.000053	0.0000002	ug/L	1		1613B	Total/NA
OCDD	0.00040	MB	0.00011	0.0000008	ug/L	1		1613B	Total/NA
OCDF	0.000039	J,DX MB q	0.00011	0.0000004	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000014	J,DX MB q	0.000053	0.00000011	ug/L	1		1613B	Total/NA
Total HxCDD	0.000015	J,DX MB q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
Total HxCDF	0.000021	J,DX MB q	0.000053	0.0000001	ug/L	1		1613B	Total/NA
Total HpCDD	0.000090	J,DX MB	0.000053	0.0000004	ug/L	1		1613B	Total/NA
Total HpCDF	0.000052	J,DX MB q	0.000053	0.0000002	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Date Collected: 01/01/23 11:30**

**Date Received: 01/03/23 17:05**

**Lab Sample ID: 570-122377-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000011	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				2					
2,3,7,8-TCDF	ND		0.000011	0.0000000	ug/L		01/06/23 04:42	01/23/23 04:29	1
				40					
1,2,3,7,8-PeCDD	ND		0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				4					
<b>1,2,3,7,8-PeCDF</b>	<b>0.0000014</b>	<b>J,DX MB q</b>	0.000053	0.00000011	ug/L		01/06/23 04:42	01/23/23 04:29	1
2,3,4,7,8-PeCDF	ND		0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				3					
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.0000030</b>	<b>J,DX q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				5					
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.0000020</b>	<b>J,DX q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				6					
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.0000017</b>	<b>J,DX MB q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				4					
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.0000021</b>	<b>J,DX</b>	0.000053	0.0000002	ug/L		01/06/23 04:42	01/23/23 04:29	1
				0					
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.0000018</b>	<b>J,DX q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				9					
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.0000037</b>	<b>J,DX MB q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				8					
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.0000021</b>	<b>J,DX q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				7					
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.000041</b>	<b>J,DX MB</b>	0.000053	0.0000004	ug/L		01/06/23 04:42	01/23/23 04:29	1
				2					
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.000029</b>	<b>J,DX MB</b>	0.000053	0.0000002	ug/L		01/06/23 04:42	01/23/23 04:29	1
				7					
<b>1,2,3,4,7,8,9-HpCDF</b>	<b>0.0000017</b>	<b>J,DX MB q</b>	0.000053	0.0000002	ug/L		01/06/23 04:42	01/23/23 04:29	1
				5					
<b>OCDD</b>	<b>0.00040</b>	<b>MB</b>	0.00011	0.0000008	ug/L		01/06/23 04:42	01/23/23 04:29	1
				0					
<b>OCDF</b>	<b>0.000039</b>	<b>J,DX MB q</b>	0.00011	0.0000004	ug/L		01/06/23 04:42	01/23/23 04:29	1
				4					
Total TCDD	ND		0.000011	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				2					
Total TCDF	ND		0.000011	0.0000000	ug/L		01/06/23 04:42	01/23/23 04:29	1
				40					
Total PeCDD	ND		0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				4					
<b>Total PeCDF</b>	<b>0.0000014</b>	<b>J,DX MB q</b>	0.000053	0.00000011	ug/L		01/06/23 04:42	01/23/23 04:29	1
<b>Total HxCDD</b>	<b>0.000015</b>	<b>J,DX MB q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				4					
<b>Total HxCDF</b>	<b>0.000021</b>	<b>J,DX MB q</b>	0.000053	0.0000001	ug/L		01/06/23 04:42	01/23/23 04:29	1
				7					
<b>Total HpCDD</b>	<b>0.000090</b>	<b>J,DX MB</b>	0.000053	0.0000004	ug/L		01/06/23 04:42	01/23/23 04:29	1
				2					
<b>Total HpCDF</b>	<b>0.000052</b>	<b>J,DX MB q</b>	0.000053	0.0000002	ug/L		01/06/23 04:42	01/23/23 04:29	1
				5					
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
13C-2,3,7,8-TCDD	74		25 - 164			01/06/23 04:42	01/23/23 04:29	1	
13C-2,3,7,8-TCDF	71		24 - 169			01/06/23 04:42	01/23/23 04:29	1	
13C-1,2,3,7,8-PeCDD	90		25 - 181			01/06/23 04:42	01/23/23 04:29	1	
13C-1,2,3,7,8-PeCDF	83		24 - 185			01/06/23 04:42	01/23/23 04:29	1	
13C-2,3,4,7,8-PeCDF	81		21 - 178			01/06/23 04:42	01/23/23 04:29	1	
13C-1,2,3,4,7,8-HxCDD	82		32 - 141			01/06/23 04:42	01/23/23 04:29	1	

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Date Collected: 01/01/23 11:30**

**Date Received: 01/03/23 17:05**

**Lab Sample ID: 570-122377-1**

**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,6,7,8-HxCDD	71		28 - 130	01/06/23 04:42	01/23/23 04:29	1
13C-1,2,3,4,7,8-HxCDF	84		26 - 152	01/06/23 04:42	01/23/23 04:29	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	01/06/23 04:42	01/23/23 04:29	1
13C-1,2,3,7,8,9-HxCDF	94		29 - 147	01/06/23 04:42	01/23/23 04:29	1
13C-2,3,4,6,7,8-HxCDF	94		28 - 136	01/06/23 04:42	01/23/23 04:29	1
13C-1,2,3,4,6,7,8-HpCDD	98		23 - 140	01/06/23 04:42	01/23/23 04:29	1
13C-1,2,3,4,6,7,8-HpCDF	90		28 - 143	01/06/23 04:42	01/23/23 04:29	1
13C-1,2,3,4,7,8,9-HpCDF	112		26 - 138	01/06/23 04:42	01/23/23 04:29	1
13C-OCDD	101		17 - 157	01/06/23 04:42	01/23/23 04:29	1
13C-OCDF	119		17 - 157	01/06/23 04:42	01/23/23 04:29	1
<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
37Cl4-2,3,7,8-TCDD	89		35 - 197	01/06/23 04:42	01/23/23 04:29	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-122377-1	Arroyo Simi_20230101_Grab	89
MB 320-644871/1-A	Method Blank	91

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-644871/2-A	Lab Control Sample	88
LCSD 320-644871/3-A	Lab Control Sample Dup	90

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-122377-1	Arroyo Simi_20230101_Grab	74	71	90	83	81	82	71	84
MB 320-644871/1-A	Method Blank	68	66	79	74	75	74	67	79

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-122377-1	Arroyo Simi_20230101_Grab	82	94	94	98	90	112	101	119
MB 320-644871/1-A	Method Blank	76	80	85	87	83	93	87	99

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-644871/2-A	Lab Control Sample	61	60	74	70	69	72	64	75
LCSD 320-644871/3-A	Lab Control Sample Dup	67	65	80	73	76	82	71	83

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-644871/2-A	Lab Control Sample	74	79	83	85	79	89	82	93
LCSD 320-644871/3-A	Lab Control Sample Dup	83	86	90	95	91	101	91	104

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-122377-2

Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

HxCDF = 13C-1,2,3,7,8,9-HxCDF

13CHxCDF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-644871/1-A**  
**Matrix: Water**  
**Analysis Batch: 648570**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 644871**

Analyte	MB	MB	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2,3,7,8-TCDD	ND		0.000010	0.0000002	ug/L		01/06/23 04:42	01/23/23 00:28	1
				1					
2,3,7,8-TCDF	ND		0.000010	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				32					
1,2,3,7,8-PeCDD	ND		0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				92					
1,2,3,7,8-PeCDF	0.00000179	J,DX q	0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				46					
2,3,4,7,8-PeCDF	ND		0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				49					
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				3					
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				4					
1,2,3,7,8,9-HxCDD	0.00000222	J,DX	0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				2					
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				91					
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				91					
1,2,3,7,8,9-HxCDF	0.00000589	J,DX	0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				94					
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				82					
1,2,3,4,6,7,8-HpCDD	0.00000429	J,DX	0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				50					
1,2,3,4,6,7,8-HpCDF	0.00000364	J,DX	0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				3					
1,2,3,4,7,8,9-HpCDF	0.00000306	J,DX q	0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				4					
OCDD	0.00000937	J,DX	0.00010	0.0000002	ug/L		01/06/23 04:42	01/23/23 00:28	1
				4					
OCDF	0.00000201	J,DX	0.00010	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				99					
Total TCDD	ND		0.000010	0.0000002	ug/L		01/06/23 04:42	01/23/23 00:28	1
				1					
Total TCDF	ND		0.000010	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				32					
Total PeCDD	ND		0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				92					
Total PeCDF	0.00000179	J,DX q	0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				46					
Total HxCDD	0.00000222	J,DX	0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				2					
Total HxCDF	0.00000589	J,DX	0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				82					
Total HpCDD	0.00000927	J,DX q	0.000050	0.0000000	ug/L		01/06/23 04:42	01/23/23 00:28	1
				50					
Total HpCDF	0.00000669	J,DX q	0.000050	0.0000001	ug/L		01/06/23 04:42	01/23/23 00:28	1
				3					
	<b>MB</b>	<b>MB</b>							
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	68		25 - 164				01/06/23 04:42	01/23/23 00:28	1
13C-2,3,7,8-TCDF	66		24 - 169				01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,7,8-PeCDD	79		25 - 181				01/06/23 04:42	01/23/23 00:28	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-644871/1-A**  
**Matrix: Water**  
**Analysis Batch: 648570**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 644871**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDF	74		24 - 185	01/06/23 04:42	01/23/23 00:28	1
13C-2,3,4,7,8-PeCDF	75		21 - 178	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,4,7,8-HxCDD	74		32 - 141	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,6,7,8-HxCDD	67		28 - 130	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,4,7,8-HxCDF	79		26 - 152	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,6,7,8-HxCDF	76		26 - 123	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,7,8,9-HxCDF	80		29 - 147	01/06/23 04:42	01/23/23 00:28	1
13C-2,3,4,6,7,8-HxCDF	85		28 - 136	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,4,6,7,8-HpCDD	87		23 - 140	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,4,6,7,8-HpCDF	83		28 - 143	01/06/23 04:42	01/23/23 00:28	1
13C-1,2,3,4,7,8,9-HpCDF	93		26 - 138	01/06/23 04:42	01/23/23 00:28	1
13C-OCDD	87		17 - 157	01/06/23 04:42	01/23/23 00:28	1
13C-OCDF	99		17 - 157	01/06/23 04:42	01/23/23 00:28	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	91		35 - 197	01/06/23 04:42	01/23/23 00:28	1

**Lab Sample ID: LCS 320-644871/2-A**  
**Matrix: Water**  
**Analysis Batch: 648570**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 644871**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDF	0.000200	0.000237		ug/L		119	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000957		ug/L		96	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000966	MB	ug/L		97	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000942		ug/L		94	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000967		ug/L		97	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00110		ug/L		110	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00103	MB	ug/L		103	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000993		ug/L		99	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000999		ug/L		100	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000995	MB	ug/L		99	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000983	MB	ug/L		98	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00111	MB	ug/L		111	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000995	MB	ug/L		100	78 - 138
OCDD	0.00200	0.00222	MB	ug/L		111	78 - 144
OCDF	0.00200	0.00218	MB	ug/L		109	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	61		20 - 175
13C-2,3,7,8-TCDF	60		22 - 152
13C-1,2,3,7,8-PeCDD	74		21 - 227
13C-1,2,3,7,8-PeCDF	70		21 - 192
13C-2,3,4,7,8-PeCDF	69		13 - 328
13C-1,2,3,4,7,8-HxCDD	72		21 - 193
13C-1,2,3,6,7,8-HxCDD	64		25 - 163

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-644871/2-A**  
**Matrix: Water**  
**Analysis Batch: 648570**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 644871**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,7,8-HxCDF	75		19 - 202
13C-1,2,3,6,7,8-HxCDF	74		21 - 159
13C-1,2,3,7,8,9-HxCDF	79		17 - 205
13C-2,3,4,6,7,8-HxCDF	83		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	85		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	79		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	89		20 - 186
13C-OCDD	82		13 - 199
13C-OCDF	93		13 - 199

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	88		31 - 191

**Lab Sample ID: LCSD 320-644871/3-A**  
**Matrix: Water**  
**Analysis Batch: 648570**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 644871**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000217		ug/L		109	67 - 158	3	50	
2,3,7,8-TCDF	0.000200	0.000231		ug/L		116	75 - 158	3	50	
1,2,3,7,8-PeCDD	0.00100	0.000984		ug/L		98	70 - 142	3	50	
1,2,3,7,8-PeCDF	0.00100	0.00101	MB	ug/L		101	80 - 134	4	50	
2,3,4,7,8-PeCDF	0.00100	0.000953		ug/L		95	68 - 160	1	50	
1,2,3,4,7,8-HxCDD	0.00100	0.000959		ug/L		96	70 - 164	1	50	
1,2,3,6,7,8-HxCDD	0.00100	0.00113		ug/L		113	76 - 134	3	50	
1,2,3,7,8,9-HxCDD	0.00100	0.00104	MB	ug/L		104	64 - 162	1	50	
1,2,3,4,7,8-HxCDF	0.00100	0.00102		ug/L		102	72 - 134	2	50	
1,2,3,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	84 - 130	3	50	
1,2,3,7,8,9-HxCDF	0.00100	0.00105	MB	ug/L		105	78 - 130	5	50	
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156	2	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.00101	MB	ug/L		101	70 - 140	3	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.00110	MB	ug/L		110	82 - 122	1	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.00100	MB	ug/L		100	78 - 138	1	50	
OCDD	0.00200	0.00230	MB	ug/L		115	78 - 144	3	50	
OCDF	0.00200	0.00223	MB	ug/L		112	63 - 170	2	50	

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	65		22 - 152
13C-1,2,3,7,8-PeCDD	80		21 - 227
13C-1,2,3,7,8-PeCDF	73		21 - 192
13C-2,3,4,7,8-PeCDF	76		13 - 328
13C-1,2,3,4,7,8-HxCDD	82		21 - 193
13C-1,2,3,6,7,8-HxCDD	71		25 - 163
13C-1,2,3,4,7,8-HxCDF	83		19 - 202
13C-1,2,3,6,7,8-HxCDF	83		21 - 159
13C-1,2,3,7,8,9-HxCDF	86		17 - 205
13C-2,3,4,6,7,8-HxCDF	90		22 - 176



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-644871/3-A  
 Matrix: Water  
 Analysis Batch: 648570

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 644871

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,4,6,7,8-HpCDD	95		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	91		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	101		20 - 186
13C-OCDD	91		13 - 199
13C-OCDF	104		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	90		31 - 191

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Specialty Organics

### Prep Batch: 644871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total/NA	Water	1613B	
MB 320-644871/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-644871/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-644871/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 648570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122377-1	Arroyo Simi_20230101_Grab	Total/NA	Water	1613B	644871
MB 320-644871/1-A	Method Blank	Total/NA	Water	1613B	644871
LCS 320-644871/2-A	Lab Control Sample	Total/NA	Water	1613B	644871
LCSD 320-644871/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	644871

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

**Client Sample ID: Arroyo Simi\_20230101\_Grab**

**Lab Sample ID: 570-122377-1**

**Date Collected: 01/01/23 11:30**

**Matrix: Water**

**Date Received: 01/03/23 17:05**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			939.9 mL	20.0 uL	644871	01/06/23 04:42	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	648570	01/23/23 04:29	KSS	EET SAC

Instrument ID: DFS 1

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-31-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	02-28-23
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-13-22 *
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122377-1	Arroyo Simi_20230101_Grab	Water	01/01/23 11:30	01/03/23 17:05

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

CHAIN OF CUSTODY FORM

122377



570-122377 Chain of Custody

<p><b>Client Name/Address:</b>                  Haley &amp; Aldrich                  5333 Mission Center Rd Suite 300                  San Diego, CA 92108</p>				<p><b>Project:</b>                  Boeing-SSFL NPDES                  Permit 2015                  Annual Arroyo Simi-Frontier Park                  Dry Weather</p>				<p><b>Field Readings Meter serial #</b> VLJV0UKT                  Field Readings: (Include units)                  Time of Readings: 1:30                  pH 8.21 pH unit                  Temp 53.4 °C/F                  Velocity 0.1 ft/sec                  Field readings QC                  Checked by: [Signature]                  Date/Time: 1-1-2023 1:30                  Comments                  Deliver to lab ASAP 8 hr hold time Need x.5x, 10x dilutions</p>				
<p><b>Eurofins Calcsience Project Manager:</b> Virendra Patel                  2841 Dow Avenue, Suite #100                  Tustin, CA 92780                  Tel 714-895-5494                  ECI Project #44024446</p>				<p><b>Project Manager:</b> Katherine Miller                  520.289 8606, 520 904.6944 (cell)</p>				<p><b>Field Manager:</b> Mark Dominick                  978.234.5033, 818.599 0702 (cell)</p>				
<p><small>Eurofins Calcsience's services under this COC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement# 2022-26-Eurofins Calcsience by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calcsience Laboratories Inc.</small></p>				<p><small>Sample Matrix</small></p>				<p><small>MS/MSD</small></p>				
Sample Description	Sample I.D.	Sampling Date/Time	Container Type	# of Cont.	Preservative	Boil (M9221)	Hardness as CaCO3, Recoverable (SM2340B)	TCDD (and all congeners) (E1613B)	TSS (Method 160.2 (SM2640D))	Chlorpyrifos, Diazinon (E525, 2) Week Labs in Hacienda Heights CA	Pesticides Chlordane, 4'-DD, 4,4-DDT, 4,4'-DDE, 4,4'-DDD, 4,4'-DDE, 4,4'-DDD, Toxaphene + PCBs only (E608)	Field Readings
Arroyo Simi# 1013101_Grab		1-1-2023 11:30	1L Glass Amber	2	None	275	X	X	X	X		
Arroyo Simi# 1013101_Extra		1-1-2023 1:30	1L Glass Amber	2	None	285						

Relinquished By	Date/Time	Company	Received By	Date/Time	Company
[Signature]	1-3-23/1745	HA	[Signature]	1/3/23/1245	EC
Relinquished By	Date/Time	Company	Received By	Date/Time	Company
[Signature]	01/03/23 17:05	EC	[Signature]	1-3-23 17:05	EC
Relinquished By	Date/Time	Company	Received By	Date/Time	Company

Legend: A=Annual, Q=Quarterly  
 1.3/1.3 1.6/1.6 5c/11







ICOC No:  
570-203133

**Containers**

Count 4  
Container Type Amber Glass 1 liter - unpreserved

Preservative  
None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed



# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



<b>Client Information (Sub Contract Lab)</b> Shipping/Receiving Weck Laboratories, Inc. 14859 E. Clark Avenue, City of Industry State Zip: CA, 91745 Phone: Email:		Lab PM Patel, Virendra E-Mail: Virendra.Patel@eurofins.com	Carrier Tracking No(s): 570-203138 1 State of Origin California	COC No: 570-203138 1 Page: Page 1 of 1 Job #: 570-122381-5
Due Date Requested 1/17/2023 TAT Requested (days)		Accreditations Required (See note): State Program - California		
Project Name: Boeing SSFL NPDES - Outfall 009 COMP Site: Project #: 44024446 SSOW#		Analysis Requested M Hexane N None O AsNaO2 P Na2O4S Q - Na2SO3 R - Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V - MCAA W pH 4-5 Y - Trizma Z other (specify)		
Sample Identification - Client ID (Lab ID)		Preservation Codes A - HCL B - NaOH C - Zn Acetate D Nitric Acid E - NaHSO4 F - MeOH G Amchlor H - Ascorbic Acid I - Ice J DI Water K - EDTA L - EDA Other		
Sample Date 1/2/23 Sample Time 08:00 Pacific Sample Type (C=Comp, G=grab) Water Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> SUB (Week-525.2-Diazinon and Chiorpyrifos (ug/L)) (HOLD) X SUB (Week-525.2-Diazinon and Chiorpyrifos (ug/L)) X		
Outfall009_20230102_Comp (570-122381-1) Outfall009_20230102_Comp_Extra (570-122381-1)		Total Number of containers See Attached Instructions 2 See Attached Instructions 2		
Special Instructions/Note.		Special Instructions/Note.		

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Unconfirmed  
 Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2  
 Empty Kit Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Method of Shipment \_\_\_\_\_

Relinquished by _____ Date 01/03/23 1530 Company EC		Received by _____ Date/Time 01-03-23 1530 Company	
Relinquished by _____ Date/Time _____ Company		Received by _____ Date/Time _____ Company	
Relinquished by _____ Date/Time _____ Company		Received by _____ Date/Time _____ Company	

Cooler Temperature(s) °C and Other Remarks: 2.6c 17060



ICOC No:  
570-203138

**Containers**

Count      Container Type  
2              Amber Glass 1 liter - Hydrochloric

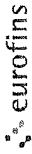
Preservative  
Hydrochloric Acid

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed



# Chain of Custody Record



2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s):								
Client Contact: Shipping/Receiving		Patel, Virendra	Patel, Virendra	570-203139 1								
Company: Weck Laboratories, Inc.		E-Mail: Virendra.Patel@et.eurofins.com	E-Mail: Virendra.Patel@et.eurofins.com	Page: Page 1 of 1								
Address: 14859 E Clark Avenue,		Due Date Requested 1/24/2023	Accreditations Required (See note): State Program - California	Job #: 570-122390-4								
City: City of Industry	TAT Requested (days)	PO #:	Preservation Codes									
State, Zip: CA, 91745		WO #:	A - HCL	M - Hexane	N - None							
Phone:		Project #: 44024446	B - NaOH	O - AsNaO2	P - Na2O4S							
Email:		SSOW#:	C - Zn Acetate	Q - Na2SO3	R - Na2S2O3							
Project Name: Boeing SSFL NPDES - Outfall 002 - COMP			D - Nitric Acid	S - H2SO4	T - TSP Dodecahydrate							
Site:			E - NaHSO4	U - Acetone	V - MCAA							
			F - MeOH	W - pH 4-5	X - Trizma							
			G - Amchlor	Y - EDTA	Z - other (specify)							
			H - Ascorbic Acid									
			I - Ice									
			J - DI Water									
			K - EDTA									
			L - EDA									
			Other									
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrazine)/Week-Hydrazine	SUB (Weck-Hydrazine)/Week-Hydrazine (Hold)	Total Number of containers	Special Instructions/Note
Outfall002_20230102_Comp (570-122390-2)		1/2/23	09-15 Pacific	Water	Water		X	X			2	See Attached Instructions
Outfall002_20230102_Comp_Extra (570-122390-3)		1/2/23	09-15 Pacific	Water	Water			X			2	See Attached Instructions
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>												
Possible Hazard Identification												
Unconfirmed												
Deliverable Requested I, II, III, IV, Other (specify)												
Primary Deliverable Rank: 2												
Empty Kit Relinquished by												
Relinquished by <i>[Signature]</i>												
Relinquished by												
Relinquished by												
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No												
Custody Seal No												
Cooler Temperature(s) °C and Other Remarks: 2.6c 70kg												
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months												
Special Instructions/QC Requirements												
Method of Shipment:												
Received by _____ Date/Time: 01-03-23 1530 Company: Ec												
Received by _____ Date/Time: 01-03-23 1630 Company: Company												
Received by _____ Date/Time: _____ Company: Company												



ICOC No:  
570-203139

**Containers**

Count                      Container Type                      Preservative  
4                      Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
3	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel, Virendra	Lab PM: Patel, Virendra		Garner Tracking No(s): 570-203146 1																																				
Client Contact: Shipping/Receiving		Phone:	E-Mail: Virendra.Patel@et.eurofins.com		Page: Page 1 of 1																																				
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-122420-1																																					
Address: 14859 E. Clark Avenue,		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other																																							
City: City of Industry		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Due Date Requested</th> <th>TAT Requested (days)</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform M/MSD (Yes or No)</th> <th>SUB (Week-Hydrzine/ Week-Hydrzine (Hold))</th> <th>Total Number of Containers</th> <th>Special Instructions/Note</th> </tr> </thead> <tbody> <tr> <td>1/13/2023</td> <td></td> <td>X</td> <td></td> <td></td> <td>1</td> <td>See Attached Instructions</td> </tr> <tr> <td>SWTS-18_Influent_20230103_Grab (570-122420-1)</td> <td></td> <td>X</td> <td>X</td> <td></td> <td>1</td> <td>See Attached Instructions</td> </tr> <tr> <td>SWTS-18_Influent_20230103_Grab_Extra (570-122420-2)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Due Date Requested	TAT Requested (days)	Field Filtered Sample (Yes or No)	Perform M/MSD (Yes or No)	SUB (Week-Hydrzine/ Week-Hydrzine (Hold))	Total Number of Containers	Special Instructions/Note	1/13/2023		X			1	See Attached Instructions	SWTS-18_Influent_20230103_Grab (570-122420-1)		X	X		1	See Attached Instructions	SWTS-18_Influent_20230103_Grab_Extra (570-122420-2)													
Due Date Requested	TAT Requested (days)						Field Filtered Sample (Yes or No)	Perform M/MSD (Yes or No)	SUB (Week-Hydrzine/ Week-Hydrzine (Hold))	Total Number of Containers	Special Instructions/Note																														
1/13/2023							X			1	See Attached Instructions																														
SWTS-18_Influent_20230103_Grab (570-122420-1)							X	X		1	See Attached Instructions																														
SWTS-18_Influent_20230103_Grab_Extra (570-122420-2)																																									
State, Zip: CA, 91745		PO #:																																							
Phone:		WO #:																																							
Project Name: IBOEING SSFL NPDES - Influent SWTS-18 GRAB		Project #: 44024446																																							
Site:		SSOW#:																																							
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=Comp, G=grab)</b>	<b>Matrix</b> (W=Water, S=solid, O=wast/woil, BT=Tissue, A=Air)	<b>Preservation Code*</b>																																			
		1/3/23	09:30 Pacific	Water	Water	Water																																			
		1/3/23	09:30 Pacific	Water	Water	Water																																			

Note. Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/testis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
Unconfirmed

Deliverable Requested 1, II, III, IV, Other (specify)  
Primary Deliverable Rank. 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements

Relinquished by: \_\_\_\_\_ Date/Time: 01/03/23 1530 Company: EC  
Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_ Custody Seal No. \_\_\_\_\_  
Δ Yes Δ No

Cooler Temperature(s) °C and Other Remarks: 2.6c 10269

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

ICOC No:  
570-203146

**Containers**

Count                      Container Type                      Preservative  
2                      Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed



**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

## Chain of Custody Record



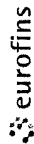
eurofins

<b>Client Information (Sub Contract Lab)</b>	Sampler	Lab PM:	Carrier Tracking No(s):	COC No:	570-2031511																																
Client Contact:	Patel, Virendra	E-Mail:	State of Origin:	Page:	Page 1 of 1																																
Shipping/Receiving Company:	Virendra.Patel@eurofins.com	Accreditations Required (See note):	State Program - California	Job #:	570-122377-3																																
Address:	931 W Barkley Ave,	Due Date Requested:	Preservation Codes:																																		
City:	Orange	TAT Requested (days):	A - HCL M - Hexane B - NaOH N - None O - Ash/O2 P - Na2O4S C - Zn Acetate D - Nitric Acid Q - Na2SO3 E - NaHSO4 R - Na2S2O3 F - MeOH S - H2SO4 G - Amchlor T - TSP Dodecahydrate H - Ascorbic Acid U - Acetone I - Ice J - DI Water V - MCA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify) Other																																		
State:	CA, 92868	PO #:	<b>Analysis Requested</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Sub (Quant-tray - E-Coll - level 4 required - E-Coll - level 4 required)</th> <th>Perform MS/MSD (Yes/No)</th> <th>Field Filtered Sample (Yes/No)</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=comp, G=grab)</th> <th>Matrix (If water, Specific, Organic, Inorganic, EPA-Method, A=Air)</th> <th>Preservation Code:</th> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>1/1/23</td> <td>11:30 Pacific</td> <td>Water</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			Sub (Quant-tray - E-Coll - level 4 required - E-Coll - level 4 required)	Perform MS/MSD (Yes/No)	Field Filtered Sample (Yes/No)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (If water, Specific, Organic, Inorganic, EPA-Method, A=Air)	Preservation Code:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1/1/23	11:30 Pacific	Water																		
Sub (Quant-tray - E-Coll - level 4 required - E-Coll - level 4 required)	Perform MS/MSD (Yes/No)	Field Filtered Sample (Yes/No)				Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (If water, Specific, Organic, Inorganic, EPA-Method, A=Air)	Preservation Code:																											
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				1/1/23	11:30 Pacific	Water																													
Project Name:	Annual Arroyo Simi-Frontier Park - Dry Weather	WO #:	Total Number of Containers: <input checked="" type="checkbox"/> See Attached Instructions <input type="checkbox"/>																																		
Site:		Project #:	Special Instructions/Note:																																		
		SSOW#:	3																																		
<p>Sample Identification - Client ID (Lab ID)</p> <p>Arroyo Simi_20230101_Grab (570-122377-1)</p>																																					
<p>Notes: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>																																					
<p><b>Possible Hazard Identification</b></p> <p><input type="checkbox"/> Unconfirmed  <input type="checkbox"/> Deliverable Requested I, II, III, IV, Other (specify)  <input type="checkbox"/> Empty Kit Relinquished by  <input type="checkbox"/> Relinquished by  <input type="checkbox"/> Relinquished by  <input type="checkbox"/> Relinquished by  <input type="checkbox"/> Custody Seals Intact: Custody Seal No.   <input type="checkbox"/> Yes <input type="checkbox"/> No</p>																																					
<p><b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b></p> <p><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months</p> <p>Special Instructions/QC Requirements:</p>																																					
<p>Primary Deliverable Rank: 2</p> <p>Date: _____ Time: _____ Method of Shipment:</p>																																					
<p>Relinquished by: _____ Company: EC</p> <p>Relinquished by: _____ Company: _____</p> <p>Relinquished by: _____ Company: _____</p> <p>Date/Time: 01/03/23 16:15 Date/Time: 1/3/23 16:19 Date/Time: _____ Company: EA</p>																																					
<p>Cooler Temperature(s) °C and Other Remarks:</p>																																					





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		<b>Sampler</b>	<b>Lab Pk#:</b> Patel, Virendra	<b>Carrier Tracking No(s):</b>	<b>COC No.:</b> 570-2031511
<b>Client Contact:</b>		<b>Phone:</b>	<b>E-Mail:</b> Virendra.Patel@eurofins.com	<b>State of Origin:</b> California	<b>Pages:</b> Page 1 of 1
<b>Shipping/Receiving</b>		<b>Job #:</b> 570-122377-3			
<b>Company:</b> Enthalpy Analytical LLC		<b>Preservation Codes:</b> M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDA Z - other (specify) Other:			
<b>Address:</b> 931 W Barkley Ave, City: Orange State, Zip: CA, 92868 Phone: Email:		<b>Analysis Requested</b>			
<b>Project Name:</b> Annual Arroyo Simi-Frontier Park - Dry Weather Site:		<b>Accreditations Required (See note):</b> State Program - California			
<b>Due Date Requested:</b> 1/16/2023 <b>TAT Requested (days):</b>					
<b>PO #:</b>					
<b>WO #:</b>					
<b>Project #:</b> 44024446 <b>SSOW#:</b>					
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=comp, G=grab)</b>	<b>Matrix (W=water, S=solid, O=organics, B=biomass, A=air)</b>
Arroyo Simi_20230101_Grab (570-122377-1)		1/1/23	11:30 Pacific	Water	
<b>Field Filtered Sample (Yes or No)</b>		<b>Field Filtered Sample (Yes or No)</b>	<b>Sub (Quant-Tray - E-Coll - level &amp; required - F-Coll - level &amp; required)</b>	<b>Total Number of Containers</b>	<b>Special Instructions/Note:</b>
					See Attached Instructions
<p>Notes: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>					
<b>Possible Hazard Identification</b>					
<b>Unconfirmed Deliverable Requested 1, II, III, IV, Other (specify)</b> Primary Deliverable Rank: 2					
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
<b>Empty Kit Relinquished by:</b> _____ <b>Date:</b> _____ <b>Method of Shipment:</b> _____					
<b>Relinquished by:</b> _____ <b>Date:</b> 01/03/23		<b>Received by:</b> _____ <b>Date/Time:</b> 1/3/23 16:19			
<b>Relinquished by:</b> _____ <b>Date/Time:</b> _____		<b>Received by:</b> _____ <b>Date/Time:</b> _____			
<b>Relinquished by:</b> _____ <b>Date/Time:</b> _____		<b>Received by:</b> _____ <b>Date/Time:</b> _____			
<b>Custody Seals Intact:</b> A Yes Δ No		<b>Cooler Temperature(s) °C and Other Remarks:</b>			



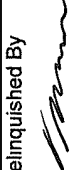
# CHAIN OF CUSTODY FORM

<b>Client Name/Address</b> Haley & Aldrich, Inc. 5333 Mission Center Road, Suite 300 San Diego, CA 92108			<b>Project:</b> Boeing-SSFL NPDES Outfall 002			<b>Comments</b>		
<b>Eurofins Calscience Project Manager</b> Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 <b>ECI Project #44024446</b>			<b>Sampler:</b> Adrian Mobeka <b>Project Manager:</b> Katherine Miller <b>Phone Number:</b> (520) 289-8606, (520) 904-6944 (cell) <b>Field Manager:</b> Mark Dominick (978) 234-5033, (818) 599-0702 (cell)			FR coll (SM9221)		
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	Comments
Outfall 002	W	125mL Sterile Poly	3	Outfall002_20230103_Grab	1/3/2023/0940	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions
Relinquished By <i>by Sil</i>				Date/Time: 1-3-23 / 1245				
Relinquished By <b>RECEIVED</b>				Date/Time: 1/3/23 / 1245 EC				
Relinquished By <i>...</i>				Date/Time: 01/03/23 1705 EC				
Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal <u>  X  </u>				Sample Integrity (check) Intact _____ On Ice _____ Data Requirements (check) No Level IV <u>  X  </u> All Level IV _____ NPDES Level IV _____				



# CHAIN OF CUSTODY FORM

Test America Version 7/19/2010

Client Name/Address <b>Haley &amp; Aldrich, Inc.</b> 5333 Mission Center Road, Suite 300 San Diego, CA 92108				Project: Boeing-SSFL NPDES Arroyo Simi				Sampler: Adrian Mobeka				Comments				
Eurofins Contact: Virendra Patel 17461 Denan Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 <b>ECI #44024446</b>				Project Manager: Katherine Miller Phone Number (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)				FT coli (SM9221)								
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #									
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230103	1/3/2023/ 1030	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	X								Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions
Relinquished By 				Date/Time: 1-3-23/1245				Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal <input checked="" type="checkbox"/> X _____				Sample Integrity: (check) Intact _____ On Ice _____ Data Requirements: (check) No Level IV _____ All Level IV _____ NPDES Level IV _____				
Relinquished By <b>RECEIVED</b> 				Date/Time: 1/3/23/1245 EC												
Relinquished By 				Date/Time: 01/03/23 1705 EC												

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

### Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel, Virendra	Lab PM: Patel, Virendra	Carrier Tracking No(s): 570-203232.1		COC No: 570-203232.1
Client Contact: Shipping/Receiving		Phone: Virendra.Patel@et.eurofins.com	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California		Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca						
Address: 880 Riverside Parkway,		Due Date Requested: 1/19/2023	Accreditations Required (See note): State Program - California		Job #: 570-122377-2	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDA Z - other (specify) Other:
City: West Sacramento	State: CA	Zip: 95605	PO #: 916-373-5600(Tel) 916-372-1059(Fax)	<b>Analysis Requested</b> 1613B/1613B_Sox_Sep_P Standard List w/ Totals Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Total Number of Containers: 2		Special Instructions/Note: See OAS, Boeing_wlu to zero; Use Boeing glassware.
Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather	Project #: 44024446	Site: Annual Arroyo Simi-Frontier Park - Dry Weather	Matrix (W=water, S=solid, O=vegetable, BT=Tissue, A=Air)			
Sample Date: 1/1/23	Sample Time: 11:30 Pacific	Sample Type (C=Comp, G=grab)	Preservation Code:			
Sample ID (Lab ID): Arroyo Simi_20230101_Grab (570-122377-1)						
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>						
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:						
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____						
Relinquished by: _____		Date/Time: 01/04/23 13:29	Company: FL	Received by: _____		Date/Time: 1/5/23 10:10
Relinquished by: _____		Date/Time: _____	Company: _____	Received by: _____		Date/Time: _____
Relinquished by: _____		Date/Time: _____	Company: _____	Received by: _____		Date/Time: _____
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 1.7C		

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122377-2

**Login Number: 122377**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122377-2

**Login Number: 122377**

**List Number: 2**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 01/05/23 02:33 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004  
Generated 1/19/2023 2:45:33 PM

## JOB DESCRIPTION

Annual Arroyo Simi-Frontier Park - Dry Weather

## JOB NUMBER

570-122377-3

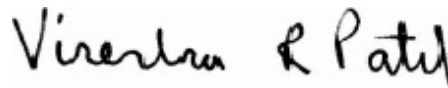
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/19/2023 2:45:33 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	19
Receipt Checklists . . . . .	32

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-3

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-3

---

**Job ID: 570-122377-3**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative**  
**570-122377-3**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/3/2023 5:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.6° C.

**Lab Admin**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Subcontract Work**

Method Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-3

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122377-1	Arroyo Simi_20230101_Grab	Water	01/01/23 11:30	01/03/23 17:05

1

2

3

4

5

6

7

8

9



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 476426  
Report Level: IV  
Report Date: 01/18/2023

### Microbiology Tests

#### Analytical Report *prepared for:*

Virendra Patel  
Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

Location: ANNUAL ARROYO SIMI - FRONTIER PARK - DRY WEATHER

*Authorized for release by:*

Quynhgiao Le, Project Manager  
714-7716900  
[quynhgiao.le@enthalpy.com](mailto:quynhgiao.le@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



### Sample Summary

---

Virendra Patel	Lab Job #:	476426
Eurofins Calscience Tustin 2841 Dow Avenue, Suite 100 Tustin, CA 92780	Location:	ANNUAL ARROYO SIMI - FRONTIER PARK - DRY WEATHER
	Date Received:	01/03/23

---

Sample ID	Lab ID	Collected	Matrix
ARROYO SIMI_20230101_GRAB (570-122377-1)	476426-001	01/01/23 11:30	Water

**Case Narrative**

**MICROBIOLOGY TESTS (SM 9223BB)**

---

Eurofins Calscience	Lab Job 476426
Tustin	Number:
2841 Dow Avenue, Suite	Location: ANNUAL ARROYO SIMI - FRONTIER PARK - DRY
100	WEATHER
Tustin, CA 92780	Date 01/03/23
Virendra Patel	Received:

---

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

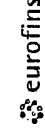


Chain of Custody

**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record

476424



Environmental Testing

<b>Client Information (Sub Contract Lab)</b>			<b>Sampler:</b>			<b>Lab PM:</b>			<b>Carrier Tracking No(s):</b>			<b>DOC No:</b>		
Client Contact: Shipping/Receiving			Patel, Virendra			Patel, Virendra			570-203151.1			Page:		
Company: Enthalpy Analytical LLC			E-Mail: Virendra.Patel@eurofins.com			Virendra.Patel@eurofins.com			State of Origin: California			Page 1 of 1		
Address: 931 W. Barkley Ave,			State Program - California			Accreditations Required (See note): State Program - California			Job #: 570-122377-3			Preservation Codes: M - Hexane N - None O - Acetone P - Na2O2 Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Triuma Z - other (specify) Other:		
Due Date Requested: 1/16/2023			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		
TAT Requested (days):			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		
PO #:			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		
WO #:			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		
Project #: 4402446			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		
Site:			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		
Annual Arroyo Simi-Frontier Park - Dry Weather			Analysis Requested			Analysis Requested			Analysis Requested			Analysis Requested		

Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Seawater, Overkill, BT-Trans, Asab)	Preservation Code:	Field Filtered Sample (Yes or No)	Field Sterilized (Yes or No)	Sub (Quantity - E-Coll - level & required - P-Coll - level & required)	Total Number of Containers	Special Instructions/Note:
Arroyo Simi_20230101_Grab (570-122377-1)	1/1/23	11:30 Pacific		Water				X	3	See Attached Instructions

**Possible Hazard Identification**  
**Unconfirmed**

Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: 01/03/23 16:15 Company: EC

Relinquished by: \_\_\_\_\_ Date/Time: 1/3/23 16:19 Company: EX

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_  
 Δ Yes Δ No

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client     Disposal By Lab     Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements:



**ICOC No:**  
570-203151

**Containers**

**Count**  
3

**Container Type**  
Plastic 120 mL - Sterile/Na2S2O3

**Preservative**  
Sodium Thiosulfate

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4





**SAMPLE ACCEPTANCE CHECKLIST**

**Section 1**  
 Client: Eurofins Calscience Project: Annual Arroyo Simi - Frontier Park  
 Date Received: 1/3/23 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 2.8 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 6 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	<input checked="" type="checkbox"/>		
Are sample IDs present?	<input checked="" type="checkbox"/>		
Are sampling dates & times present?	<input checked="" type="checkbox"/>		
Is a relinquished signature present?	<input checked="" type="checkbox"/>		
Are the tests required clearly indicated on the COC?	<input checked="" type="checkbox"/>		
Are custody seals present?		<input checked="" type="checkbox"/>	
If custody seals are present, were they intact?			<input checked="" type="checkbox"/>
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> AS 1/3
Did all samples arrive intact? If no, indicate in Section 4 below.	<input checked="" type="checkbox"/>		
Did all bottle labels agree with COC? (ID, dates and times)	<input checked="" type="checkbox"/>		
Were the samples collected in the correct containers for the required tests?	<input checked="" type="checkbox"/>		
Are the containers labeled with the correct preservatives?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> AS 1/3
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			<input checked="" type="checkbox"/>
Was a sufficient amount of sample submitted for the requested tests?	<input checked="" type="checkbox"/>		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By: [Signature] Date: 1/3/23



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

## Results & QC Summary

### Total Coliform / E. coli by Quanti-Tray

<b>Lab #:</b> 476426	<b>Project#:</b> STANDARD
<b>Client:</b> Eurofins Calscience Tustin	<b>Location:</b> ANNUAL ARROYO SIMI - FRONTIER PARK...
<b>Field ID:</b> ARROYO SIMI_20230101_GRAB (570-122377-1)	<b>Batch#:</b> 304527
<b>Lab ID:</b> 476426-001	<b>Analyzed:</b> 01/04/23 13:30
<b>Matrix:</b> Water	<b>Sampled:</b> 01/01/23 11:30
<b>Diln Fac:</b> 100.0	<b>Prep:</b>
	<b>Received:</b> 01/03/23
	<b>Analysis:</b> SM 9223Bb
	<b>Prepared:</b> 01/03/23 16:51
	<b>Analyst:</b> JAA

476426-001 Analyte	Result	RL	Units	Qual
Coliform, E. Coli	31,000	100	MPN/100ml	H

Legend

H: Holding time was exceeded  
 RL: Reporting Limit



# SM 9223 B-b, Quanti-Tray

Prep Analyst: ST Prep Date/Time: 01/03/23 1051 QC Batch ID: 3045077 Batch Page 1 of 2  
 Read Analyst: ST Read Date/Time: 01/04/23 1330 Media Lot #: EU896 Pipette Lot #: A103842 & A10394 1 A104116  
 Monthly Quantitative Sealer Check:  Collisure  Colliert 24  Colliert 18  Colliert 24 \* Quanti-Tray Sealer Check must be performed monthly  
 Total and E. coli: Incubator ID: M4 Incubator In, Temp/Time: 1724 35.3 Incubator Out, Temp/Time: 1330 35.2  
 Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colliert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
		476424-001	1X	49	48	>2419.6	72400	49	26	488.4	490					EM
		↓	10X	49	48	>2419.6	>24000	31	2	49.5	500					
		↓	100X	49	21	365.4	36,000	9	0	9.8	980					
		476424-001	1X	49	48	>2419.6	>2400	48	18	248.9	250					EA
		↓	10X	49	31	648.8	6500	21	1	27.9	280					
		↓	100X	35	1	58.6	5900	2	0	2.0	200					
		476419-001	1X	49	48	>2419.6	>2400	49	47	2419.6	2400					EC
		↓	10X	49	48	>2419.6	>24000	49	16	235.5	2800					
		↓	100X	49	28	547.5	55,000	18	2	24.3	2400					
		476417-001	1X	49	48	>2419.6	>2400	48	7	159.7	160					CA
		↓	10X	49	48	>2419.6	>24000	11	1	13.4	130					
		↓	100X	49	10	204.6	20,000	4	0	4.1	410					
		476426-001	1X	49	48	>2419.6	>2400	49	48	2419.6	22400		JA 01/4/23			AR
		↓														
		12/21/22		49	48	>2419.6	>2400	49	48	>2419.6	>2400					
		↓		49	48	>2419.6	>2400	0	0	<1	<1					
				0	0	<1	<1	0	0	<1	<1					

Data Entered By: JA 1/4/23 Data Reviewed By: \_\_\_\_\_  
 63 of 100  
 SM 9223B-b, Quanti-Tray, Rev 3, 1/15/2019  
 1/10/23 11



# SM 9223 B-b, Quanti-Tray

Batch Page 2 of 2

QC Batch ID: 304527

Prep Analyst: SL Prep Date/Time: 1/23/23 1651

Read Analyst: SL Read Date/Time: 1/12/23 1330

Media Used (check one):  Colisure  Colilert 18  Colilert 24

Monthly Quanti-Tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 2/12/23

Total and E. coli: Incubator ID: NY Incubator In, Temp/Time: 1724 35-3 Media Lot #: EUB96

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Pipette Lot #: see pg 63

Sealery 603

Incubator Out, Temp/Time: 1330 35-2

Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
		470026-001	10X	49	48	>249.6	>2400	49	48	>249.6	>2400					
		↓	100X	49	48	>249.6	>24000	49	18	307.6	31,000					AP
<del>JA 01/09/23</del>																
<b>Quality Control</b>																
Positive +/- (E. Coli)		12/31/22		49	48	>249.6	>2400	49	48	>249.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	40	>249.6	>2400	0	0	<1	<1					
Negative +/- (P. Aeruginosa)		↓		0	0	<1	<1	0	0	<1	<1					

Data Entered By: JA 1/9/23 Data Reviewed By: \_\_\_\_\_



(22377)



570-122377 Chain of Custody

### CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

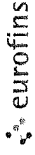
<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2015 <b>Annual Arroyo Simi-Frontier Park          Dry Weather</b>		<b>Field Readings   Meter serial # VLJV00KT</b> Field Readings: (Include units) Time of Readings: 1:30 pH 8.21 pH unit Temp 53.4 °C/F Velocity 0.1 f/sec Field readings QC Checked by: <i>[Signature]</i> Date/Time: 1-1-2023 1:30 Comments Deliver to lab ASAP 8 hr hold time Need x.5x, 10x dilutions	
<b>Eurofins Calscience Project Manager: Virendra Patel</b> 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 <b>ECI Project #44024446</b> Eurofins Calscience's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2022-26-Eurofins Calscience by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience Laboratories Inc.		<b>Project Manager: Katherine Miller</b> 520.289.8606, 520.904.6944 (cell)		<b>Field Manager: Mark Dominick</b> 978.234.5033, 818.599.0702 (cell)	
<b>Sampler: Adrien Mobeka</b>		<b>ANALYSIS REQUIRED</b> A Q A A Q Q Hardness as CaCO <sub>3</sub> , Recoverable (SM2340B) TSS (Method 160.2 (SM2540D)) TCDD (and all congeners) (E161B) Chlorpyrifos, Diazinon (E525.2) Week Labs in Hacienda Heights CA Pesticides: Chlordane, 4'-D-DD, 4'-DDE, 4'-D DDT, Dieldrin, Toxaphene + PCBs only (E608)			
<b>Sample Description</b> Arroyo Simi #1032101_Grab Arroyo Simi #1032101_Extra	<b>Sample Matrix</b> WS WS WS WS WS WS WS WS	<b>Container: Type</b> 125 mL Sterile Poly 250 mL Poly 1L Glass Amber 1L Poly 1L Glass Amber 1L Glass Amber 1L Glass Amber 1L Glass Amber 1L Glass Amber 1L Glass Amber	<b># of Cont.</b> 3 1 2 1 2 2 2 2 2	<b>Preservative</b> Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> HNO <sub>3</sub> None None None None None None None	<b>MS/MSD</b> No No No No No No No No No
<b>Sample I.D.</b> 1-1-2023 1-1-2023/1:30	<b>Sampling Date/Time</b> 1-1-2023 1-1-2023/1:30	<b>Legend: A=Annual, Q=Quarterly</b>			
<b>Relinquished By</b> <i>[Signature]</i> HA	<b>Date/Time</b> 1-3-23/1705	<b>Company</b> HA	<b>Received By</b> <i>[Signature]</i> EC	<b>Date/Time</b> 1-3-23/1245	<b>Turn-around time: (Check)</b> 24 Hour ___ 72 Hour ___ 10 Day ___ X 48 Hour ___ 5 Day ___ Normal: ___
<b>Relinquished By</b> <i>[Signature]</i> EC	<b>Date/Time</b> 01/03/23 1705	<b>Company</b> EC	<b>Received By</b> <i>[Signature]</i> EC	<b>Date/Time</b> 1-3-23 17:05	<b>Sample Integrity: (Check)</b> Intact: ___ On Ice: ___ Store samples for 6 months: ___ Data Requirements: (Check) No Level IV: ___ All Level IV: ___ X

1.3/1.3 1.6/1.6 5c/11



# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



<b>Client Information (Sub Contract Lab)</b> Client Contact: <b>Patel, Virendra</b> Shipping/Receiving: <b>Virendra Patel@et.eurofins.com</b> Company: <b>Wreck Laboratories, Inc.</b> Address: <b>14859 E Clark Avenue,</b> City of Industry State, Zip: <b>CA, 91745</b> Phone: Email:		Lab PM: <b>Patel, Virendra</b> E-Mail: <b>Virendra.Patel@et.eurofins.com</b> State of Origin: <b>California</b>	Carrier Tracking No(s): <b>570-203133 1</b> Page: <b>Page 1 of 1</b> Job #: <b>570-122377-4</b>
Due Date Requested: <b>1/17/2023</b> TAT Requested (days): PO #: WO #: Project #: <b>44024446</b> Site: <b>Annual Arroyo Simi-Frontier Park - Dry Weather</b>		Accreditations Required (See note): State Program - California	
<b>Sample Identification - Client ID (Lab ID)</b>  Arroyo Simi_20230101_Grab (570-122377-1)  Arroyo Simi_20230101_Grab_Extra (570-122377-2)	Sample Date: <b>1/1/23</b>  <b>1/1/23</b>	Sample Time: <b>11:30 Pacific</b>  <b>11:30 Pacific</b>	Sample Type (C=Comp, G=Grab): Preservation Code: Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)
	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> X Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X SUB (Week-525.2-Diazinon and Chiorpyrifos (ug/L)) <input checked="" type="checkbox"/> X SUB (Week-525.2-Diazinon and Chiorpyrifos (ug/L)) <input checked="" type="checkbox"/> X (Units) (Hold)		
Analysis Requested M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2S2O3 S H2SO4 T TSP Dodecahydrate U - Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)			
Total Number of containers: <b>2</b> See Attached Instructions See Attached Instructions			
Special Instructions/Note			

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) <b>Primary Deliverable Rank. 2</b>			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: <i>[Signature]</i>	Date: <b>01/03/23</b>	Received by: <b>Ee</b>	Date/Time: <b>01-03-23 1530</b>
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: <b>2.6 7.8/2.9</b>	



ICOC No:  
570-203133

**Containers**

Count 4  
Container Type Amber Glass 1 liter - unpreserved

Preservative  
None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed





Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494

**Client Information (Sub Contract Lab)**  
 Client Contact: Shipping/Receiving  
 Company: Weck Laboratories, Inc.  
 Address: 14859 E. Clark Avenue,  
 City of Industry  
 State Zip: CA, 91745  
 Phone:  
 Email:

**Lab PM**  
 Patel, Virendra  
 E-Mail: Virendra.Patel@et.eurofins.com  
 State of Origin: California

**Carrier Tracking No(s):** 570-203138 1  
**Page:** Page 1 of 1  
**Job #:** 570-122381-5

**Accreditations Required (See note):**  
 State Program - California

**Due Date Requested:** 1/17/2023  
**TAT Requested (days):**

**PO #:**  
**WO #:**  
**Project #:** 44024446  
**SSOW#:**

**Sample Identification - Client ID (Lab ID)**

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, BT=Tissue, A=air)	Field Filtered Sample (Yes or No)		Sub (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L))		Sub (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L)) (HOLD)		Total Number of containers	Special Instructions/Note.
					Perform MS/MSD (Yes or No)	Field Filtered Sample (Yes or No)	ug/L	ug/L	ug/L	ug/L		
Outfall009_20230102_Comp (570-122381-1)	1/2/23	08:00 Pacific	Water	Water	X	X					2	See Attached Instructions
Outfall009_20230102_Comp_Extra (570-122381-1)	1/2/23	08:00 Pacific	Water	Water							2	See Attached Instructions

**Preservation Codes**  
 M Hexane  
 N None  
 O AsNaO2  
 P Na2O4S  
 Q - Na2SO3  
 R - Na2S2O3  
 S H2SO4  
 T TSP Dodecahydrate  
 U Acetone  
 V - MCAA  
 W pH 4-5  
 Y - Trizma  
 Z other (specify)

**Analysis Requested**

**Special Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

**Special Instructions/QC Requirements**  
 Primary Deliverable Rank: 2

**Date**

Date/Time	Company	Received by	Date/Time	Company	Received by	Date/Time	Company	Received by
01/03/23 1530	EC Company	[Signature]	01-03-23 1530	Company	[Signature]			

**Method of Shipment**

**Cooler Temperature(s) °C and Other Remarks:** 2.6c 17060

**Custody Seal No**  
 Δ Yes Δ No

1
2
3
4
5
6
7
8
9

ICOC No:  
570-203138

**Containers**

Count 2  
Container Type Amber Glass 1 liter - Hydrochloric

Preservative  
Hydrochloric Acid

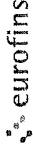
**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed



# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Carrier Tracking No(s): 570-203139 1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@eurofins.com	Page: Page 1 of 1
Company: Weck Laboratories, Inc.		State of Origin: California	
Address: 14859 E Clark Avenue,		Job #: 570-122390-4	
City: City of Industry		<b>Preservation Codes</b>	
State, Zip: CA, 91745		A HCL M - Hexane B - NaOH N None C - Zn Acetate O AsNaO2 D - Nitric Acid P Na2O4S E - NaHSO4 Q Na2SO3 F - MeOH R Na2S2O3 G Amchlor S H2SO4 H - Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Other Z other (specify)	
PO #:		<b>Analysis Requested</b>	
WO #:		Perform MS/MSD (Yes or No)	
Project #: 44024446		SUB (Weck-Hydrzine)/Week-Hydrzine	
SSOW#:		SUB (Weck-Hydrzine)/Week-Hydrzine (Hold)	
		Total Number of Containers	
<b>Sample Identification - Client ID (Lab ID)</b>		Special Instructions/Note	
Outfall002_20230102_Comp (570-122390-2)	Sample Date: 1/2/23	Sample Time: 09-15 Pacific	<input checked="" type="checkbox"/> See Attached Instructions
Outfall002_20230102_Comp_Extra (570-122390-3)	Sample Date: 1/2/23	Sample Time: 09-15 Pacific	<input checked="" type="checkbox"/> See Attached Instructions
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>			
<b>Possible Hazard Identification</b>			
Unconfirmed			
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2			
Empty Kit Relinquished by			
Relinquished by: <i>Sam</i>		Date: _____	
Relinquished by:		Date/Time: 01/03/23 1530	
Relinquished by:		Date/Time: _____	
Relinquished by:		Date/Time: _____	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No	
		Cooler Temperature(s) °C and Other Remarks: 2.6c 70kg	
Special Instructions/QC Requirements		Method of Shipment:	
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Received by: _____	
Date/Time: _____		Date/Time: 01-03-23 1530	
Company: _____		Company: _____	
Received by: _____		Date/Time: _____	
Received by: _____		Date/Time: _____	
Received by: _____		Date/Time: _____	



ICOC No:  
570-203139

**Containers**

Count                      Container Type                      Preservative  
4                      Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
3	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed





# Chain of Custody Record

2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone 714-895-5494

eurofins

<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Garner Tracking No(s): 570-203146 1	
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofins.com	Page: Page 1 of 1	
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		
Address: 14859 E. Clark Avenue,		Job #: 570-122420-1		
City: City of Industry		State of Origin: California		
State, Zip: CA, 91745		Preservation Codes: M - Hexane N - None O - AsNO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)		
Phone: Email:		Other: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA		
Project #: IBOEING SSFL NPDES - Influent SWTS-18 GRAB		Total Number of containers		
Site: Site		Special Instructions/Note		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrzine)/ Week-Hydrzine	SUB (Week-Hydrzine)/ Week-Hydrzine (Hold)	Analysis Requested	Total Number of containers
SWTS-18_Influent_20230103_Grab (570-122420-1)	1/3/23	09:30 Pacific	Water	Water		X	X				1
SWTS-18_Influent_20230103_Grab_Extra (570-122420-2)	1/3/23	09:30 Pacific	Water	Water				X			1

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank. 2  
 Empty Kit Relinquished by \_\_\_\_\_ Date \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Date/Time 01/03/23 1530 Company EC  
 Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_  
 Custody Seals Intact:  Yes  No  
 Cooler Temperature(s) °C and Other Remarks: 2.60 170269





ICOC No:  
570-203146

**Containers**

Count                      Container Type                      Preservative  
2                      Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed



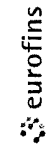
**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: Enthalpy Analytical LLC Address: 931 W Barkley Ave, Orange, CA, 92668 Phone: State: Zip: PO #: WO #: Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather Sites:		Lab PM: Patel, Virendra E-Mail: Virendra.Patel@eurofins.com State of Origin: California Accreditations Required (See note): State Program - California	Carrier Tracking No(s): Page: Page 1 of 1 Job #: 570-122377-3	COC No: 570-2031511 Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:
<b>Sample Identification - Client ID (Lab ID)</b> Arroyo Simi_20230101_Grab (570-122377-1)		Due Date Requested: 1/16/2023 TAT Requested (days): PO #: WO #: Project #: 44024446 SSOW#:	Analysis Requested:	Special Instructions/Note: See Attached Instructions
Sample Date: 1/1/23 Sample Time: 11:30 Pacific	Sample Type (C=comp, G=grab) Preservation Code: Water	Matrix (If water, specify container, EPA method, A=Alp) Field Filtered Sample (Yes/No) Perform MS/MSD (Yes/No) Sub (Quant-tray - E, Coll - level & required - E, Coll - level & required)	Total Number of Containers: 3	Special Instructions/Note: See Attached Instructions
<p>Notes: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>				
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested I, II, III, IV, Other (specify)				
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months				
Special Instructions/QC Requirements:				
Primary Deliverable Rank: 2				
Empty Kit Relinquished by:				
Relinquished by: [Signature] Date: 01/03/23 Relinquished by: EC Company Date: 16/15 Relinquished by: Company Date: 16/19 Relinquished by: Company Date: 16/19				
Custody Seals Intact: Custody Seal No. $\Delta$ Yes $\Delta$ No Cooler Temperature(s) °C and Other Remarks:				

**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

## Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab Pk: Patel, Virendra		Carrier Tracking No(s):		COC No: 570-2031511	
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@eurofins.com		State of Origin: California		Page: Page 1 of 1	
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #:		570-122377-3	
Address: 931 W Barkley Ave, Orange, CA, 92868		Due Date Requested: 1/16/2023		Analysis Requested:		Preservation Codes:	
City: Orange		TAT Requested (days):				M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDTA Z - other (specify) Other:	
State, Zip: CA, 92868		PO #:					
Phone:		WO #:					
Email:		Project #: 44024446					
Site: Annual Arroyo Simi-Frontier Park - Dry Weather		SSOW#:					
		Sample Date: 1/1/23		Sample Time: 11:30 Pacific		Sample Preservation Code: Water	
		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=organical, B=biomass, A=air)		SUB (Quant-Tray - E-Coll - level & required - F-Coll - level & required)	
		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		X	
		Random MS/MSD (Yes or No)		Random MS/MSD (Yes or No)		X	
		Total Number of Containers		Total Number of Containers		3	
		Special Instructions/Note:		Special Instructions/Note:		See Attached Instructions	

**Sample Identification - Client ID (Lab ID)**  
 Arroyo Simi\_20230101\_Grab (570-122377-1)

**Notes:** Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

**Empty Kit Relinquished by:** \_\_\_\_\_ Date: \_\_\_\_\_

**Relinquished by:** *[Signature]* Date: 01/03/23 Company: EC

**Relinquished by:** \_\_\_\_\_ Date: 16/15 Company: \_\_\_\_\_

**Relinquished by:** \_\_\_\_\_ Date: \_\_\_\_\_ Company: \_\_\_\_\_

**Custody Seals Intact:** Custody Seal No. \_\_\_\_\_  
 Δ Yes Δ No

**Special Instructions/OC Requirements:**  
 Return To Client  Dispose By Lab  Archive For \_\_\_\_\_ Months  
 Method of Shipment: \_\_\_\_\_

**Received by:** *[Signature]* Date/Time: 1/3/23 16:19 Company: EA

**Received by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Received by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Cooler Temperature(s) °C and Other Remarks:**



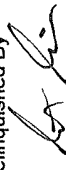



### CHAIN OF CUSTODY FORM

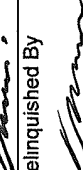
Client Name/Address  
**Haley & Aldrich, Inc.**  
 5333 Mission Center Road, Suite 300  
 San Diego, CA 92108

Project:  
 Boeing-SSFL NPDES  
 Arroyo Simi  
 Sampler: Adrian Mobeka  
 Project Manager: Katherine Miller  
 Phone Number:  
 (520) 289-8606, (520) 904-6944 (cell)  
 Field Manager: Mark Dominick  
 (978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	FT Coli (SM9221)	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230103	1/3/2023 / 1030	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

Relinquished By  Date/Time: 1-3-23 / 1245

Relinquished By  Date/Time: 1/3/23 / 1245 E.C.

Relinquished By  Date/Time: 01/03/23 1705 E.C.

Turn around Time: (check)  
 24 Hours \_\_\_\_\_ 5 Days \_\_\_\_\_  
 48 Hours \_\_\_\_\_ 10 Days \_\_\_\_\_  
 72 Hours \_\_\_\_\_ Normal  X \_\_\_\_\_  
 Sample Integrity: (check)  
 Intact \_\_\_\_\_ On Ice \_\_\_\_\_  
 Data Requirements: (check)  
 No Level IV \_\_\_\_\_ All Level IV \_\_\_\_\_  
 NPDES Level IV \_\_\_\_\_



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122377-3

**Login Number: 122377**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/16/2023 1:19:35 PM

**JOB DESCRIPTION**

Annual Arroyo Simi-Frontier Park - Dry Weather

**JOB NUMBER**

570-122377-4

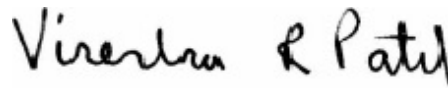
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
2/16/2023 1:19:35 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	14
Receipt Checklists . . . . .	29

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-4

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-4

---

**Job ID: 570-122377-4**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-122377-4**

## Comments

No additional comments.

## Receipt

The samples were received on 1/3/2023 5:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.6° C.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units): This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-4

Method	Method Description	Protocol	Laboratory
Subcontract	Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)	None	Weck Lab

**Protocol References:**

None = None

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-4

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122377-1	Arroyo Simi_20230101_Grab	Water	01/01/23 11:30	01/03/23 17:05

1

2

3

4

5

6

7

8

9

**Work Orders:** 3A04002

**Project:** 570-122377-4

**Attn:** Virendra Patel

**Client:** Eurofins Calscience - Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

**Report Date:** 2/14/2023

**Received Date:** 1/3/2023

**Turnaround Time:** Normal

**Phones:** (949) 261-1022

**Fax:** (949) 260-3297

**P.O. #:**

**Billing Code:**

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/03/23 with the Chain-of-Custody document. The samples were received in good condition, at 2.6 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

## Sample Results

Sample: Arroyo Simi\_20230101\_Grab (570-122377-1) Sampled: 01/01/23 11:30 by Client  
3A04002-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 525.2M		<b>Instr:</b> GCMS13					
<b>Batch ID:</b> W3A0545		<b>Preparation:</b> EPA 525.2/SPE		<b>Prepared:</b> 01/09/23 08:06		<b>Analyst:</b> EFC	
Chlorpyrifos	ND	0.0013	0.010	ug/l	1	01/11/23	
Diazinon	ND	0.0010	0.010	ug/l	1	01/11/23	
<i>Surrogate(s)</i>							
1,3-Dimethyl-2-nitrobenzene	78%		50-141	Conc: 0.392		01/11/23	
Triphenyl phosphate	117%		63-200	Conc: 0.584		01/11/23	

## Quality Control Results

### Semivolatiles Organics - Low Level by Tandem GC/MS/MS

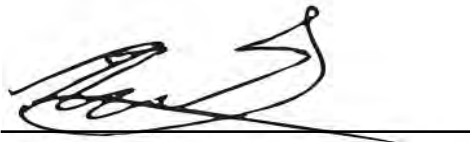
Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Blank (W3A0545-BLK1)</b>					<b>Prepared: 01/09/23 Analyzed: 01/11/23</b>						
Chlorpyrifos	ND	0.0013	0.010	ug/l							
Diazinon	ND	0.0010	0.010	ug/l							
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.425			ug/l	0.500		85	50-141			
Triphenyl phosphate	0.529			ug/l	0.500		106	63-200			
<b>LCS (W3A0545-BS1)</b>					<b>Prepared: 01/09/23 Analyzed: 01/11/23</b>						
Chlorpyrifos	0.0453	0.0013	0.010	ug/l	0.0500		91	63-145			
Diazinon	0.0225	0.0010	0.010	ug/l	0.0500		45	25-180			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.412			ug/l	0.500		82	50-141			
Triphenyl phosphate	0.495			ug/l	0.500		99	63-200			
<b>Matrix Spike (W3A0545-MS1)</b>					<b>Source: 3A05099-01</b>		<b>Prepared: 01/09/23 Analyzed: 01/11/23</b>				
Chlorpyrifos	0.0416	0.0013	0.010	ug/l	0.0500	ND	83	37-168			
Diazinon	0.0285	0.0010	0.010	ug/l	0.0500	ND	57	36-153			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.390			ug/l	0.500		78	50-141			
Triphenyl phosphate	0.554			ug/l	0.500		111	63-200			
<b>Matrix Spike Dup (W3A0545-MSD1)</b>					<b>Source: 3A05099-01</b>		<b>Prepared: 01/09/23 Analyzed: 01/11/23</b>				
Chlorpyrifos	0.0489	0.0013	0.010	ug/l	0.0500	ND	98	37-168	16	30	
Diazinon	0.0307	0.0010	0.010	ug/l	0.0500	ND	61	36-153	7	30	
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	0.351			ug/l	0.500		70	50-141			
Triphenyl phosphate	0.538			ug/l	0.500		108	63-200			

## Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.  
 All results are expressed on wet weight basis unless otherwise specified.  
 All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

**Reviewed by:**



Rahul R. Nair  
Project Manager



DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*





# Chain of Custody Record

2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

3AD

<b>Client Information (Sub Contract Lab)</b>	Lab P/M: Patel, Virendra	Carrier Tracking No(s):
Client Contact: Shipping/Receiving	E-Mail: Virendra.Patel@et.eurofinsus.com	State of Origin: California
Company: Weck Laboratories, Inc.	Accreditations Required (See note): State Program - California	

Due Date Requested: 1/17/2023	
TAT Requested (days):	
PO #:	
WO #:	
Project #:	44024446
Site:	

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUB (Weck-525.2 - Dioxin and Chlordioxins (ug/L))		SUB (Weck-525.2 - Dioxin and Chlordioxins (ug/L)) (Hold)	
					Field Filtered	MS/MSD	Field Filtered	MS/MSD	Field Filtered	MS/MSD	Field Filtered	MS/MSD
Arroyo Simi_20230101_Grab (570-122377-1)	1/1/23	11:30 Pacific	Water		X	X	X	X				
Arroyo Simi_20230101_Grab_Extra (570-122377-2)	1/1/23	11:30 Pacific	Water						X			

Note: Since laboratory accreditations are subject to change, Eurofins CalScience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under the maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins CalScience laboratory or other instructions will be provided. Any changes to accreditation immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins CalScience.

**Possible Hazard Identification**

Unconfirmed  Return To Client  Disposal By Lab

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_



Time: \_\_\_\_\_

Special Instructions/QC Requirements:

Sample Disposal (A fee may be assessed if samples are returned to client)

**ICOC No:**  
570-203133

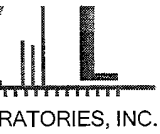
**Containers**

**Count** 4      **Container Type** Amber Glass 1 liter - unpreserved      **Preservative** None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos (ug/L units)
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos (ug/L units)





# Sample Receipt Checklist

Veck WKO: 3A04002  
 Logged by: Jaime Gomez  
 Checked by: Jaime Gomez

Date/Time Received: 01/03/23 @ 15:30  
 # of Samples: 02  
 Delivered by: Client

Task	Yes	No	N/A	Comments
QC present at receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
QC properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
QC matches sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Subject Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sample Temperature	2.6 °C			
Samples received on ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Ice Type (Blue/Wet)	Wet			
Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Samples in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Sufficient sample volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Subject Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sample labels checked for correct preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QC Headspace: (No) none, If Yes (See comment) 1.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <6mm/Pea size?
QC verified upon receipt?				pH paper Lot# 2071882
Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 508.1, 5.2<2; 6710B<2; 608.3 5-9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Free Chlorine Tested <0.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cl Test Strip Lot# 061221E
Free pH <2 verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH paper Lot#
Free pH adjusted for O&G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	pH Reading:
				Acid Lot#
				Amt added:
Subject Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	





570-122377 Chain of Custody

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address: <b>Haley &amp; Aldrich</b> 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: <b>Boeing-SSFL NPDES</b> Permit 2015 <b>Annual Arroyo Simi-Frontier Park</b> <b>Dry Weather</b>		ANALYSIS REQUIRED <input type="checkbox"/> Hardness as CaCO <sub>3</sub> , Recoverable (SM2340B) <input type="checkbox"/> F <sub>2</sub> coll (SM9221) <input type="checkbox"/> Methality Analytical Orange CA <input type="checkbox"/> TCDD (and all congeners) (E1613B) <input type="checkbox"/> TSS (Method 160.2 (SM2640D)) <input type="checkbox"/> Chlorpyrifos, Diazinon (E526.2) Week Labs in Hacienda Heights CA <input type="checkbox"/> Pesticides: Chlordane, 4'-D-DD, 4'-D-DE, 4'-D-DT, Dieldrin, Toxaphene + PCBs only (E608)		Field Readings   Meter serial # <b>VL-JV 00 K7</b> Field Readings: (Include units) Time of Readings: <b>1:30</b> pH <b>8.21</b> pH unit Temp <b>53.4</b> °C/F Velocity <b>0.1</b> f/sec Field readings QC Checked by: <i>[Signature]</i> Date/Time: <b>1-1-2023 1:30</b> Comments Deliver to lab ASAP 8 hr hold time Need x.5x, 10x dilutions Extract within 24-Hours of sampling at Week Labs Hold Hold Hold	
Project Manager: <b>Katherine Miller</b> 520.289.8606, 520.904.6944 (cell)		Project Manager: <b>Mark Dominick</b> 978.234.5033, 818.599.0702 (cell)		Project Manager: <b>Katherine Miller</b> 520.289.8606, 520.904.6944 (cell)		Project Manager: <b>Mark Dominick</b> 978.234.5033, 818.599.0702 (cell)	
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container: Type	# of Cont.	Preservative	MS/MSD
			WS	125 mL Sterile Poly	3	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	No
			WS	250 mL Poly	1	HNO <sub>3</sub>	No
			WS	1L Glass Amber	2	None	No
			WS	1L Poly	1	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No
			WS	1L Glass Amber	2	None	No

Legend: A=Annual, Q=Quarterly

Relinquished By <i>[Signature]</i>	Date/Time: <b>1-3-23/1245</b>	Company <b>HA</b>	Received By <i>[Signature]</i>	Date/Time: <b>1/3/23/1245</b>	Company <b>EC</b>
Relinquished By <i>[Signature]</i>	Date/Time: <b>01/03/23 1705</b>	Company <b>EC</b>	Received By <i>[Signature]</i>	Date/Time: <b>1-3-23 17:05</b>	Company <b>EC</b>
Relinquished By	Date/Time:	Company	Received By	Date/Time:	Company

1.3/1.3 1.6/1.6 5.0/1.6





ICOC No:  
570-203133

**Containers**

Count 4  
Container Type Amber Glass 1 liter - unpreserved

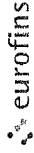
Preservative  
None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)) (Hold)	525.2- 24 hour Ext Hold Time for Diazinon and Chlorpyrifos level IV package needed

# Chain of Custody Record

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM	Carrier Tracking No(s):		COC No:
Client Contact: Shipping/Receiving		Patel, Virendra	Patel, Virendra	State of Origin		570-203138 1
Company: Weck Laboratories, Inc.		E-Mail: Virendra.Patel@eurofins.com	E-Mail: Virendra.Patel@eurofins.com	State of Origin		Page: 1 of 1
Address: 14859 E. Clark Avenue,		Accreditations Required (See note): State Program - California		Job #:		570-122381-5
City: City of Industry	Due Date Requested 1/17/2023	Analysis Requested		Preservation Codes		M Hexane N None O AsNaO2 P Na2O4s Q - Na2SO3 R - Na2S2O3 S H2SO4 T TSP Dodecahydrate U Acetone V - MCAA W pH 4-5 Y - Trizma Z other (specify)
State Zip: CA, 91745	TAT Requested (days)	Perform MS/MSD (Yes or No)		Analysis Requested		A - HCL B - NaOH C - Zn Acetate D Nitric Acid E - H2SO4 F - MeOH G Amchlor H - Ascorbic Acid I - Ice J DI Water K - EDTA L - EDA Other
Phone:	PO #:	Field Filtered Sample (Yes or No)		Analysis Requested		
Email:	WO #:	SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L))		Analysis Requested		
Project Name: Boeing SSFL NPDES - Outfall 009 COMP	Project #: 44024446	SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L))		Analysis Requested		
Site:	SSOW#:	SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L))		Analysis Requested		
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	MATRIX (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Special Instructions/Note.
Outfall009_20230102_Comp (570-122381-1)		1/2/23	08:00 Pacific	Water	Water	See Attached Instructions
Outfall009_20230102_Comp_Extra (570-122381-1)		1/2/23	08:00 Pacific	Water	Water	See Attached Instructions
Total Number of containers		X		X		
Total Number of containers		2		2		

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Return To Client  
 Disposal By Lab  
 Archive For \_\_\_\_\_ Months

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2  
 Special Instructions/QC Requirements

Empty Kit Relinquished by \_\_\_\_\_ Date \_\_\_\_\_ Method of Shipment \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Company \_\_\_\_\_ Received by \_\_\_\_\_ Date/Time: 01/03/23 1530  
 Relinquished by \_\_\_\_\_ Company \_\_\_\_\_ Received by \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by \_\_\_\_\_ Company \_\_\_\_\_ Received by \_\_\_\_\_ Date/Time: \_\_\_\_\_

Custody Seals Intact:  Yes  No  Δ  
 Cooler Temperature(s) °C and Other Remarks: 2.6c 17.6c



ICOC No:  
570-203138

**Containers**

Count 2  
Container Type Amber Glass 1 liter - Hydrochloric

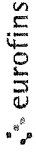
Preservative  
Hydrochloric Acid

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed
2	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos-Level IV package needed



# Chain of Custody Record



2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494

**Client Information (Sub Contract Lab)**  
 Client Contact: Patel, Virendra  
 Shipping/Receiving: Virendra Patel@et.eurofins.com  
 Company: Weck Laboratories, Inc.  
 Address: 14859 E Clark Avenue, City: CA, 91745  
 Due Date Requested: 1/24/2023  
 TAT Requested (days):  
 PO #:  
 WO #:  
 Project Name: Boeing SSFL NPDES - Outfall 002 - COMP  
 Project #: 44024446  
 Site: S50W#:

**Analysis Requested**

Sample	Lab PM	Carrier Tracking No(s)	State of Origin	Page	COC No
Outfall002_20230102_Comp (570-122390-2)	Patel, Virendra	570-203139 1	California	Page 1 of 1	570-122390-4
Outfall002_20230102_Comp_Extra (570-122390-3)					

Accreditations Required (See note): State Program - California  
 Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 Other:  
 M - Hexane  
 N - None  
 O - AsNaO2  
 P - Na2O4S  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4-5  
 Y - Trizma  
 Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-Hydrzine)/ Week-Hydrzine	SUB (Weck-Hydrzine)/ Week-Hydrzine (Hold)	Total Number of containers	Special Instructions/Note
<del>Outfall002_20230102_Comp (570-122390-2)</del>	<del>1/2/23</del>	<del>09-15 Pacific</del>	<del>Water</del>	<del>Water</del>	<del>X</del>	<del>X</del>	<del></del>	<del></del>	<del>2</del>	<del>See Attached Instructions</del>
Outfall002_20230102_Comp_Extra (570-122390-3)	1/2/23	09-15 Pacific	Water	Water	X	X			2	See Attached Instructions

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2  
 Empty Kit Relinquished by \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: [Signature] Date/Time: 01/03/23 1530 Company: Ec  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact: Δ Yes Δ No  
 Cooler Temperature(s) °C and Other Remarks: 2.6c 70kg

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements

Received by: \_\_\_\_\_ Date/Time: 01-03-23 1530 Company: Ec  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_



ICOC No:  
570-203139

**Containers**

Count                      Container Type                      Preservative  
4                              Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
3	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed



2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone 714-895-5494



# Chain of Custody Record

eurofins

<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Garner Tracking No(s): 570-203146 1	
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofins.com	Page: Page 1 of 1	
Company: Weck Laboratories, Inc.		Accreditations Required (See note): State Program - California		
Address: 14859 E. Clark Avenue,		Job #: 570-122420-1		
City: City of Industry		Preservation Codes: M - Hexane N - None O - As <sub>2</sub> O <sub>3</sub> P - Na <sub>2</sub> O <sub>4</sub> S Q - Na <sub>2</sub> SO <sub>3</sub> R - Na <sub>2</sub> SO <sub>3</sub> S - H <sub>2</sub> SO <sub>4</sub> T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)		
State, Zip: CA, 91745		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO <sub>4</sub> F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other		
Phone:		Total Number of containers		
Email:		Special Instructions/Note		
Project #: I/BOEING SSFL NPDES - Influent SWTS-18 GRAB		1 See Attached Instructions		
Site: I/BOEING SSFL NPDES - Influent SWTS-18 GRAB		1 See Attached Instructions		
Due Date Requested 1/13/2023				
TAT Requested (days)				
PO #:				
WO #:				
Sample Date				
Sample Time				
Sample Type (C=Comp, G=grab)				
Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)				
Preservation Code				
Field Filtered Sample (Yes or No)				
Perform MS/MSD (Yes or No)				
SUB (Week-Hydrzine/ Week-Hydrzine (Hold))				
SUB (Week-Hydrzine/ Week-Hydrzine)				
Analysis Requested				
Sampler				
Phone:				
State of Origin		California		

Sample Identification - Client ID (Lab ID)

Sample ID	Sample Date	Sample Time	Sample Type	Matrix	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Week-Hydrzine/ Week-Hydrzine)	SUB (Week-Hydrzine/ Week-Hydrzine (Hold))	Analysis Requested	Total Number of containers	Special Instructions/Note
SWTS-18_Influent_20230103_Grab (570-122420-1)	1/3/23	09:30 Pacific	Water	Water		X					1	See Attached Instructions
SWTS-18_Influent_20230103_Grab_Extra (570-122420-2)	1/3/23	09:30 Pacific	Water	Water		X		X			1	See Attached Instructions

Note. Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/testis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
Unconfirmed

Deliverable Requested 1, II, III, IV, Other (specify)  
Primary Deliverable Rank. 2

Empty Kit Relinquished by \_\_\_\_\_ Date \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date/Time 01/03/23 1530 Company EC

Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Relinquished by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_ Custody Seal No. \_\_\_\_\_  
 Δ Yes Δ No

Method of Shipment: \_\_\_\_\_  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements

Received by \_\_\_\_\_ Date/Time 01-03-23 1530 Company \_\_\_\_\_

Received by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Received by \_\_\_\_\_ Date/Time \_\_\_\_\_ Company \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: 2.6C 170269



ICOC No:  
570-203146

**Containers**

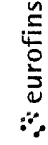
Count                      Container Type                      Preservative  
2                      Amber Glass 1 liter - unpreserved                      None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine (Hold)	Level IV needed



**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel, Virendra	Lab Pin: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-2031511
Client Contact:		Phone:	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Shipping/Receiving Company: Enthalpy Analytical LLC		Due Date Requested: 1/16/2023	Accreditations Required (See note): State Program - California	Job #: 570-122377-3	Preservation Codes: M - Hexane N - None O - Ash/O2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDTA Z - other (specify) Other
Address: 931 W Barkley Ave, Orange, CA, 92668		TAT Requested (days):	<b>Analysis Requested</b>		
City: Orange	State: CA	PO #:	Total Number of Containers: 3		
State: CA	Zip: 92668	WO #:	Special Instructions/Note: See Attached Instructions		
Phone:	Project #: 44024446	Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather	Special Instructions/Note: See Attached Instructions		
Email:	SSOW#:	Sites:	Special Instructions/Note: See Attached Instructions		
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date: 1/11/23	Sample Time: 11:30 Pacific	Sample Type (C=comp, G=grab):	Matrix (If water, specify container, BT=5-gal, A=lit):
Arroyo Simi_20230101_Grab (570-122377-1)		Sample Date: 1/11/23	Sample Time: 11:30 Pacific	Sample Type: Water	Matrix: Water
		Sample Date:	Sample Time:	Sample Type:	Matrix:
		Sample Date:	Sample Time:	Sample Type:	Matrix:

Notes: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

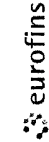
**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested I, II, III, IV, Other (specify) \_\_\_\_\_  
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: 01/03/23 16:15 Company: EC  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Date/Time: 11/3/23 16:19 Company: EA  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact: \_\_\_\_\_ Custody Seal No. \_\_\_\_\_  
 A Yes Δ No

Ver: 06/08/2021



**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b> Client Contact: Virendra Patel, Virendra Shipping/Receiving: Virendra.Patel@eurofins.com Company: Enthalpy Analytical LLC Address: 931 W Barkley Ave, Orange, CA, 92868 City: Orange State, Zip: CA, 92868 Phone: Email: Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather Site: Due Date Requested: 1/16/2023 TAT Requested (days): PO #: WO #: Project #: 44024446 SSON#:		Lab Pk#: Patel, Virendra E-Mail: Virendra.Patel@eurofins.com Accreditations Required (See note): State Program - California	COC No: 570-203151 1 Page: Page 1 of 1 Job #: 570-122377-3	Carrier Tracking No(s): State of Origin: California
Analysis Requested: Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SZO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	Total Number of Containers: 3 Special Instructions/Note: See Attached Instructions	
Sample Identification - Client ID (Lab ID) Arroyo Simi_20230101_Grab (570-122377-1)		Matrix (W=water, S=solid, O=organics, B=bitumen, A=Air) Sample Type (C=comp, G=grab) Sample Date: 1/1/23 Sample Time: 11:30 Pacific Preservation Code: Water	Field Filtered Sample (Yes/No): X Random MS/MSD (Yes/No): X SUB (Quant-Tray - E-Coll - level & required - F-Coll - level & required)	
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.				
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by: Relinquished by: Relinquished by: Relinquished by: Custody Seals Intact: Custody Seal No.:				
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:				
Method of Shipment: Date/Time: 01/03/23 16:15 Company: EC Date/Time: 01/03/23 16:19 Company: EA Date/Time: Date/Time: Date/Time: Cooler Temperature(s) °C and Other Remarks:				



**CHAIN OF CUSTODY FORM**

<b>Client Name/Address</b> <b>Haley &amp; Aldrich, Inc.</b> 5333 Mission Center Road, Suite 300 San Diego, CA 92108					<b>Project:</b> Boeing-SSFL NPDES Outfall 002					<b>Comments</b>
<b>Eurofins Calscience Project Manager</b> Vivendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 <b>ECI Project #44024446</b>					<b>Sampler:</b> Adrian Mobeka <b>Project Manager:</b> Katherine Miller <b>Phone Number:</b> (520) 289-8606, (520) 904-6944 (cell) <b>Field Manager:</b> Mark Dominick (978) 234-5033, (818) 599-0702 (cell)					
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sample Date/Time	Preservative	Bottle #	FR coll (SM9221)		
Outfall 002	W	125mL Sterile Poly	3	Outfall002_20230103_Grab	1/3/2023/0940	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	X	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions	

Relinquished By <i>[Signature]</i>	Date/Time: 1-3-23 / 1245	Turn around Time: (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal ___ X ___
Relinquished By <b>RECEIVED</b>	Date/Time: 1/3/23 / 1245 Etc	Sample Integrity (check) Intact _____ On Ice _____ Data Requirements: (check) No Level IV ___ X ___ All Level IV _____
Relinquished By <i>[Signature]</i>	Date/Time: 01/03/23 1705 Etc	NPDES Level IV _____



Client Name/Address <b>Haley &amp; Aldrich, Inc.</b> 5333 Mission Center Road, Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Arroyo Simi						
Eurofins Contact: Virendra Patel 17461 Denan Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 <b>ECI #44024446</b>		Sampler: Adrian Mobeka Project Manager: Katherine Miller Phone Number (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)						
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230103	1/3/2023 / 1030	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions
Relinquished By: <i>Katherine Miller</i> Date/Time: 1-3-23 / 1245 Relinquished By: <b>RECEIVED</b> Date/Time: 1/3/23 / 1245 E.C. Relinquished By: <i>Samuel</i> Date/Time: 01/03/23 1705 E.C.								Turn around Time (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal <input checked="" type="checkbox"/> Sample Integrity (check) Intact _____ On Ice _____ Data Requirements (check) No Level IV _____ All Level IV _____ NPDES Level IV _____





## Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Client Contact: 2841 Dow Avenue, Suite 100, Tustin, CA 92780 Shipping/Receiving: Phone: 714-895-5494 Company: EMSL Analytical, Inc. Address: 520 Mission Street, South Pasadena, CA, 91030 City: State: Zip: CA, 91030 Phone: Email: Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather Site:		Sampler: Patol, Virendra Lab PM: Virendra Patel@et.eurofins.com E-Mail: Virendra.Patel@et.eurofins.com Phone: State of Origin: California State Program - California COC No: 570-207337-1 Page: 1 of 1 Job #: 570-122377-5 Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)
Due Date Requested: 3/1/2023 TAT Requested (days): PO #: WO #: Project #: 44024446 SSOW#:		Carrier Tracking No(s): State of Origin: California
Matrix (W=Water, S=solid, O=waste/oil, BT=Tissue, A=Air) Sample Type (C=Comp, G=grab) Sample Date Sample Time Preservation Code:		Analysis Requested SUB (Asbestos 100.2/Asbestos 100.2/Wastewater) X Perform MS/MSD (Yes or No) X Field Filtered Sample (Yes or No) X Total Number of containers: 1 Special Instructions/Note: See Attached Instructions
Sample Identification - Client ID (Lab ID) Arroyo Simi_20230101_Grab_Extra (570-122377-2)	Sample Date: 1/1/23 Sample Time: 11:30 Pacific Preservation Code: Water	
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.		
Possible Hazard Identification Unconfirmed Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2		
Empty Kit Relinquished by: Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature] Custody Seals Intact: Δ Yes Δ No Cooler Temperature(s) °C and Other Remarks:		
Date/Time: 2/15/23 15:16 Date/Time: Date/Time:		Method of Shipment: Received by: Company Received by: Company Received by: Company
Date: 2/15/23 15:16 Date: Date:		Special Instructions/QC Requirements Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months



ICOC No:  
570-207337

**Containers**

<u>Count</u>	<u>Container Type</u>	<u>Preservative</u>
1	Amber Glass 1 liter - unpreserved	None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Asbestos 100 2)/ Asbestos 100 2 (Wastewater)	Matrix = WASTEWATER



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122377-4

**Login Number: 122377**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/4/2023 1:49:19 PM

**JOB DESCRIPTION**

Annual Arroyo Simi-Frontier Park - Dry Weather

**JOB NUMBER**

570-122377-5

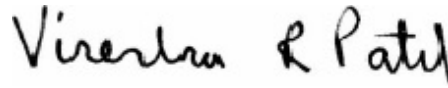
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/4/2023 1:49:19 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	11
Receipt Checklists . . . . .	16

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-5

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-5

---

**Job ID: 570-122377-5**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-122377-5**

## Comments

No additional comments.

## Receipt

The samples were received on 1/3/2023 5:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.6° C.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method Asbestos 100.2: This method was subcontracted to EMSL Analytical Inc - LA Testing - Pasadena. The subcontract laboratory certification is different from that of the facility issuing the final report.





# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-5

Method	Method Description	Protocol	Laboratory
Subcontract	Asbestos 100.2	None	EMSL-LA

**Protocol References:**

None = None

**Laboratory References:**

EMSL-LA = EMSL Analytical Inc - LA Testing - Pasadena, 520 Mission Street, South Pasadena, CA 91030



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Annual Arroyo Simi-Frontier Park - Dry Weather

Job ID: 570-122377-5

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122377-2	Arroyo Simi_20230101_Grab_Extra	Water	01/01/23 11:30	01/03/23 17:05

1

2

3

4

5

6

7

8

9



# LA Testing

520 Mission Street South Pasadena, CA 91030  
Phone/Fax: (323) 254-9960 / (323) 254-9982  
<http://www.LATesting.com> / [pasadenalab@latestesting.com](mailto:pasadenalab@latestesting.com)

LA Testing Order ID: 322304347  
Customer ID: 32CAL51  
Customer PO:  
Project ID:

**Attn:** Virendra Patel  
Eurofins Calscience, Inc.  
2841 Dow Ave, Suite 100  
Tustin, CA 92780

**Phone:** (714) 895-5494  
**Fax:** (714) 894-7501  
**Received:** 02/16/2023  
**Analyzed:** 03/01/2023

**Proj:** 570-207337.1/ 570-122377-5/ 44024446/ Annual Arroyo Simi-Frontier Park - Dry Weather

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10\mu\text{m}$ in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm <sup>2</sup> )	Area Analyzed (mm <sup>2</sup> )	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits	
Arroyo Simi_20230101_Gra b_Extra (570-122377-2) 322304347-0001	2/17/2023	0.10	1288	0.2620	$\geq 0.5$ $\mu\text{m}$	None Detected	ND	49.00	<49.00	0.00 - 180.00
	12:20 PM				> 10 $\mu\text{m}$ only	None Detected	ND	49.00	<49.00	0.00 - 180.00

Collection Date/Time: 01/01/2023 11:30 AM

Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.

Analyst(s)  
Kyeong Corbin (1)

Jerry Drapala Ph.D, Laboratory Manager  
or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 03/01/2023 18:07:17

LA Testing maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by LA Testing. LA Testing bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. Estimation of uncertainty is available on request. Sample collection and containers provided by the client, acceptable bottle blank level is defined as  $\leq 0.01\text{MFL} > 10\mu\text{m}$ . ND=None Detected. No Fibers Detected: the value will be reported as less than 369% of the concentration equivalent to one fiber. 1 to 4 fibers: The result will be reported as less than the corresponding upper 95% confidence limit (Poisson). 5 to 30 fibers: Mean and 95% confidence intervals will be reported on the basis of the Poisson assumption. When more than 30 fibers are counted, both the Gaussian 95% confidence interval and the Poisson 95% confidence interval will be calculated. The large of these two intervals will be selected for data reporting. When the Gaussian 95% confidence interval is selected for data reporting, the Poisson will also be noted.

Samples analyzed by LA Testing South Pasadena, CA CA ELAP 2283

Eurofins Calscience

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone: 714-995-5494

Chain of Custody Record



Client Information (Sub Contract Lab)

Client Contact:  
Shipping/Receiving  
Company: EMSL Analytical, Inc.  
Address: 520 Mission Street,  
City: South Pasadena  
State, Zip: CA, 91030  
Phone:  
Email:

Due Date Requested: 3/1/2023  
TAT Requested (days):

Project Name: Annual Arroyo Simi-Frontier Park - Dry Weather  
Site:

Project #: 4402446  
SSOW#:

Sample Identification - Client ID (Lab ID)  
Arroyo Simi\_20230101\_Grab\_Extra (570-122377-2)

Sample Date: 1/1/23  
Sample Time: 11:30 Pacific  
Sample Type (C=Comp, G=grab):  
Preservation Code:  
Water

Field Filtered Sample (Yes or No)  
Perform MS/MSD (Yes or No)  
SUB (Asbestos 100.2) Asbestos 100.2 (Wastewater)

Matrix: (W-wat, S-solid, O-wast/sl, BT-Tissu, A-ali)

Analysis Requested

Carrier Tracking No(s):  
State of Origin: California

COC No: 570-207337.1  
Page: Page 1 of 1

Job #: 570-122377-5

Total Number of containers: 1  
Special Instructions/Note: See Attached Instructions

Preservation Codes:  
A - HCL  
B - NaOH  
C - Zn Acetate  
D - Nitric Acid  
E - NaHSO4  
F - MeOH  
G - Anchor  
H - Ascorbic Acid  
I - Ice  
J - DI Water  
K - EDTA  
L - EDA  
M - Hexane  
N - None  
O - AsHAcO2  
P - Na2O4S  
Q - Na2SO3  
R - Na2S2O3  
S - H2SO4  
T - TSP Dodecalhydrate  
U - Acetone  
V - MCAA  
W - pH 4.5  
Y - Trizma  
Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/estimation being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification

Unconfirmed  
Deliverable Requested: I, II, III, IV, Other (specify)  
Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  
 Disposal By Lab  
 Archive For  
Months

Empty Kit Relinquished by: [Signature]

Relinquished by: [Signature]

Relinquished by: [Signature]

Custody Seals Intact:  Yes  No

Custody Seal No: [Blank]

Method of Shipment:  
Date/Time: 2/15/23 1516  
Company: [Blank]  
Received by: [Signature]  
Date/Time: [Blank]  
Company: [Blank]  
Received by: [Signature]  
Date/Time: [Blank]  
Company: [Blank]  
Cooler Temperature(s) °C and Other Remarks: 2.9°C



ICOC No:  
570-207337

#322304347

**Containers**

Count                      Container Type  
1                              Amber Glass 1 liter - unpreserved

Preservative  
None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Asbestos 100.2)/ Asbestos 100.2 (Wastewater)	Matrix = WASTEWATER

## Virendra Patel

---

**From:** Rapp, Kerry <KRapp@haleyaldrich.com>  
**Sent:** Wednesday, February 15, 2023 10:57 AM  
**To:** Virendra Patel; Miller, Katherine  
**Subject:** RE: Eurofins Calscience sample confirmation files from 570-122377-2 Annual Arroyo Simi-Frontier Park - Dry Weather

EXTERNAL EMAIL\*

Hi Virendra,

Can you add asbestos to SDG 570-122377-1? Is there appropriate sample volume from the "extra" sample for that analysis?

Thanks,  
Kerry

**Kerry L. Rapp**  
Technical Specialist

**Haley & Aldrich, Inc.**  
299 Cherry Hill Road | Suite 303  
Parsippany, New Jersey 07054

T: (973) 658.3930  
C: (973) 294-0580  
[www.haleyaldrich.com](http://www.haleyaldrich.com)

---

**From:** Virendra Patel <Virendra.Patel@et.eurofinsus.com>  
**Sent:** Wednesday, January 4, 2023 2:21 PM  
**To:** Miller, Katherine <KMiller@haleyaldrich.com>; Rapp, Kerry <KRapp@haleyaldrich.com>; Dallalah, Michelle <MDallalah@haleyaldrich.com>  
**Subject:** Eurofins Calscience sample confirmation files from 570-122377-2 Annual Arroyo Simi-Frontier Park - Dry Weather

**CAUTION: External Email**

---

Hello,

Attached please find the sample confirmation files for job 570-122377-2; Annual Arroyo Simi-Frontier Park - Dry Weather

Please feel free to contact me if you have any questions.

Thank you.

**Virendra Patel**  
Project Manager

Eurofins Calscience  
Phone: 714-895-5494  
Mobile: 714-887-9901

E-mail: [Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
[www.eurofinsus.com/env](http://www.eurofinsus.com/env)



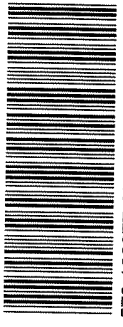
Reference: [570-408700]  
Attachments: 3

> > Bank information has changed, please refer to remittance information on invoice. < <

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

12377

CHAIN OF CUSTODY FORM



570-122377 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2015 Annual Arroyo Simi-Frontier Park Dry Weather		Field Readings   Meter serial # VLJV00KT Field Readings: (Include units) Time of Readings: 1:30 pH 8.21 pH unit Temp 53.4 °C/F Velocity 0.1 f/sec Field readings QC Checked by: <i>[Signature]</i> Date/Time: 1-1-2023 1:30				
Eurofins Calcsience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 ECI Project #44024446 Eurofins Calcsience's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2022-26-Eurofins Calcsience by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calcsience Laboratories Inc.		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		Field readings QC				
Sampler: Adrien Mobeka		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Checked by: <i>[Signature]</i> Date/Time: 1-1-2023 1:30				
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container: Type	# of Cont.	Preservative	Botle #	MS/MSD
Arroyo Simi 10130101_Orab	10130101_Orab	1-1-2023 1:30	WS	125 mL Sterile Poly	3	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	No
Arroyo Simi 10130101_Extra	10130101_Extra	1-1-2023 1:30	WS	250 mL Poly	1	HNO <sub>3</sub>	100	No
			WS	1L Glass Amber	2	None	110	No
			WS	1L Poly	1	None	185	No
			WS	1L Glass Amber	2	None	275	No
			WS	1L Glass Amber	2	None	285	No
			WS	1L Glass Amber	2	None	110	No
			WS	1L Glass Amber	2	None	275	No
			WS	1L Glass Amber	2	None	285	No

Legend: A=Annual, Q=Quarterly	
Relinquished By: <i>[Signature]</i>	Date/Time: 1-3-23 17:05
Relinquished By: <i>[Signature]</i>	Date/Time: 01/03/23 17:05
Relinquished By: <i>[Signature]</i>	Date/Time: 1-3-23 17:05

Legend: A=Annual, Q=Quarterly	
Received By: <i>[Signature]</i>	Date/Time: 1/3/23/1245
Received By: <i>[Signature]</i>	Date/Time: 1-3-23 17:05
Received By: <i>[Signature]</i>	Date/Time: 1-3-23 17:05

Legend: A=Annual, Q=Quarterly	
Turn-around time: (Check)	24 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 10 Day <input type="checkbox"/> X
Sample Integrity: (Check)	Intact: <input type="checkbox"/> On Ice: <input type="checkbox"/>
Store samples for 6 months:	48 Hour <input type="checkbox"/> 5 Day <input type="checkbox"/> Normal: <input type="checkbox"/>
Data Requirements: (Check)	No Level IV: <input type="checkbox"/> All Level IV: <input type="checkbox"/> X

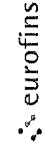
  

1.3/1.3 1.6/1.6 SC11





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM	Carrier Tracking No(s)	COC No:
2841 Dow Avenue Suite 100 Tustin CA 92780 Phone: 714-895-5494		Patel, Virendra		570-207337 1	570-207337 1
Client Contact: Shipping/Receiving		E-Mail:	State of Origin:	Page:	Page 1 of 1
EMSL Analytical, Inc. Address: 520 Mission Street, City: South Pasadena State: Zip: CA, 91030 Phone: Email:		Virendra Patel@et.eurofins.com	California	Job #:	570-122377-5
Due Date Requested: 3/1/2023		Accreditations Required (See note): State Program - California			
TAT Requested (days)		<b>Analysis Requested</b>			
PO #:		Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Asbestos 100 2/ Asbestos 100.2 (Wastewater))	Total Number of containers
WO #:		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	1
Project #: 44024446		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:
SSOW#:		1/1/23	11:30 Pacific	Water	Water
Annual Arroyo Simi-Frontier Park - Dry Weather Site.		<b>Matrix</b> (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)			
Sample Identification - Client ID (Lab ID)		<b>Special Instructions/Note:</b>			
Arroyo Simi_20230101_Grab_Extra (570-122377-2)		See Attached Instructions			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>					
<b>Possible Hazard Identification</b>					
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For    Months					
Special Instructions/QC Requirements					
Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	

ICOC No:  
570-207337

**Containers**

<u>Count</u>	<u>Container Type</u>	<u>Preservative</u>
1	Amber Glass 1 liter - unpreserved	None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Asbestos 100 2)/ Asbestos 100 2 (Wastewater)	Matrix = WASTEWATER



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122377-5

**Login Number: 122377**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004  
Generated 1/19/2023 2:39:24 PM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Arroyo Simi

**JOB NUMBER**

570-122423-1

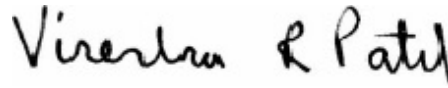
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/19/2023 2:39:24 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	21

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-122423-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-122423-1

---

**Job ID: 570-122423-1**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-122423-1**

## Comments

No additional comments.

## Receipt

The sample was received on 1/3/2023 5:05 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-122423-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-122423-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122423-1	ArroyoSimi_20230103	Water	01/03/23 10:30	01/03/23 17:05

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 476419  
Report Level: IV  
Report Date: 01/18/2023

### Microbiology Tests

#### Analytical Report prepared for:

Virendra Patel  
Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing SSFL NPDES - Arroyo Simi

Authorized for release by:

Quynhgiao Le, Project Manager  
714-7716900  
[quynhgiao.le@enthalpy.com](mailto:quynhgiao.le@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



## Sample Summary

---

Virendra Patel	Lab Job #:	476419
Eurofins Calscience Tustin	Project No:	BOEING NPDES SSFL
2841 Dow Avenue, Suite 100	Location:	Boeing SSFL NPDES - Arroyo Simi
Tustin, CA 92780	Date Received:	01/03/23

---

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20230103	476419-001	01/03/23 10:30	Water

## Case Narrative

### MICROBIOLOGY TESTS (SM 9223BB)

---

Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Virendra Patel

Lab Job Number: 476419  
Project No: BOEING NPDES SSFL  
Location: Boeing SSFL NPDES - Arroyo Simi  
Date Received: 01/03/23

---

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/03/23. See attached cooler receipt form for any sample receipt problems or discrepancies.

**Chain of Custody**

## Quynhgiao Le

---

**From:** Virendra Patel <Virendra.Patel@et.eurofinsus.com> on behalf of Virendra Patel  
**Sent:** Thursday, January 12, 2023 9:42 AM  
**To:** Quynhgiao Le  
**Subject:** [EXTERNAL] FW: BOEING NPDES SSFL - Enthalpy Login Summary (476419)  
**Attachments:** 476419\_COC.pdf

Quynhgiao –

Please update the sample ID to “ArroyoSimi\_20230103” on ECI Job#570-122423

Please use this email as record for the change. Thank you!

Best Regards,

**Virendra Patel**  
Project Manager

Eurofins Environment Testing Southwest, LLC  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone: 714-895 5494  
Direct: 657-210-6327  
Mobile: 714-887-9901

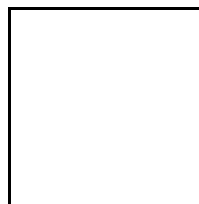
[Virendra.Patel@ET.EurofinsUS.com](mailto:Virendra.Patel@ET.EurofinsUS.com)  
[www.EurofinsUS.com/Env](http://www.EurofinsUS.com/Env)

Follow Us! [Facebook](#) | [LinkedIn](#)

---

**From:** Enthalpy Orange Sample Control <sample.control.orange@enthalpy.com>  
**Sent:** Wednesday, January 4, 2023 3:48 PM  
**To:** Virendra Patel <Virendra.Patel@et.eurofinsus.com>  
**Subject:** BOEING NPDES SSFL - Enthalpy Login Summary (476419)

EXTERNAL EMAIL\*



**Enthalpy Login Summary for 476419**

**Project:** BOEING NPDES SSFL  
**Site:** Boeing SSFL NPDES - Arroyo Simi  
**Lab Login #:** 476419  
**Report Level:** IV  
**PO#:**  
**Lab Proj Mgr:** [Quynhgiao Le](#)  
**TAT:** 10 business days

**Report To:** Eurofins Calscience Tustin  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 ATTN: Virendra Patel  
 949-261-1022

**Bill To:** Eurofins  
 2841 Dow Avenue  
 Tustin, CA 92780  
 ATTN: Virendra Patel  
 949-261-1022

Client ID	Lab ID	Sampled	Received	COC #	Matrix	Analyses
ARROYO SIMI (570-122423-1)	001	01/03/23 10:30	01/03/23		Water	Total Coliform and E. coli Quanti-Tray
					Water	20% Surcharge for Level 1 Package
					Water	2x: Each Additional Dilution

Unless otherwise agreed in writing, these services are provided pursuant to the terms and conditions as set forth at [http://www.eurofins.com/terms-and-conditions/](#).

Your acceptance of this order is expressly limited to these terms and conditions.

Email compiled and sent 01/04/23 03:48 PM.

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!



**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record



476419



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Patel, Virendra	Center Tracking No(s): 570-203166.1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@eurofins.com	Page: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California	Job #: 570-122423-1
Address: 931 W. Barkley Ave,		<b>Analysis Requested</b>	
City: Orange	State, Zip: CA, 92868	Due Date Requested: 1/17/2023	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amelhor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNAO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trims Z - other (specify)
PO #: _____	Matrix (Water, Ice, Organic, Inorganic, Aqueous)	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>	Total Number of Containers <input checked="" type="checkbox"/> 10
WO #: _____	Sample Type (C=Comp, G=grab)	Perform IES/MSD (Yes or No) <input checked="" type="checkbox"/>	
Project #: 44024446	Sample Time: 10:30 Pacific	Sub (Quant-Try - E, Coll - level & required) <input checked="" type="checkbox"/>	Special Instructions/Note: See Attached Instructions
Site: Boeing SSFL NPDES - Arroyo Simi	Sample Date: 1/3/23	Preservation Code: Water	
Sample Identification - Client ID (Lab ID): Arroyo Simi (570-122423-1)		Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.	
<b>Possible Hazard Identification</b>			
Unconfirmed		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Deliverable Requested: I, II, III, IV, Other (specify)		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by: _____			
Relinquished by: _____		Date: _____	
Relinquished by: _____		Date/Time: 01/03/23 16:15	
Relinquished by: _____		Date/Time: _____	
Relinquished by: _____		Date/Time: _____	
Custody Seals Intact: A Yes Δ No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks:		Received by: <i>UOR</i>	
Cooler Temperature(s) °C and Other Remarks:		Received by: _____	
Cooler Temperature(s) °C and Other Remarks:		Received by: _____	
Cooler Temperature(s) °C and Other Remarks:		Date/Time: 1/3/23 16:19	
Cooler Temperature(s) °C and Other Remarks:		Date/Time: _____	
Cooler Temperature(s) °C and Other Remarks:		Date/Time: _____	
Cooler Temperature(s) °C and Other Remarks:		Company: EA	
Cooler Temperature(s) °C and Other Remarks:		Company: _____	
Cooler Temperature(s) °C and Other Remarks:		Company: _____	



**ICOC No:**  
570-203166

**Containers**

**Count**  
10

**Container Type**  
Plastic 120 mL - Sterile/Na2S2O3

**Preservative**  
Sodium Thiosulfate

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4





# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: Eurofins Calscience Project: Boeing SSL NPDES  
 Date Received: 1/3/23 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  NO (skip section 2) Sample Temp (°C) (No Cooler): \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 28 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 1.8 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	<input checked="" type="checkbox"/>		
Are sample IDs present?	<input checked="" type="checkbox"/>		
Are sampling dates & times present?	<input checked="" type="checkbox"/>		
Is a relinquished signature present?	<input checked="" type="checkbox"/>		
Are the tests required clearly indicated on the COC?	<input checked="" type="checkbox"/>		
Are custody seals present?		<input checked="" type="checkbox"/>	
If custody seals are present, were they intact?			<input checked="" type="checkbox"/>
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	<input checked="" type="checkbox"/>		
Did all samples arrive intact? If no, indicate in Section 4 below.	<input checked="" type="checkbox"/>		
Did all bottle labels agree with COC? (ID, dates and times)	<input checked="" type="checkbox"/>		
Were the samples collected in the correct containers for the required tests?	<input checked="" type="checkbox"/>		
Are the containers labeled with the correct preservatives?	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> AS 1/3
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			<input checked="" type="checkbox"/>
Was a sufficient amount of sample submitted for the requested tests?	<input checked="" type="checkbox"/>		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By: [Signature] Date: 1/3/23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

## Results & QC Summary

### Total Coliform / E. coli by Quanti-Tray

<b>Lab #:</b> 476419	<b>Project#:</b> BOEING NPDES SSFL	
<b>Client:</b> Eurofins Calscience Tustin	<b>Location:</b> Boeing SSFL NPDES - Arroyo Simi	
<b>Field ID:</b> ARROYO SIMI (570-122423-1)	<b>Batch#:</b> 304527	<b>Analyzed:</b> 01/04/23 13:30
<b>Lab ID:</b> 476419-001	<b>Sampled:</b> 01/03/23 10:30	<b>Prep:</b>
<b>Matrix:</b> Water	<b>Received:</b> 01/03/23	<b>Analysis:</b> SM 9223Bb
<b>Diln Fac:</b> 1.000	<b>Prepared:</b> 01/03/23 16:51	<b>Analyst:</b> JAA

476419-001 Analyte	Result	RL	Units
Coliform, E. Coli	2,400	1.0	MPN/100ml

Legend  
 RL: Reporting Limit

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

# SM 9223 B-b, Quanti-Tray

Prep Analyst: ST Prep Date/Time: 01/03/23 1051 QC Batch ID: 3045077 Batch Page 1 of 2  
 Read Analyst: ST Read Date/Time: 01/04/23 1330 Media Lot #: EU896 Pipette Lot #: A103842 & A10394 1 A104116  
 Monthly Quanti-tray Sealer Check:  Collisure  Colliert 24 Date of last check\*: 01/03/23 \* Quanti-Tray Sealer Check must be performed monthly  
 Total and E. coli: Incubator ID: M4 Incubator In, Temp/Time: 17-24 35.3 Incubator Out, Temp/Time: 1330 35.2  
 Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colliert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
		476421-001	1X	49	48	>249.6	72400	49	26	488.4	490					EU
		↓	10X	49	48	>249.6	>24000	31	2	49.5	500					
		↓	100X	49	21	365.4	36,000	9	0	9.8	980					
		476421-001	1X	49	48	>249.6	>2400	48	18	248.9	250					EA
		↓	10X	49	31	648.8	6500	21	1	27.9	280					
		↓	100X	35	1	58.6	5900	2	0	2.0	200					
		476419-001	1X	49	48	>249.6	>2400	49	47	249.6	2400					EC
		↓	10X	49	48	>249.6	>24000	49	16	235.5	2800					
		↓	100X	49	28	547.5	55,000	18	2	24.3	2400					
		476417-001	1X	49	48	>249.6	>2400	48	7	159.7	160					CA
		↓	10X	49	48	>249.6	>24000	11	1	13.4	130					
		↓	100X	49	10	204.6	20,000	4	0	4.1	410					
		476426-001	1X	49	48	>249.6	>2400	49	48	249.6	22400		JA 01/4/23			AR
		↓														
		12/31/22		49	48	>249.6	>2400	49	48	>249.6	>2400					
		↓		49	48	>249.6	>2400	0	0	<1	<1					
				0	0	<1	<1	0	0	<1	<1					

Data Entered By: JA 1/4/23 Data Reviewed By: \_\_\_\_\_  
 63 of 100  
 SM 9223B-b, Quanti-Tray, Rev 3, 1/15/2019

**SM 9223 B-b, Quanti-Tray**

Prep Analyst: SL Prep Date/Time: 1/22/23 QC Batch ID: 304527 Batch Page 2 of 2

Read Analyst: SL Read Date/Time: 1/12/23 Media Lot #: EU396 Pipette Lot #: See pg 63

Media Used (check one):  Colisure  Colilert 18  Colilert 24

Monthly Quanti-Tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 2/12/23 \* Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: MM Incubator In, Temp/Time: 1724 35-3 Incubator Out, Temp/Time: 1330 35-2

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
		470026-001	10X	49	48	>249.6	>2400	49	48	>249.6	>2400					AP
		↓	100X	49	48	>249.6	>24000	49	18	307.6	31,000					
<del>JA 01/09/23</del>																
Quality Control																
		Culture ID		49	48	>249.6	>2400	49	48	>249.6	>2400					
		Positive +/- (E. Coli)		49	40	>249.6	>2400	0	0	<1	<1					
		Positive +/- (K. Pneumonia)		0	0	<1	<1	0	0	<1	<1					
		Negative +/- (P. Aeruginosa)														

Data Entered By: JA 1/9/23 Data Reviewed By: \_\_\_\_\_



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Client Contact: Patel, Virendra Shipping/Receiving: Virendra.Patel@et.eurofins.com Company: Enthalpy Analytical LLC Address: 931 W. Barkley Ave., Orange, CA, 92868 City: Orange, State: CA, Zip: CA, 92868 Phone: PO #: WO #: Project #: 44024446 Site: Boeing SSFL NPDES - Arroyo Simi		Lab PM: Patel, Virendra E-Mail: Virendra.Patel@et.eurofins.com Accreditations Required (See note): State Program - California	Carrier Tracking No(s): 570-203166.1 State of Origin: California Page: Page 1 of 1 Job #: 570-122423-1
<b>Due Date Requested:</b> 1/17/2023 <b>TAT Requested (days):</b> PO #: WO #: Project #: 44024446 Site: Boeing SSFL NPDES - Arroyo Simi		<b>Analysis Requested</b> Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2OHS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDTA Z - other (specify) Other:	
<b>Sample Identification - Client ID (Lab ID)</b> Arroyo Simi (570-122423-1)		<b>Total Number of Containers</b> 10 See Attached Instructions	
<b>Sample Date:</b> 1/3/23 <b>Sample Time:</b> 10:30 Pacific <b>Sample Type (C=comp, G=grab):</b> <b>Preservation Code:</b> Water <b>Matrix (If water, specify, if non-aqueous, specify):</b> <b>Field/Filtered Sample (Yes or No):</b> <b>Perform MS/MSD (Yes or No):</b> <b>SUB (Quant-Tray - E, Coll - level 4 required - E, Coll - level 4 required):</b> X		<b>Special Instructions/Note:</b> See Attached Instructions	
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.			
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, IV, Other (specify) Primary Deliverable Rank: 2			
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months			
<b>Special Instructions/QC Requirements:</b>			
<b>Empty Kit Relinquished by:</b>		<b>Method of Shipment:</b>	
<b>Relinquished by:</b>		<b>Date/Time:</b>	
<b>Relinquished by:</b>		<b>Date/Time:</b>	
<b>Relinquished by:</b>		<b>Date/Time:</b>	
<b>Custody Seals Intact:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Cooler Temperature(s) °C and Other Remarks:</b>	




# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab P/N: Patel, Virendra	Carrier Tracking No(s):	COC No: 570-203166.1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@eurofins.com	State of Origin: California	Pages: Page 1 of 1
Company: Enthalpy Analytical LLC		Accreditations Required (See note): State Program - California		Job #: 570-122423-1
Address: 931 W Barkley Ave, Orange, CA, 92868		Due Date Requested: 1/17/2023		<b>Analysis Requested</b> Preservation Codes: M - Hexane N - None O - Ash/O2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other
City: Orange		TAT Requested (days):		
State: CA		PO #:		
Phone: CA, 92868		WO #:		
Email:		Project #: 44024446		Total Number of containers: 10 Special Instructions/Note: See Attached Instructions
Site: Boeing SSFL NPDES - Arroyo Simi		SSOW#:		
Sample Identification - Client ID (Lab ID)		Sample Date: 1/3/23		
Arroyo Simi (570-122423-1)		Sample Time: 10:30 Pacific		
Sample Type (C=comp, G=grab)		Sample Preservation Code: Water		
Matrix (In-water, Suspended, Settled, Other, etc.)		Field Filtered Sample (Yes or No):		
Perform MS/MSD (Yes or No):		Sub (Quant-tray - E, Coll - level & required - E, Coll - level & required):		
X		X		
X		X		
X		X		
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.				
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested 1, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:				
Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____				
Relinquished by: _____ Date/Time: 01/03/23 16:15 Company: EC Company				
Relinquished by: _____ Date/Time: _____ Company: _____				
Relinquished by: _____ Date/Time: _____ Company: _____				
Custody Seals Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____				

# CHAIN OF CUSTODY FORM

Test America Version 7/19/2010

<b>Client Name/Address</b> <b>Haley &amp; Aldrich, Inc.</b> 5333 Mission Center Road, Suite 300 San Diego, CA 92108			<b>Project:</b> Boeing-SSFL NPDES Arroyo Simi  Sampler: Adrian Mobeka			<b>Comments</b>   570-122423 Chain of Custody		
<b>Eurofins Contact: Virendra Patel</b> 17461 Denan Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 <b>ECI #44024446</b>			<b>Project Manager: Katherine Miller</b> Phone Number (520) 289-8606, (520) 904-6944 (cell) Field Manager: Mark Dominick (978) 234-5033, (818) 599-0702 (cell)					
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	Turn around Time (check)
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230103	1/3/2023 / 1030	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal _____ X _____ Sample integrity: (check) Intact _____ On Ice _____ Data Requirements: (check) No Level IV _____ All Level IV _____ NPDES Level IV _____
Relinquished By <i>[Signature]</i> Date/Time: 1-3-23 / 1245								
Relinquished By <i>[Signature]</i> Date/Time: 1/3/23 / 1245 E.C.								
Relinquished By <i>[Signature]</i> Date/Time: 01/03/23 1705 E.C.								

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 1/24/2023 12:19:31 PM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Arroyo Simi

**JOB NUMBER**

570-123237-1

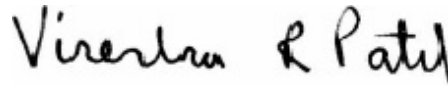
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

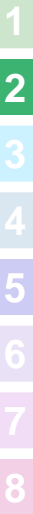
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/24/2023 12:19:31 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	20

## Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-123237-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-123237-1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

---

## Job ID: 570-123237-1

---

Laboratory: Eurofins Calscience

### Narrative

---

Job Narrative  
570-123237-1

### Comments

No additional comments.

### Receipt

The sample was received on 1/9/2023 1:15 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

### Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Subcontract Work

Method Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-123237-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868





# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-123237-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123237-1	ArroyoSimi_20230109	Water	01/09/23 07:15	01/09/23 13:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 476865  
Report Level: IV  
Report Date: 01/23/2023

### Microbiology Tests

**Analytical Report** *prepared for:*

Virendra Patel  
Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

Project: BOEING NPDES SSFL - BOEING SSFL NPDES - OUTFALL 002 #44024446

*Authorized for release by:*

Quynhgiao Le, Project Manager  
714-7716900  
[quynhgiao.le@enthalpy.com](mailto:quynhgiao.le@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



### Sample Summary

---

Virendra Patel	Lab Job #:	476865
Eurofins	Project No:	BOEING NPDES SSFL
Calscience	Location:	BOEING SSFL NPDES - OUTFALL 002 #44024446
Tustin	Date Received:	01/09/23
2841 Dow		
Avenue, Suite		
100		
Tustin, CA		
92780		

---

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20230109	476865-001	01/09/23 07:15	Water

## Case Narrative

### MICROBIOLOGY TESTS (SM 9223BB)

---

Eurofins Calscience Tustin  
2841 Dow Avenue, Suite  
100  
Tustin, CA 92780  
Virendra Patel

Lab Job 476865  
Number:  
Project No: BOEING NPDES SSFL  
Location: BOEING SSFL NPDES - OUTFALL 002  
#44024446

Date Received: 01/09/23

---

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/09/23. See attached cooler receipt form for any sample receipt problems or discrepancies.

**Chain of Custody**

## Quynhgiao Le

---

**From:** Virendra Patel <Virendra.Patel@et.eurofinsus.com> on behalf of Virendra Patel  
**Sent:** Thursday, January 12, 2023 9:38 AM  
**To:** Quynhgiao Le  
**Subject:** [EXTERNAL] RE: BOEING NPDES SSFL - Enthalpy Login Summary (476865)

Quynhgiao –

Please update the sample ID to “ArroyoSimi\_20230109” on ECI Job#570-123237

Please use this email as record for the change. Thank you!

Best Regards,

**Virendra Patel**  
Project Manager

Eurofins Environment Testing Southwest, LLC  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone: 714-895 5494  
Direct: 657-210-6327  
Mobile: 714-887-9901

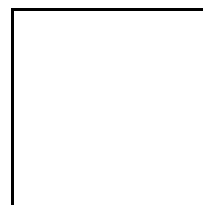
[Virendra.Patel@ET.EurofinsUS.com](mailto:Virendra.Patel@ET.EurofinsUS.com)  
[www.EurofinsUS.com/Env](http://www.EurofinsUS.com/Env)

Follow Us! [Facebook](#) | [LinkedIn](#)

---

**From:** Enthalpy Orange Sample Control <sample.control.orange@enthalpy.com>  
**Sent:** Tuesday, January 10, 2023 2:43 PM  
**To:** Virendra Patel <Virendra.Patel@et.eurofinsus.com>  
**Subject:** BOEING NPDES SSFL - Enthalpy Login Summary (476865)

EXTERNAL EMAIL\*



### Enthalpy Login Summary for 476865

**Project:** BOEING NPDES SSFL

**Report To:** Eurofins Calscience Tustin

**Site:** BOEING SSFL NPDES - OUTFALL 002 #44024446  
**Lab Login #:** 476865  
**Report Level:** IV  
**PO#:** 44024446  
**Lab Proj Mgr:** [Quynhgio Le](#)  
**TAT:** 7 business days

2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 ATTN: Virendra Patel  
 949-261-1022

Client ID	Lab ID	Sampled	Received	COC #	Matrix	Analysis
ARROYO SIMI (570-123237-1)	001	01/09/23 07:15	01/09/23		Water	Total Coliform and
					Water	20% Surcharge for Lev
					Water	2x: Each Additional E3

*Unless otherwise agreed in writing, these services are provided pursuant to the terms and conditions as set forth at [h](#)  
 Enthalpy???'s acceptance of this order is expressly limited to these terms and cond*

Email compiled and sent 01/10/23 02:42 PM.

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Patel, Virendra	Patel, Virendra	570-203574-1	570-203574-1
Company: Enthalpy Analytical LLC		Phone:	E-Mail:	State of Origin:	Page:
Address: 931 W. Barkley Ave,		Virendra.Patel@et-eurofins.com	Virendra.Patel@et-eurofins.com	California	Page 1 of 1
City: Orange		Accreditations Required (See note): State Program - California		Job #:	570-123237-1
State, Zip: CA, 92868		Due Date Requested: 1/23/2023	<b>Analysis Requested</b>		
Phone:		TAT Requested (days):	Preservation Codes: M - Hexane N - None O - Acetate P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)		
Email:		PO #:	Other:		
Project Name: Boeing SSFL NPDES - Outfall 002		WO #:	Total Number of containers		
Site:		Project #: 44024446	3		
SSOW#:		Site:	Special Instructions/Note: See Attached Instructions		
<b>Sample Identification - Client ID (Lab ID)</b>		SSOW#:	Special Instructions/Note: See Attached Instructions		
Arroyo Simi (570-123237-1)		Site:	Special Instructions/Note: See Attached Instructions		
Sample Date		Sample Time	Sample Type (C=comp, G=grab)	Matrix (M=water, O=oil, P=particulate, S=solids, A=air)	Preservation Code:
1/9/23	07:15 Pacific	Water			
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)	SUB (Quant-tray - E Coll - level 4 required - E Coll - level 4 required)	Special Instructions/Note:	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	See Attached Instructions	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analytes/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>					
<b>Possible Hazard Identification</b>					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Empty Kit Relinquished by:					
Date:					
Relinquished by:					
Date/Time:					
Relinquished by:					
Date/Time:					
Relinquished by:					
Date/Time:					
Custody Seals Intact: <input checked="" type="checkbox"/> Custody Seal No.:					
Cooler Temperature(s) °C and Other Remarks:					







# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

### Section 1

Client: Eurofins Project: Boeing SSFL UPDES  
 Date Received: 1/19/23 Sampler's Name Present:  Yes  No

Outfall-02

### Section 2

Sample(s) received in a cooler?  Yes, How many? 1  NO (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 3.6 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
 (Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)  
 Shipping Information: \_\_\_\_\_

### Section 3

Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 0.5 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

### Section 4

	YES	NO	N/A
Was a COC received?	X		
Are sample IDs present?	X		
Are sampling dates & times present?	X		
Is a relinquished signature present?	X		
Are the tests required clearly indicated on the COC?	X		
Are custody seals present?		X	
If custody seals are present, were they intact?			X
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	X		
Did all samples arrive intact? If no, indicate in Section 4 below.	X		
Did all bottle labels agree with COC? (ID, dates and times)	X		
Were the samples collected in the correct containers for the required tests?	X		
Are the containers labeled with the correct preservatives?			X
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			X
Was a sufficient amount of sample submitted for the requested tests?	X		

### Section 5 Explanations/Comments

### Section 6

For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response: \_\_\_\_\_

Completed By: [Signature] Date: 1/19/23

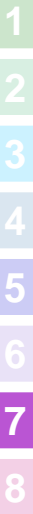
**ICOC No:**  
570-203577

**Containers**

**Count** 3      **Container Type** Plastic 120 mL - Sterile/Na2S2O3      **Preservative** Sodium Thiosulfate

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

## Results & QC Summary

### Total Coliform / E. coli by Quanti-Tray

<b>Lab #:</b> 476865	<b>Project#:</b> BOEING NPDES SSFL	
<b>Client:</b> Eurofins Calscience Tustin	<b>Location:</b> BOEING SSFL NPDES - OUTFALL 002 #4...	
<b>Field ID:</b> ARROYOSIMI_20230109	<b>Batch#:</b> 304891	<b>Analyzed:</b> 01/10/23 11:40
<b>Lab ID:</b> 476865-001	<b>Sampled:</b> 01/09/23 07:15	<b>Prep:</b>
<b>Matrix:</b> Water	<b>Received:</b> 01/09/23	<b>Analysis:</b> SM 9223Bb
<b>Diln Fac:</b> 10.00	<b>Prepared:</b> 01/09/23 16:13	<b>Analyst:</b> JAA

476865-001 Analyte	Result	RL	Units	Qual
Coliform, E. Coli	4,400	10	MPN/100ml	H

Legend

- H: Holding time was exceeded
- RL: Reporting Limit



# SM 9223 B-b, Quanti-Tray

Prep Analyst: JA Prep Date/Time: 01/09/23 16:53 QC Batch ID: 304091 Batch Page 1 of 1  
 Read Analyst: JA Read Date/Time: 01/10/23 11:40 Media Lot #: EU396 Pipette Lot #: A103941, A103842, A104116  
 Media Used (check one):  Coliure  Coliure 18  Coliuret 24  
 Monthly Quanti-tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 01/03/23 \*Quanti-Tray Sealer Check must be performed monthly  
 Total and E. coli: Incubator ID: F Incubator In, Temp/Time: 35-1 Incubator Out, Temp/Time: 11:40 35-1  
 Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Coliuret 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells		Large Wells	Small Wells			Large Wells	Small Wells			
		476865-001	1X	49	48	7249.0	49	48	7249.0	72400			7249.0	72400	CA 1X
		↓	10X	49	48	7249.0	49	24	435.2	4400			435.2	4400	10X
		↓	100X	49	30	61.000	27	2	40.4	4000			40.4	4000	100X
		476864-001	1X	49	48	7249.0	42	9	107.0	110	JA110123		107.0	110	EA 1X
		↓	10X	49	28	547.5	10	0	11.0	110			11.0	110	10X
		↓	100X	21	2	29.2	3	0	3.1	310			3.1	310	100X
		476866-001	1X	49	40	7049.6	49	22	387.3	390			387.3	390	SW 1X
		↓	10X	49	24	435.2	27	2	40.4	400			40.4	400	10X
		↓	100X	25	4	39.3	1	0	1.0	100			1.0	100	100X
<del>JA 01/10/23</del>															
Quality Control															
Positive +/-(E. Coli)															
01/05/22															
Positive +/-(K. Pneumonia)															
+															
Negative +/-(P. Aeruginosa)															

123237

### CHAIN OF CUSTODY FORM

**Client Name/Address:**  
**Haley & Aldrich, Inc.**  
 5333 Mission Center Road, Suite 300  
 San Diego, CA 92108

**Project:**  
 Boeing-SSFL NPDES  
 Arroyo Simi

**Sampler:** Adrian Mobeka

**Project Manager:** Katherine Miller  
**Phone Number:** (520) 289-8606, (520) 904-6944 (cell)  
**Field Manager:** Mark Dominick  
 (978) 234-5033, (818) 599-0702 (cell)

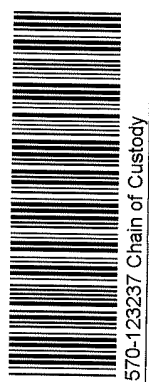
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230106 <sup>215</sup>	1/9/2023/1315	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions

**Relinquished By:** *(Signature)* Date/Time: 1-9-2023 1315

**Relinquished By:** *(Signature)* Date/Time: 1/9/23 1315

**Relinquished By:** *(Signature)* Date/Time:

Turn around Time. (check)  
 24 Hours  5 Days   
 48 Hours  10 Days   
 72 Hours  Normal   
 Sample Integrity (check)  
 Intact  On Ice   
 Data Requirements (check)  
 No Level IV  All Level IV   
 NPDES Level IV



570-123237 Chain of Custody





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/7/2023 2:06:11 PM Revision 1

## JOB DESCRIPTION

Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

## JOB NUMBER

570-123258-1

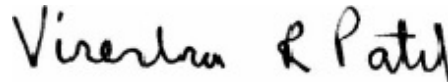
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/7/2023 2:06:11 PM  
Revision 1

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	15
QC Sample Results . . . . .	17
QC Association Summary . . . . .	29
Lab Chronicle . . . . .	31
Certification Summary . . . . .	32
Method Summary . . . . .	33
Sample Summary . . . . .	34
Chain of Custody . . . . .	35
Receipt Checklists . . . . .	37

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LQ	LCS/LCSD recovery above method control limits

### GC Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
LQ	LCS/LCSD recovery above method control limits
PI	Primary and confirm results varied by > than 40% RPD

### Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

**Job ID: 570-123258-1**

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative  
570-123258-1**

### Comments

No additional comments.

### Revision

The report being provided is a revision of the original report sent on 1/23/2023. The report (revision 1) is being revised due to: The metals reporting was adjusted to report all elements by EPA 200.8..

### Receipt

The sample was received on 1/9/2023 5:15 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

### GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-294547. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC/MS Semi VOA

Method 625.1 SIM: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-295604 and analytical batch 570-296124 recovered outside control limits for the following analytes: 4,6-Dinitro-2-methylphenol. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 625.1 SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-295604 and analytical batch 570-296124 recovered outside control limits for the following analytes: Benzidine.

Method 625.1 SIM: The continuing calibration verification (CCV) associated with batch 570-295532 recovered above the upper control limit for 4,6-Dinitro-2-methylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: Arroyo\_Simi\_20230109\_Grab (570-123258-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC Semi VOA

Method 608.3: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-295632 and analytical batch 570-295932 recovered outside control limits for the following analytes: Aroclor 1016 and Aroclor 1260. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 608.3: The DCB Decachlorobiphenyl (Surr) surrogate recovery for the following samples was outside acceptance limits (low biased) on the confirmation column: Arroyo\_Simi\_20230109\_Grab (570-123258-1). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 608.3: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-295632 and analytical batch 570-295932 recovered outside control limits for the following analytes: Aroclor 1016 and Aroclor 1260. These analytes are biased high in the LCS and were not detected in the samples, therefore data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Method 200.7 Rev 4.4: The method blank for preparation batch 570-295336 and analytical batch 570-295537 contained Aluminum above the method detection limit. This target analyte concentration was less than the reporting limit (RL) or greater than 10X the value found in

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

---

## Job ID: 570-123258-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Aluminum for preparation batch 570-295336 and analytical batch 570-295537 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-295632. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-295604. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625.1

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

**Client Sample ID: Arroyo\_Simi\_20230109\_Grab**

**Lab Sample ID: 570-123258-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.11	J,DX	0.19	0.11	ug/L	1		625.1 SIM	Total/NA
Cadmium	0.32	J,DX	1.0	0.13	ug/L	1		200.8	Total Recoverable
Copper	6.3		2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	0.99	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Antimony	0.75	J,DX	2.0	0.36	ug/L	1		200.8	Total Recoverable
Selenium	3.3		2.0	0.52	ug/L	1		200.8	Total Recoverable
Nickel	8.2		2.0	0.17	ug/L	1		200.8	Total Recoverable
Arsenic	2.5		1.0	0.16	ug/L	1		200.8	Total Recoverable
Zinc	18	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: Arroyo\_Simi\_20230109\_Grab

Date Collected: 01/09/23 07:15

Date Received: 01/09/23 17:15

Lab Sample ID: 570-123258-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/09/23 23:48	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/09/23 23:48	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/09/23 23:48	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/09/23 23:48	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/09/23 23:48	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/09/23 23:48	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/09/23 23:48	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/09/23 23:48	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/09/23 23:48	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/09/23 23:48	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/09/23 23:48	1
Acrolein	ND		5.0	4.6	ug/L			01/09/23 23:48	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/09/23 23:48	1
Benzene	ND		0.50	0.28	ug/L			01/09/23 23:48	1
Bromoform	ND		1.0	0.25	ug/L			01/09/23 23:48	1
Bromomethane	ND		0.50	0.22	ug/L			01/09/23 23:48	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/09/23 23:48	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/09/23 23:48	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/09/23 23:48	1
Chloroethane	ND		1.0	0.29	ug/L			01/09/23 23:48	1
Chloroform	ND		0.50	0.19	ug/L			01/09/23 23:48	1
Chloromethane	ND		0.50	0.30	ug/L			01/09/23 23:48	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/09/23 23:48	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/09/23 23:48	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/09/23 23:48	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/09/23 23:48	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/09/23 23:48	1
Naphthalene	ND		1.0	0.33	ug/L			01/09/23 23:48	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/09/23 23:48	1
Toluene	ND		0.50	0.23	ug/L			01/09/23 23:48	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/09/23 23:48	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/09/23 23:48	1
Trichloroethene	ND		0.50	0.17	ug/L			01/09/23 23:48	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/09/23 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		60 - 140		01/09/23 23:48	1
Toluene-d8 (Surr)	101		60 - 140		01/09/23 23:48	1
Dibromofluoromethane (Surr)	94		60 - 140		01/09/23 23:48	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Arroyo\_Simi\_20230109\_Grab**

**Lab Sample ID: 570-123258-1**

**Date Collected: 01/09/23 07:15**

**Matrix: Water**

**Date Received: 01/09/23 17:15**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
1,2-Dichlorobenzene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 21:13	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.19	0.086	ug/L		01/13/23 05:33	01/13/23 21:13	1
1,3-Dichlorobenzene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 21:13	1
1,4-Dichlorobenzene	ND		0.19	0.13	ug/L		01/13/23 05:33	01/13/23 21:13	1
2,4,6-Trichlorophenol	ND		0.95	0.13	ug/L		01/13/23 05:33	01/13/23 21:13	1
2,4-Dichlorophenol	ND		0.95	0.13	ug/L		01/13/23 05:33	01/13/23 21:13	1
2,4-Dimethylphenol	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
2,4-Dinitrophenol	ND		4.8	4.1	ug/L		01/13/23 05:33	01/13/23 21:13	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 21:13	1
2,6-Dinitrotoluene	ND		0.19	0.17	ug/L		01/13/23 05:33	01/13/23 21:13	1
2-Chloronaphthalene	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 21:13	1
2-Chlorophenol	ND		0.19	0.091	ug/L		01/13/23 05:33	01/13/23 21:13	1
2-Nitrophenol	ND		4.8	3.3	ug/L		01/13/23 05:33	01/13/23 21:13	1
3,3'-Dichlorobenzidine	ND		4.8	2.9	ug/L		01/13/23 05:33	01/13/23 21:13	1
4,6-Dinitro-2-methylphenol	ND	LQ	4.8	4.3	ug/L		01/13/23 05:33	01/13/23 21:13	1
4-Bromophenyl phenyl ether	ND		0.19	0.095	ug/L		01/13/23 05:33	01/13/23 21:13	1
4-Chloro-3-methylphenol	ND		0.95	0.13	ug/L		01/13/23 05:33	01/13/23 21:13	1
4-Chlorophenyl phenyl ether	ND		0.19	0.16	ug/L		01/13/23 05:33	01/13/23 21:13	1
4-Nitrophenol	ND		4.8	3.2	ug/L		01/13/23 05:33	01/13/23 21:13	1
Acenaphthene	ND		0.19	0.094	ug/L		01/13/23 05:33	01/13/23 21:13	1
Acenaphthylene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
Anthracene	ND		0.19	0.080	ug/L		01/13/23 05:33	01/13/23 21:13	1
Benzidine	ND	BA	4.8	2.6	ug/L		01/13/23 05:33	01/13/23 21:13	1
Benzo[a]anthracene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
Benzo[a]pyrene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 21:13	1
<b>Benzo[b]fluoranthene</b>	<b>0.11</b>	<b>J,DX</b>	0.19	0.11	ug/L		01/13/23 05:33	01/13/23 21:13	1
Benzo[g,h,i]perylene	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 21:13	1
Benzo[k]fluoranthene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 21:13	1
bis (2-chloroisopropyl) ether	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
Bis(2-chloroethoxy)methane	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 21:13	1
Bis(2-chloroethyl)ether	ND		0.19	0.099	ug/L		01/13/23 05:33	01/13/23 21:13	1
Bis(2-ethylhexyl) phthalate	ND		4.8	3.4	ug/L		01/13/23 05:33	01/13/23 21:13	1
Butyl benzyl phthalate	ND		0.95	0.64	ug/L		01/13/23 05:33	01/13/23 21:13	1
Chrysene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 21:13	1
Dibenz(a,h)anthracene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 21:13	1
Diethyl phthalate	ND		1.9	0.17	ug/L		01/13/23 05:33	01/13/23 21:13	1
Dimethyl phthalate	ND		1.9	0.093	ug/L		01/13/23 05:33	01/13/23 21:13	1
Di-n-butyl phthalate	ND		1.9	1.8	ug/L		01/13/23 05:33	01/13/23 21:13	1
Di-n-octyl phthalate	ND		2.9	0.51	ug/L		01/13/23 05:33	01/13/23 21:13	1
Fluoranthene	ND		0.19	0.096	ug/L		01/13/23 05:33	01/13/23 21:13	1
Fluorene	ND		0.19	0.090	ug/L		01/13/23 05:33	01/13/23 21:13	1
Hexachlorobenzene	ND		0.19	0.13	ug/L		01/13/23 05:33	01/13/23 21:13	1
Hexachlorobutadiene	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 21:13	1
Hexachlorocyclopentadiene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 21:13	1
Hexachloroethane	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 21:13	1
Isophorone	ND		0.19	0.094	ug/L		01/13/23 05:33	01/13/23 21:13	1
Naphthalene	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 21:13	1

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Client Sample ID: Arroyo\_Simi\_20230109\_Grab**

**Date Collected: 01/09/23 07:15**

**Date Received: 01/09/23 17:15**

**Lab Sample ID: 570-123258-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 21:13	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		01/13/23 05:33	01/13/23 21:13	1
N-Nitrosodi-n-propylamine	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 21:13	1
N-Nitrosodiphenylamine	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 21:13	1
Pentachlorophenol	ND		0.95	0.80	ug/L		01/13/23 05:33	01/13/23 21:13	1
Phenanthrene	ND		0.19	0.16	ug/L		01/13/23 05:33	01/13/23 21:13	1
Phenol	ND		0.95	0.50	ug/L		01/13/23 05:33	01/13/23 21:13	1
Pyrene	ND		0.19	0.082	ug/L		01/13/23 05:33	01/13/23 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	80		28 - 127	01/13/23 05:33	01/13/23 21:13	1
2-Fluorobiphenyl (Surr)	45		31 - 120	01/13/23 05:33	01/13/23 21:13	1
2-Fluorophenol	29		17 - 120	01/13/23 05:33	01/13/23 21:13	1
Nitrobenzene-d5	51		27 - 120	01/13/23 05:33	01/13/23 21:13	1
p-Terphenyl-d14 (Surr)	62		45 - 120	01/13/23 05:33	01/13/23 21:13	1
Phenol-d6 (Surr)	22		10 - 120	01/13/23 05:33	01/13/23 21:13	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 40CFR136A 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Arroyo\_Simi\_20230109\_Grab**

**Date Collected: 01/09/23 07:15**

**Date Received: 01/09/23 17:15**

**Lab Sample ID: 570-123258-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		01/13/23 08:26	01/16/23 16:02	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		01/13/23 08:26	01/16/23 16:02	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		01/13/23 08:26	01/16/23 16:02	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/13/23 08:26	01/16/23 16:02	1
Dieldrin	ND		0.0033	0.0013	ug/L		01/13/23 08:26	01/16/23 16:02	1
Toxaphene	ND		0.067	0.054	ug/L		01/13/23 08:26	01/16/23 16:02	1
alpha-BHC	ND		0.0013	0.0012	ug/L		01/13/23 08:26	01/16/23 16:02	1
gamma-BHC (Lindane)	ND		0.0013	0.00066	ug/L		01/13/23 08:26	01/16/23 16:02	1
Endrin aldehyde	ND		0.033	0.024	ug/L		01/13/23 08:26	01/16/23 16:02	1
delta-BHC	ND		0.0033	0.0020	ug/L		01/13/23 08:26	01/16/23 16:02	1
Aldrin	ND		0.0033	0.0031	ug/L		01/13/23 08:26	01/16/23 16:02	1
Endosulfan sulfate	ND		0.0033	0.0014	ug/L		01/13/23 08:26	01/16/23 16:02	1
Endosulfan I	ND		0.0013	0.0013	ug/L		01/13/23 08:26	01/16/23 16:02	1
Endrin	ND		0.0033	0.0023	ug/L		01/13/23 08:26	01/16/23 16:02	1
Endosulfan II	ND		0.0067	0.0041	ug/L		01/13/23 08:26	01/16/23 16:02	1
beta-BHC	ND		0.0050	0.0039	ug/L		01/13/23 08:26	01/16/23 16:02	1
Heptachlor	ND		0.0013	0.0012	ug/L		01/13/23 08:26	01/16/23 16:02	1
Heptachlor epoxide	ND		0.0067	0.0039	ug/L		01/13/23 08:26	01/16/23 16:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	43	PI	20 - 139				01/13/23 08:26	01/16/23 16:02	1
<i>DCB Decachlorobiphenyl (Surr)</i>	28	PI	20 - 154				01/13/23 08:26	01/16/23 16:02	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 40CFR136A 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: Arroyo\_Simi\_20230109\_Grab**  
**Date Collected: 01/09/23 07:15**  
**Date Received: 01/09/23 17:15**

**Lab Sample ID: 570-123258-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND	LQ BA	0.10	0.044	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
Aroclor 1221	ND		0.10	0.044	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
Aroclor 1232	ND		0.10	0.044	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
Aroclor 1242	ND		0.10	0.044	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
Aroclor 1248	ND		0.10	0.044	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
Aroclor 1254	ND		0.10	0.052	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
Aroclor 1260	ND	LQ BA	0.10	0.052	ug/L	-	01/13/23 08:26	01/14/23 15:16	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Tetrachloro-m-xylene (Surr)</i>	35		20 - 139				01/13/23 08:26	01/14/23 15:16	1
<i>DCB Decachlorobiphenyl (Surr)</i>	35		20 - 154				01/13/23 08:26	01/14/23 15:16	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Arroyo\_Simi\_20230109\_Grab

Lab Sample ID: 570-123258-1

Date Collected: 01/09/23 07:15

Matrix: Water

Date Received: 01/09/23 17:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.23	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Cadmium</b>	<b>0.32</b>	<b>J,DX</b>	1.0	0.13	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Copper</b>	<b>6.3</b>		2.0	0.32	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Lead</b>	<b>0.99</b>	<b>J,DX</b>	1.0	0.12	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Antimony</b>	<b>0.75</b>	<b>J,DX</b>	2.0	0.36	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Selenium</b>	<b>3.3</b>		2.0	0.52	ug/L		01/12/23 09:31	01/12/23 14:35	1
Thallium	ND		1.0	0.11	ug/L		01/12/23 09:31	01/12/23 14:35	1
Beryllium	ND		0.50	0.26	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Nickel</b>	<b>8.2</b>		2.0	0.17	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Arsenic</b>	<b>2.5</b>		1.0	0.16	ug/L		01/12/23 09:31	01/12/23 14:35	1
<b>Zinc</b>	<b>18</b>	<b>J,DX</b>	20	2.8	ug/L		01/12/23 09:31	01/12/23 14:35	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## General Chemistry

Client Sample ID: Arroyo\_Simi\_20230109\_Grab

Date Collected: 01/09/23 07:15

Date Received: 01/09/23 17:15

Lab Sample ID: 570-123258-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			01/11/23 14:55	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (60-140)	TOL (60-140)	DBFM (60-140)
570-123258-1	Arroyo_Simi_20230109_Grab	101	101	94
LCS 570-294547/1003	Lab Control Sample	100	99	100
LCSD 570-294547/4	Lab Control Sample Dup	101	103	99
MB 570-294547/6	Method Blank	97	99	96

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	TPHd14 (45-120)	PHL6 (10-120)
570-123258-1	Arroyo_Simi_20230109_Grab	80	45	29	51	62	22
LCS 570-295604/2-A	Lab Control Sample	84	63	45	63	86	33
LCSD 570-295604/3-A	Lab Control Sample Dup	86	66	44	62	78	32
MB 570-295604/1-A	Method Blank	79	59	43	68	68	30

### Surrogate Legend

TBP = 2,4,6-Tribromophenol

FBP = 2-Fluorobiphenyl (Surr)

2FP = 2-Fluorophenol

NBZ = Nitrobenzene-d5

TPHd14 = p-Terphenyl-d14 (Surr)

PHL6 = Phenol-d6 (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX1 (20-139)	DCB1 (20-154)
570-123258-1	Arroyo_Simi_20230109_Grab	43 PI	28 PI
LCSD 570-295632/3-A	Lab Control Sample Dup	55 PI	64
MB 570-295632/1-A	Method Blank	59 PI	59

### Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (20-139)	DCB2 (20-154)
LCS 570-295632/2-A	Lab Control Sample	90	64

### Surrogate Legend

TCX = Tetrachloro-m-xylene

Eurofins Calscience

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry  
DCB = DCB Decachlorobiphenyl (Surr)

Job ID: 570-123258-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB2 (20-154)
570-123258-1	Arroyo_Simi_20230109_Grab	35	35

#### Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
LCS 570-295632/4-A	Lab Control Sample	56	70
LCSD 570-295632/5-A	Lab Control Sample Dup	49	72
MB 570-295632/1-A	Method Blank	53	62

#### Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-294547/6**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/09/23 16:40	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/09/23 16:40	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/09/23 16:40	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/09/23 16:40	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/09/23 16:40	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/09/23 16:40	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/09/23 16:40	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/09/23 16:40	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/09/23 16:40	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/09/23 16:40	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/09/23 16:40	1
Acrolein	ND		5.0	4.6	ug/L			01/09/23 16:40	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/09/23 16:40	1
Benzene	ND		0.50	0.28	ug/L			01/09/23 16:40	1
Bromoform	ND		1.0	0.25	ug/L			01/09/23 16:40	1
Bromomethane	ND		0.50	0.22	ug/L			01/09/23 16:40	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/09/23 16:40	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/09/23 16:40	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/09/23 16:40	1
Chloroethane	ND		1.0	0.29	ug/L			01/09/23 16:40	1
Chloroform	ND		0.50	0.19	ug/L			01/09/23 16:40	1
Chloromethane	ND		0.50	0.30	ug/L			01/09/23 16:40	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/09/23 16:40	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/09/23 16:40	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/09/23 16:40	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/09/23 16:40	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/09/23 16:40	1
Naphthalene	ND		1.0	0.33	ug/L			01/09/23 16:40	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/09/23 16:40	1
Toluene	ND		0.50	0.23	ug/L			01/09/23 16:40	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/09/23 16:40	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/09/23 16:40	1
Trichloroethene	ND		0.50	0.17	ug/L			01/09/23 16:40	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/09/23 16:40	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	97		60 - 140		01/09/23 16:40	1
Toluene-d8 (Surr)	99		60 - 140		01/09/23 16:40	1
Dibromofluoromethane (Surr)	96		60 - 140		01/09/23 16:40	1

**Lab Sample ID: LCS 570-294547/1003**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2,2-Tetrachloroethane	10.0	9.49		ug/L		95	60 - 140
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	70 - 130

Euromins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 570-294547/1003**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	10.0	9.46		ug/L		95	70 - 130
1,1-Dichloroethene	10.0	9.10		ug/L		91	50 - 150
1,2-Dichlorobenzene	10.0	9.44		ug/L		94	65 - 135
1,2-Dichloroethane	10.0	9.48		ug/L		95	70 - 130
1,2-Dichloropropane	10.0	9.47		ug/L		95	35 - 165
1,3-Dichlorobenzene	10.0	9.76		ug/L		98	70 - 130
1,4-Dichlorobenzene	10.0	9.04		ug/L		90	65 - 135
2-Chloroethyl vinyl ether	10.0	8.98		ug/L		90	1 - 225
Acrolein	20.0	15.8		ug/L		79	60 - 140
Acrylonitrile	100	99.9		ug/L		100	60 - 140
Benzene	10.0	9.23		ug/L		92	65 - 135
Bromoform	10.0	9.10		ug/L		91	70 - 130
Bromomethane	10.0	6.41		ug/L		64	15 - 185
Carbon tetrachloride	10.0	9.49		ug/L		95	70 - 130
Chlorobenzene	10.0	9.37		ug/L		94	65 - 135
Dibromochloromethane	10.0	9.42		ug/L		94	70 - 135
Chloroethane	10.0	10.1		ug/L		101	40 - 160
Chloroform	10.0	9.02		ug/L		90	70 - 135
Chloromethane	10.0	10.7		ug/L		107	1 - 205
cis-1,2-Dichloroethene	10.0	9.24		ug/L		92	60 - 140
cis-1,3-Dichloropropene	10.0	9.19		ug/L		92	25 - 175
Bromodichloromethane	10.0	9.39		ug/L		94	65 - 135
Ethylbenzene	10.0	9.41		ug/L		94	60 - 140
Methylene Chloride	10.0	8.67		ug/L		87	60 - 140
Naphthalene	10.0	10.1		ug/L		101	60 - 140
Tetrachloroethene	10.0	9.23		ug/L		92	70 - 130
Toluene	10.0	9.33		ug/L		93	70 - 130
trans-1,2-Dichloroethene	10.0	9.09		ug/L		91	70 - 130
trans-1,3-Dichloropropene	10.0	9.62		ug/L		96	50 - 150
Trichloroethene	10.0	9.38		ug/L		94	65 - 135
Vinyl chloride	10.0	11.0		ug/L		110	5 - 195

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		60 - 140
Toluene-d8 (Surr)	99		60 - 140
Dibromofluoromethane (Surr)	100		60 - 140

**Lab Sample ID: LCSD 570-294547/4**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	10.0	9.43		ug/L		94	70 - 130	3	36
1,1,1,2-Tetrachloroethane	10.0	9.20		ug/L		92	60 - 140	3	61
1,1,1,2-Trichloroethane	10.0	9.42		ug/L		94	70 - 130	0	45
1,1-Dichloroethane	10.0	9.56		ug/L		96	70 - 130	1	40
1,1-Dichloroethene	10.0	9.16		ug/L		92	50 - 150	1	32
1,2-Dichlorobenzene	10.0	9.59		ug/L		96	65 - 135	2	57

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-294547/4  
 Matrix: Water  
 Analysis Batch: 294547

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloroethane	10.0	9.74		ug/L		97	70 - 130	3	49
1,2-Dichloropropane	10.0	9.67		ug/L		97	35 - 165	2	55
1,3-Dichlorobenzene	10.0	9.80		ug/L		98	70 - 130	0	43
1,4-Dichlorobenzene	10.0	9.32		ug/L		93	65 - 135	3	57
2-Chloroethyl vinyl ether	10.0	9.65		ug/L		96	1 - 225	7	71
Acrolein	20.0	15.1		ug/L		76	60 - 140	4	60
Acrylonitrile	100	97.2		ug/L		97	60 - 140	3	60
Benzene	10.0	9.69		ug/L		97	65 - 135	5	61
Bromoform	10.0	9.43		ug/L		94	70 - 130	4	42
Bromomethane	10.0	8.83		ug/L		88	15 - 185	32	61
Carbon tetrachloride	10.0	9.50		ug/L		95	70 - 130	0	41
Chlorobenzene	10.0	9.40		ug/L		94	65 - 135	0	53
Dibromochloromethane	10.0	9.29		ug/L		93	70 - 135	1	50
Chloroethane	10.0	10.7		ug/L		107	40 - 160	5	78
Chloroform	10.0	9.05		ug/L		91	70 - 135	0	30
Chloromethane	10.0	10.9		ug/L		109	1 - 205	2	60
cis-1,2-Dichloroethene	10.0	9.22		ug/L		92	60 - 140	0	30
cis-1,3-Dichloropropene	10.0	10.1		ug/L		101	25 - 175	9	58
Bromodichloromethane	10.0	9.91		ug/L		99	65 - 135	5	56
Ethylbenzene	10.0	9.84		ug/L		98	60 - 140	4	63
Methylene Chloride	10.0	8.49		ug/L		85	60 - 140	2	28
Naphthalene	10.0	10.2		ug/L		102	60 - 140	1	30
Tetrachloroethene	10.0	9.48		ug/L		95	70 - 130	3	39
Toluene	10.0	9.91		ug/L		99	70 - 130	6	41
trans-1,2-Dichloroethene	10.0	8.97		ug/L		90	70 - 130	1	45
trans-1,3-Dichloropropene	10.0	9.74		ug/L		97	50 - 150	1	86
Trichloroethene	10.0	9.90		ug/L		99	65 - 135	5	48
Vinyl chloride	10.0	11.2		ug/L		112	5 - 195	2	66

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	101		60 - 140
Toluene-d8 (Surr)	103		60 - 140
Dibromofluoromethane (Surr)	99		60 - 140

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Lab Sample ID: MB 570-295604/1-A  
 Matrix: Water  
 Analysis Batch: 295532

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 295604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,2-Dichlorobenzene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.091	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,3-Dichlorobenzene	ND		0.20	0.12	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,4-Dichlorobenzene	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dichlorophenol	ND		1.0	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: MB 570-295604/1-A**  
**Matrix: Water**  
**Analysis Batch: 295532**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dinitrophenol	ND		5.0	4.3	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,6-Dinitrotoluene	ND		0.20	0.18	ug/L		01/13/23 05:33	01/13/23 17:44	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2-Chlorophenol	ND		0.20	0.096	ug/L		01/13/23 05:33	01/13/23 17:44	1
2-Nitrophenol	ND		5.0	3.5	ug/L		01/13/23 05:33	01/13/23 17:44	1
3,3'-Dichlorobenzidine	ND		5.0	3.0	ug/L		01/13/23 05:33	01/13/23 17:44	1
4,6-Dinitro-2-methylphenol	ND		5.0	4.5	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Bromophenyl phenyl ether	ND		0.20	0.10	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Chloro-3-methylphenol	ND		1.0	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Chlorophenyl phenyl ether	ND		0.20	0.17	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Nitrophenol	ND		5.0	3.4	ug/L		01/13/23 05:33	01/13/23 17:44	1
Acenaphthene	ND		0.20	0.098	ug/L		01/13/23 05:33	01/13/23 17:44	1
Acenaphthylene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Anthracene	ND		0.20	0.084	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzidine	ND		5.0	2.7	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[a]anthracene	ND		0.20	0.12	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[a]pyrene	ND		0.20	0.15	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[b]fluoranthene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[g,h,i]perylene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[k]fluoranthene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
bis (2-chloroisopropyl) ether	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Bis(2-chloroethoxy)methane	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Bis(2-chloroethyl)ether	ND		0.20	0.10	ug/L		01/13/23 05:33	01/13/23 17:44	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		01/13/23 05:33	01/13/23 17:44	1
Butyl benzyl phthalate	ND		1.0	0.67	ug/L		01/13/23 05:33	01/13/23 17:44	1
Chrysene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Dibenz(a,h)anthracene	ND		0.20	0.16	ug/L		01/13/23 05:33	01/13/23 17:44	1
Diethyl phthalate	ND		2.0	0.18	ug/L		01/13/23 05:33	01/13/23 17:44	1
Dimethyl phthalate	ND		2.0	0.098	ug/L		01/13/23 05:33	01/13/23 17:44	1
Di-n-butyl phthalate	ND		2.0	1.8	ug/L		01/13/23 05:33	01/13/23 17:44	1
Di-n-octyl phthalate	ND		3.0	0.54	ug/L		01/13/23 05:33	01/13/23 17:44	1
Fluoranthene	ND		0.20	0.10	ug/L		01/13/23 05:33	01/13/23 17:44	1
Fluorene	ND		0.20	0.095	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachlorobenzene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachlorobutadiene	ND		0.20	0.15	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachlorocyclopentadiene	ND		0.20	0.15	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachloroethane	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Isophorone	ND		0.20	0.099	ug/L		01/13/23 05:33	01/13/23 17:44	1
Naphthalene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Nitrobenzene	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		01/13/23 05:33	01/13/23 17:44	1
N-Nitrosodi-n-propylamine	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
N-Nitrosodiphenylamine	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Pentachlorophenol	ND		1.0	0.84	ug/L		01/13/23 05:33	01/13/23 17:44	1
Phenanthrene	ND		0.20	0.16	ug/L		01/13/23 05:33	01/13/23 17:44	1
Phenol	ND		1.0	0.52	ug/L		01/13/23 05:33	01/13/23 17:44	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: MB 570-295604/1-A**  
**Matrix: Water**  
**Analysis Batch: 295532**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.20	0.086	ug/L		01/13/23 05:33	01/13/23 17:44	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	79		28 - 127				01/13/23 05:33	01/13/23 17:44	1
2-Fluorobiphenyl (Surr)	59		31 - 120				01/13/23 05:33	01/13/23 17:44	1
2-Fluorophenol	43		17 - 120				01/13/23 05:33	01/13/23 17:44	1
Nitrobenzene-d5	68		27 - 120				01/13/23 05:33	01/13/23 17:44	1
p-Terphenyl-d14 (Surr)	68		45 - 120				01/13/23 05:33	01/13/23 17:44	1
Phenol-d6 (Surr)	30		10 - 120				01/13/23 05:33	01/13/23 17:44	1

**Lab Sample ID: LCS 570-295604/2-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	20.0	11.4		ug/L		57	57 - 130
1,2-Dichlorobenzene	20.0	12.1		ug/L		60	40 - 120
1,2-Diphenylhydrazine(as Azobenzene)	20.0	13.9		ug/L		70	60 - 115
1,3-Dichlorobenzene	20.0	11.8		ug/L		59	37 - 120
1,4-Dichlorobenzene	20.0	11.7		ug/L		59	39 - 120
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129
2,4-Dichlorophenol	20.0	15.0		ug/L		75	53 - 122
2,4-Dimethylphenol	20.0	14.6		ug/L		73	42 - 120
2,4-Dinitrophenol	20.0	26.0		ug/L		130	1 - 173
2,4-Dinitrotoluene	20.0	18.9		ug/L		95	48 - 127
2,6-Dinitrotoluene	20.0	18.9		ug/L		95	68 - 137
2-Chloronaphthalene	20.0	14.5		ug/L		72	65 - 120
2-Chlorophenol	20.0	15.5		ug/L		78	36 - 120
2-Nitrophenol	20.0	17.3		ug/L		87	45 - 167
3,3'-Dichlorobenzidine	20.0	16.3		ug/L		82	8 - 213
4,6-Dinitro-2-methylphenol	20.0	26.1		ug/L		130	53 - 130
4-Bromophenyl phenyl ether	20.0	15.6		ug/L		78	65 - 120
4-Chloro-3-methylphenol	20.0	17.0		ug/L		85	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.7		ug/L		78	38 - 145
4-Nitrophenol	20.0	9.30		ug/L		46	13 - 129
Benzidine	20.0	5.62		ug/L		28	20 - 164
bis (2-chloroisopropyl) ether	20.0	16.0		ug/L		80	63 - 139
Bis(2-chloroethoxy)methane	20.0	14.8		ug/L		74	49 - 165
Bis(2-chloroethyl)ether	20.0	15.9		ug/L		80	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	18.7		ug/L		93	29 - 137
Butyl benzyl phthalate	20.0	19.9		ug/L		99	1 - 140
Diethyl phthalate	20.0	16.8		ug/L		84	1 - 120
Dimethyl phthalate	20.0	16.6		ug/L		83	1 - 120
Di-n-butyl phthalate	20.0	16.5		ug/L		82	8 - 120
Di-n-octyl phthalate	20.0	18.9		ug/L		95	19 - 132
Hexachlorobenzene	20.0	16.3		ug/L		82	8 - 142
Hexachlorobutadiene	20.0	11.3		ug/L		57	38 - 120
Hexachlorocyclopentadiene	20.0	19.2		ug/L		96	43 - 145

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCS 570-295604/2-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachloroethane	20.0	11.8		ug/L		59	55 - 120
Isophorone	20.0	14.1		ug/L		71	47 - 180
Nitrobenzene	20.0	13.2		ug/L		66	54 - 158
N-Nitrosodimethylamine	20.0	9.48		ug/L		47	20 - 120
N-Nitrosodi-n-propylamine	20.0	15.2		ug/L		76	14 - 198
N-Nitrosodiphenylamine	20.0	17.2		ug/L		86	65 - 133
Pentachlorophenol	20.0	16.3		ug/L		82	38 - 152
Phenol	20.0	7.32		ug/L		37	17 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	84		28 - 127
2-Fluorobiphenyl (Surr)	63		31 - 120
2-Fluorophenol	45		17 - 120
Nitrobenzene-d5	63		27 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120
Phenol-d6 (Surr)	33		10 - 120

**Lab Sample ID: LCSD 570-295604/3-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	20.0	11.3		ug/L		57	57 - 130	1	30
1,2-Dichlorobenzene	20.0	12.2		ug/L		61	40 - 120	1	20
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		72	60 - 115	4	30
1,3-Dichlorobenzene	20.0	11.5		ug/L		58	37 - 120	3	20
1,4-Dichlorobenzene	20.0	11.6		ug/L		58	39 - 120	1	20
2,4,6-Trichlorophenol	20.0	17.1		ug/L		85	52 - 129	0	35
2,4-Dichlorophenol	20.0	15.1		ug/L		76	53 - 122	1	30
2,4-Dimethylphenol	20.0	14.5		ug/L		73	42 - 120	1	35
2,4-Dinitrophenol	20.0	27.6		ug/L		138	1 - 173	6	79
2,4-Dinitrotoluene	20.0	19.9		ug/L		99	48 - 127	5	25
2,6-Dinitrotoluene	20.0	19.6		ug/L		98	68 - 137	3	29
2-Chloronaphthalene	20.0	15.1		ug/L		76	65 - 120	4	15
2-Chlorophenol	20.0	14.7		ug/L		73	36 - 120	5	37
2-Nitrophenol	20.0	16.5		ug/L		83	45 - 167	5	33
3,3'-Dichlorobenzidine	20.0	17.0		ug/L		85	8 - 213	4	65
4,6-Dinitro-2-methylphenol	20.0	27.4	LQ	ug/L		137	53 - 130	5	122
4-Bromophenyl phenyl ether	20.0	15.6		ug/L		78	65 - 120	0	26
4-Chloro-3-methylphenol	20.0	16.4		ug/L		82	41 - 128	3	44
4-Chlorophenyl phenyl ether	20.0	16.3		ug/L		81	38 - 145	4	36
4-Nitrophenol	20.0	10.5		ug/L		53	13 - 129	12	79
Benzidine	20.0	9.78	BA	ug/L		49	20 - 164	54	30
bis (2-chloroisopropyl) ether	20.0	15.3		ug/L		76	63 - 139	5	46
Bis(2-chloroethoxy)methane	20.0	14.3		ug/L		71	49 - 165	4	32
Bis(2-chloroethyl)ether	20.0	14.7		ug/L		73	43 - 126	8	65
Bis(2-ethylhexyl) phthalate	20.0	19.3		ug/L		97	29 - 137	3	50
Butyl benzyl phthalate	20.0	19.8		ug/L		99	1 - 140	0	36

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-295604/3-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diethyl phthalate	20.0	17.1		ug/L		85	1 - 120	1	60
Dimethyl phthalate	20.0	16.7		ug/L		83	1 - 120	1	110
Di-n-butyl phthalate	20.0	16.9		ug/L		85	8 - 120	3	28
Di-n-octyl phthalate	20.0	20.4		ug/L		102	19 - 132	8	42
Hexachlorobenzene	20.0	17.1		ug/L		85	8 - 142	5	33
Hexachlorobutadiene	20.0	10.8		ug/L		54	38 - 120	4	38
Hexachlorocyclopentadiene	20.0	20.1		ug/L		100	43 - 145	5	22
Hexachloroethane	20.0	11.2		ug/L		56	55 - 120	5	32
Isophorone	20.0	13.9		ug/L		69	47 - 180	2	56
Nitrobenzene	20.0	12.8		ug/L		64	54 - 158	3	37
N-Nitrosodimethylamine	20.0	9.54		ug/L		48	20 - 120	1	21
N-Nitrosodi-n-propylamine	20.0	14.8		ug/L		74	14 - 198	3	52
N-Nitrosodiphenylamine	20.0	17.3		ug/L		86	65 - 133	0	20
Pentachlorophenol	20.0	16.8		ug/L		84	38 - 152	3	52
Phenol	20.0	6.93		ug/L		35	17 - 120	5	39

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2,4,6-Tribromophenol	86		28 - 127
2-Fluorobiphenyl (Surr)	66		31 - 120
2-Fluorophenol	44		17 - 120
Nitrobenzene-d5	62		27 - 120
p-Terphenyl-d14 (Surr)	78		45 - 120
Phenol-d6 (Surr)	32		10 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-295632/1-A**  
**Matrix: Water**  
**Analysis Batch: 296152**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		01/13/23 08:26	01/16/23 15:12	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		01/13/23 08:26	01/16/23 15:12	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		01/13/23 08:26	01/16/23 15:12	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/13/23 08:26	01/16/23 15:12	1
Dieldrin	ND		0.0033	0.0013	ug/L		01/13/23 08:26	01/16/23 15:12	1
Toxaphene	ND		0.067	0.054	ug/L		01/13/23 08:26	01/16/23 15:12	1
alpha-BHC	ND		0.0013	0.0012	ug/L		01/13/23 08:26	01/16/23 15:12	1
gamma-BHC (Lindane)	ND		0.0013	0.00066	ug/L		01/13/23 08:26	01/16/23 15:12	1
Endrin aldehyde	ND		0.033	0.024	ug/L		01/13/23 08:26	01/16/23 15:12	1
delta-BHC	ND		0.0033	0.0020	ug/L		01/13/23 08:26	01/16/23 15:12	1
Aldrin	ND		0.0033	0.0031	ug/L		01/13/23 08:26	01/16/23 15:12	1
Endosulfan sulfate	ND		0.0033	0.0014	ug/L		01/13/23 08:26	01/16/23 15:12	1
Endosulfan I	ND		0.0013	0.0013	ug/L		01/13/23 08:26	01/16/23 15:12	1
Endrin	ND		0.0033	0.0023	ug/L		01/13/23 08:26	01/16/23 15:12	1
Endosulfan II	ND		0.0067	0.0041	ug/L		01/13/23 08:26	01/16/23 15:12	1
beta-BHC	ND		0.0050	0.0039	ug/L		01/13/23 08:26	01/16/23 15:12	1
Heptachlor	ND		0.0013	0.0012	ug/L		01/13/23 08:26	01/16/23 15:12	1
Heptachlor epoxide	ND		0.0067	0.0039	ug/L		01/13/23 08:26	01/16/23 15:12	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 608.3 - Organochlorine Pesticides in Water (Continued)

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
<i>Tetrachloro-m-xylene</i>	59	PI	20 - 139	01/13/23 08:26	01/16/23 15:12	1
<i>DCB Decachlorobiphenyl (Surr)</i>	59		20 - 154	01/13/23 08:26	01/16/23 15:12	1

**Lab Sample ID: LCS 570-295632/2-A**  
**Matrix: Water**  
**Analysis Batch: 296152**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

<u>Analyte</u>	<u>Spike Added</u>	<u>LCS</u>		<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec</u>	
		<u>Result</u>	<u>Qualifier</u>				<u>Limits</u>	<u>RPD</u>
4,4'-DDD	0.0333	0.0235	PI	ug/L		71	31 - 141	
4,4'-DDE	0.0333	0.0247		ug/L		74	30 - 145	
4,4'-DDT	0.0333	0.0226	PI	ug/L		68	25 - 160	
Dieldrin	0.0333	0.0227		ug/L		68	36 - 146	
alpha-BHC	0.0333	0.0233		ug/L		70	37 - 140	
gamma-BHC (Lindane)	0.0333	0.0243		ug/L		73	32 - 140	
Endrin aldehyde	0.0333	ND		ug/L		59	50 - 135	
delta-BHC	0.0333	0.0222	PI	ug/L		67	19 - 140	
Aldrin	0.0333	0.0222		ug/L		67	42 - 140	
Endosulfan sulfate	0.0333	0.0456		ug/L		137	26 - 144	
Endosulfan I	0.0333	0.0206	PI	ug/L		62	45 - 153	
Endrin	0.0333	0.0306		ug/L		92	30 - 147	
Endosulfan II	0.0333	0.0251		ug/L		75	1 - 202	
beta-BHC	0.0333	0.0250	PI	ug/L		75	17 - 147	
Heptachlor	0.0333	0.0214		ug/L		64	34 - 140	
Heptachlor epoxide	0.0333	0.0240		ug/L		72	37 - 142	

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
<i>Tetrachloro-m-xylene</i>	90		20 - 139
<i>DCB Decachlorobiphenyl (Surr)</i>	64		20 - 154

**Lab Sample ID: LCSD 570-295632/3-A**  
**Matrix: Water**  
**Analysis Batch: 296152**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

<u>Analyte</u>	<u>Spike Added</u>	<u>LCSD</u>		<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec</u>		<u>RPD</u>	<u>Limit</u>
		<u>Result</u>	<u>Qualifier</u>				<u>Limits</u>	<u>RPD</u>		
4,4'-DDD	0.0333	0.0246	PI	ug/L		74	31 - 141	4	39	
4,4'-DDE	0.0333	0.0291		ug/L		87	30 - 145	16	35	
4,4'-DDT	0.0333	0.0228	PI	ug/L		68	25 - 160	1	42	
Dieldrin	0.0333	0.0234		ug/L		70	36 - 146	3	49	
alpha-BHC	0.0333	0.0226		ug/L		68	37 - 140	3	36	
gamma-BHC (Lindane)	0.0333	0.0271		ug/L		81	32 - 140	11	39	
Endrin aldehyde	0.0333	ND		ug/L		60	50 - 135	2	30	
delta-BHC	0.0333	0.0226	PI	ug/L		68	19 - 140	2	52	
Aldrin	0.0333	0.0224		ug/L		67	42 - 140	1	35	
Endosulfan sulfate	0.0333	0.0407		ug/L		122	26 - 144	11	38	
Endosulfan I	0.0333	0.0208	PI	ug/L		62	45 - 153	1	28	
Endrin	0.0333	0.0314		ug/L		94	30 - 147	3	48	
Endosulfan II	0.0333	0.0254		ug/L		76	1 - 202	1	53	
beta-BHC	0.0333	0.0256		ug/L		77	17 - 147	3	44	
Heptachlor	0.0333	0.0276		ug/L		83	34 - 140	25	43	
Heptachlor epoxide	0.0333	0.0237		ug/L		71	37 - 142	1	26	

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 608.3 - Organochlorine Pesticides in Water (Continued)

**Lab Sample ID: LCSD 570-295632/3-A**  
**Matrix: Water**  
**Analysis Batch: 296152**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	55	PI	20 - 139
DCB Decachlorobiphenyl (Surr)	64		20 - 154

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 570-295632/1-A**  
**Matrix: Water**  
**Analysis Batch: 295932**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor 1016	ND		0.10	0.044	ug/L		01/13/23 08:26	01/14/23 18:08	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/13/23 08:26	01/14/23 18:08	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/13/23 08:26	01/14/23 18:08	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/13/23 08:26	01/14/23 18:08	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/13/23 08:26	01/14/23 18:08	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/13/23 08:26	01/14/23 18:08	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/13/23 08:26	01/14/23 18:08	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	53		20 - 139	01/13/23 08:26	01/14/23 18:08	1
DCB Decachlorobiphenyl (Surr)	62		20 - 154	01/13/23 08:26	01/14/23 18:08	1

**Lab Sample ID: LCS 570-295632/4-A**  
**Matrix: Water**  
**Analysis Batch: 295932**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor 1016	0.133	0.152		ug/L		114	50 - 140
Aroclor 1260	0.133	0.129		ug/L		97	8 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	56		20 - 139
DCB Decachlorobiphenyl (Surr)	70		20 - 154

**Lab Sample ID: LCSD 570-295632/5-A**  
**Matrix: Water**  
**Analysis Batch: 295932**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295632**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Aroclor 1016	0.133	0.401	LQ BA	ug/L		301	50 - 140	90	36
Aroclor 1260	0.133	0.195	LQ BA	ug/L		147	8 - 140	41	38

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	49		20 - 139
DCB Decachlorobiphenyl (Surr)	72		20 - 154

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-295337/1-A**  
**Matrix: Water**  
**Analysis Batch: 295484**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295337**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.23	ug/L		01/12/23 09:31	01/12/23 13:57	1
Cadmium	ND		1.0	0.13	ug/L		01/12/23 09:31	01/12/23 13:57	1
Copper	ND		2.0	0.32	ug/L		01/12/23 09:31	01/12/23 13:57	1
Lead	ND		1.0	0.12	ug/L		01/12/23 09:31	01/12/23 13:57	1
Antimony	ND		2.0	0.36	ug/L		01/12/23 09:31	01/12/23 13:57	1
Selenium	ND		2.0	0.52	ug/L		01/12/23 09:31	01/12/23 13:57	1
Thallium	ND		1.0	0.11	ug/L		01/12/23 09:31	01/12/23 13:57	1
Beryllium	ND		0.50	0.26	ug/L		01/12/23 09:31	01/12/23 13:57	1
Nickel	ND		2.0	0.17	ug/L		01/12/23 09:31	01/12/23 13:57	1
Arsenic	ND		1.0	0.16	ug/L		01/12/23 09:31	01/12/23 13:57	1
Zinc	ND		20	2.8	ug/L		01/12/23 09:31	01/12/23 13:57	1

**Lab Sample ID: LCS 570-295337/2-A**  
**Matrix: Water**  
**Analysis Batch: 295484**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295337**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	80.0	81.1		ug/L		101	85 - 115
Cadmium	80.0	81.0		ug/L		101	85 - 115
Copper	80.0	84.5		ug/L		106	85 - 115
Lead	80.0	83.3		ug/L		104	85 - 115
Antimony	80.0	82.3		ug/L		103	85 - 115
Selenium	80.0	79.5		ug/L		99	85 - 115
Thallium	80.0	83.1		ug/L		104	85 - 115
Beryllium	80.0	86.4		ug/L		108	85 - 115
Nickel	80.0	83.7		ug/L		105	85 - 115
Arsenic	80.0	78.4		ug/L		98	85 - 115
Zinc	80.0	80.2		ug/L		100	85 - 115

**Lab Sample ID: LCSD 570-295337/3-A**  
**Matrix: Water**  
**Analysis Batch: 295484**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295337**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	80.0	81.7		ug/L		102	85 - 115	1	20
Cadmium	80.0	81.5		ug/L		102	85 - 115	1	20
Copper	80.0	84.3		ug/L		105	85 - 115	0	20
Lead	80.0	82.4		ug/L		103	85 - 115	1	20
Antimony	80.0	82.8		ug/L		104	85 - 115	1	20
Selenium	80.0	80.0		ug/L		100	85 - 115	1	20
Thallium	80.0	82.0		ug/L		103	85 - 115	1	20
Beryllium	80.0	83.4		ug/L		104	85 - 115	4	20
Nickel	80.0	82.7		ug/L		103	85 - 115	1	20
Arsenic	80.0	79.0		ug/L		99	85 - 115	1	20
Zinc	80.0	81.7		ug/L		102	85 - 115	2	20



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-123258-1 MS  
 Matrix: Water  
 Analysis Batch: 295484

Client Sample ID: Arroyo\_Simi\_20230109\_Grab  
 Prep Type: Total Recoverable  
 Prep Batch: 295337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	ND		80.0	78.8		ug/L		98	80 - 120
Cadmium	0.32	J,DX	80.0	78.0		ug/L		97	80 - 120
Copper	6.3		80.0	89.4		ug/L		104	80 - 120
Lead	0.99	J,DX	80.0	80.1		ug/L		99	80 - 120
Antimony	0.75	J,DX	80.0	83.3		ug/L		103	80 - 120
Selenium	3.3		80.0	81.8		ug/L		98	80 - 120
Thallium	ND		80.0	79.1		ug/L		99	80 - 120
Beryllium	ND		80.0	81.1		ug/L		101	80 - 120
Nickel	8.2		80.0	87.9		ug/L		100	80 - 120
Arsenic	2.5		80.0	82.3		ug/L		100	80 - 120
Zinc	18	J,DX	80.0	91.8		ug/L		93	80 - 120

Lab Sample ID: 570-123258-1 MSD  
 Matrix: Water  
 Analysis Batch: 295484

Client Sample ID: Arroyo\_Simi\_20230109\_Grab  
 Prep Type: Total Recoverable  
 Prep Batch: 295337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	ND		80.0	80.1		ug/L		100	80 - 120	2	20
Cadmium	0.32	J,DX	80.0	80.3		ug/L		100	80 - 120	3	20
Copper	6.3		80.0	88.2		ug/L		102	80 - 120	1	20
Lead	0.99	J,DX	80.0	80.9		ug/L		100	80 - 120	1	20
Antimony	0.75	J,DX	80.0	85.4		ug/L		106	80 - 120	2	20
Selenium	3.3		80.0	80.2		ug/L		96	80 - 120	2	20
Thallium	ND		80.0	80.4		ug/L		100	80 - 120	2	20
Beryllium	ND		80.0	83.3		ug/L		104	80 - 120	3	20
Nickel	8.2		80.0	88.2		ug/L		100	80 - 120	0	20
Arsenic	2.5		80.0	82.6		ug/L		100	80 - 120	0	20
Zinc	18	J,DX	80.0	92.5		ug/L		94	80 - 120	1	20

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-295446/11  
 Matrix: Water  
 Analysis Batch: 295446

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			01/11/23 14:55	1

Lab Sample ID: LCS 570-295446/12  
 Matrix: Water  
 Analysis Batch: 295446

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	255		ug/L		102	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

**Lab Sample ID: LCSD 570-295446/18**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	233		ug/L		93	90 - 110	9	20

**Lab Sample ID: MRL 570-295446/10**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	5.00	4.11	J,DX	ug/L		82	50 - 150		

**Lab Sample ID: 570-122475-D-1 MS**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	8.7		250	226		ug/L		87	70 - 130		

**Lab Sample ID: 570-122475-D-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	8.7		250	266		ug/L		103	70 - 130	16	30

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## GC/MS VOA

### Analysis Batch: 294547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	624.1	
MB 570-294547/6	Method Blank	Total/NA	Water	624.1	
LCS 570-294547/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-294547/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## GC/MS Semi VOA

### Analysis Batch: 295532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	625.1 SIM	295604
MB 570-295604/1-A	Method Blank	Total/NA	Water	625.1 SIM	295604

### Prep Batch: 295604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	625	
MB 570-295604/1-A	Method Blank	Total/NA	Water	625	
LCS 570-295604/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-295604/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 296124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-295604/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	295604
LCSD 570-295604/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	295604

## GC Semi VOA

### Prep Batch: 295632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	608	
MB 570-295632/1-A	Method Blank	Total/NA	Water	608	
LCS 570-295632/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-295632/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-295632/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-295632/5-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 295932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	608.3	295632
MB 570-295632/1-A	Method Blank	Total/NA	Water	608.3	295632
LCS 570-295632/4-A	Lab Control Sample	Total/NA	Water	608.3	295632
LCSD 570-295632/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	295632

### Analysis Batch: 296152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	608.3	295632
MB 570-295632/1-A	Method Blank	Total/NA	Water	608.3	295632
LCS 570-295632/2-A	Lab Control Sample	Total/NA	Water	608.3	295632
LCSD 570-295632/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	295632

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Metals

### Prep Batch: 295337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total Recoverable	Water	200.8	
MB 570-295337/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-295337/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-295337/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-123258-1 MS	Arroyo_Simi_20230109_Grab	Total Recoverable	Water	200.8	
570-123258-1 MSD	Arroyo_Simi_20230109_Grab	Total Recoverable	Water	200.8	

### Analysis Batch: 295484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total Recoverable	Water	200.8	295337
MB 570-295337/1-A	Method Blank	Total Recoverable	Water	200.8	295337
LCS 570-295337/2-A	Lab Control Sample	Total Recoverable	Water	200.8	295337
LCSD 570-295337/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	295337
570-123258-1 MS	Arroyo_Simi_20230109_Grab	Total Recoverable	Water	200.8	295337
570-123258-1 MSD	Arroyo_Simi_20230109_Grab	Total Recoverable	Water	200.8	295337

## General Chemistry

### Analysis Batch: 295446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123258-1	Arroyo_Simi_20230109_Grab	Total/NA	Water	Kelada 01	
MB 570-295446/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-295446/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-295446/18	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-295446/10	Lab Control Sample	Total/NA	Water	Kelada 01	
570-122475-D-1 MS	Matrix Spike	Total/NA	Water	Kelada 01	
570-122475-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	Kelada 01	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

**Client Sample ID: Arroyo\_Simi\_20230109\_Grab**

**Lab Sample ID: 570-123258-1**

**Date Collected: 01/09/23 07:15**

**Matrix: Water**

**Date Received: 01/09/23 17:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	294547	01/09/23 23:48	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	625			1050.1 mL	2 mL	295604	01/13/23 05:33	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	295532	01/13/23 21:13	ULLI	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	608			1500 mL	1 mL	295632	01/13/23 08:26	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	296152	01/16/23 16:02	N5Y3	EET CAL 4
Instrument ID: GC52A										
Total/NA	Prep	608			1500 mL	1 mL	295632	01/13/23 08:26	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	295932	01/14/23 15:16	AJ2Q	EET CAL 4
Instrument ID: GC66										
Total Recoverable	Prep	200.8			50 mL	50 mL	295337	01/12/23 09:31	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			295484	01/12/23 14:35	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	295446	01/11/23 14:55	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-123258-1

Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	40CFR136A	EET CAL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	EET CAL 4
625	Liquid-Liquid Extraction	40CFR136A	EET CAL 4

#### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123258-1	Arroyo_Simi_20230109_Grab	Water	01/09/23 07:15	01/09/23 17:15

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



CHAIN OF CUSTODY FORM

EDBPJOUX

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deitan Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Project: Boeing-SSFL NPDES Permit 2015 Annual 5 Year Arroyo Simi-Frontier Park Dry Weather		Field Readings (Include units) Time of Readings: 0715 pH: 6.22 pH unit Temp: 58.1 °C/F Velocity: 0.4 ft/sec Field readings QC Checked by: <i>[Signature]</i> Date/Time: 1-9-2023/0715		Meter serial #	
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		ANALYSIS REQUIRED			
Sample Matrix: WS Sampling Date/Time: 1-9-2023/0715 Sample I.D.: Arroyo_Simi_20220105_Giab		Container Type: 250 mL Poly # of Cont.: 1 Preservative: HNO <sub>3</sub> Bottle #: 100		MS/MSD		Priority Pollutants-Pesticides+PCBs (E608) Priority Pollutants-SVOCs (E626) PP Metals (200 7/200.8) PP VOCs (624) Cyanide (SM4500-CN-E / E335.2)	
Requisitioned By: <i>[Signature]</i> Date/Time: 1-9-2023/1315 Company: H'A		Received By: <i>[Signature]</i> Date/Time: 1/9/23 Company: EC		Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> X 48 Hour: _____ 5 Day: _____ Normal: _____		Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months: _____ Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/> X	
Requisitioned By: <i>[Signature]</i> Date/Time: 1/9/23 Company: 1715		Received By: <i>[Signature]</i> Date/Time: 1/9/23 Company: EC		Legend: A=Annual, Q=Quarterly			



570-123258 Chain of Custody

2.3/2.3 5211



## Virendra Patel

---

**From:** Miller, Katherine <KMiller@haleyaldrich.com>  
**Sent:** Monday, January 30, 2023 9:27 AM  
**To:** Virendra Patel  
**Subject:** 200.8 Metals SSFL NPDES

EXTERNAL EMAIL\*

Virendra,

Please revise any metals requested as 200.7 to 200.8 for the SSFL NPDES program starting from data collected January 1<sup>st</sup>, 2023.

**Katherine Miller**  
Project Manager

**Haley Aldrich, Inc.**  
600 South Meyer Ave. | Suite 100  
Tucson, AZ 85701

T: (520) 289.8606  
C: (520) 904.6944

[www.haleyaldrich.com](http://www.haleyaldrich.com)

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123258-1

**Login Number: 123258**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/24/2023 2:29:01 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

## JOB NUMBER

570-123258-2

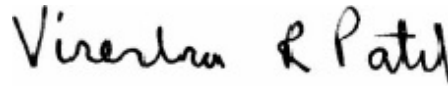
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/24/2023 2:29:01 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	14
Receipt Checklists . . . . .	15

# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-123258-2

Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-2

---

**Job ID: 570-123258-2**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-123258-2**

## Comments

No additional comments.

## Receipt

The sample was received on 1/9/2023 5:15 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method Weck 624.1 - 2-CEVE only (ug/L units) with MDLs (J): This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.





# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-2

Method	Method Description	Protocol	Laboratory
624	EPA 624 Purgeable Organic Compounds	EPA	Weck Lab

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Annual 5 Year Arroyo Dry

Job ID: 570-123258-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123258-1	Arroyo_Simi_20230109_Grab	Water	01/09/23 07:15	01/09/23 17:15

1

2

3

4

5

6

7

8

9

**Work Orders:** 3B02098

**Project:** 570-123258-2

**Attn:** Virendra Patel

**Client:** Eurofins Calscience - Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

**Report Date:** 2/21/2023

**Received Date:** 2/2/2023

**Turnaround Time:** Normal

**Phones:** (949) 261-1022

**Fax:** (949) 260-3297

**P.O. #:**

**Billing Code:**

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 2/02/23 with the Chain-of-Custody document. The samples were received in good condition, at 1.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

## Sample Results

Sample: Arroyo\_Simi\_20230109\_Grab (570-123258-1) Sampled: 01/09/23 7:15 by Client  
3B02098-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 624.1			<b>Instr:</b> GCMS21				
<b>Batch ID:</b> W3B0481		<b>Preparation:</b> EPA 5030B			<b>Prepared:</b> 02/07/23 06:54		<b>Analyst:</b> ADM
2-Chloroethyl vinyl ether	ND	0.19	1.0	ug/l	1	02/07/23	O-09
<i>Surrogate(s)</i>							
1,2-Dichloroethane-d4	112%		82-125	Conc: 56.1		02/07/23	
4-Bromofluorobenzene	95%		88-108	Conc: 47.4		02/07/23	
Toluene-d8	103%		92-112	Conc: 51.6		02/07/23	

## Quality Control Results

### Volatile Organic Compounds by P&T and GC/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limit	RPD	Limit	Qualifier
<b>Blank (W3B0481-BLK1)</b>					<b>Prepared &amp; Analyzed: 02/07/23</b>						
2-Chloroethyl vinyl ether	ND	0.19	1.0	ug/l							
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	51.1			ug/l	50.0		102	82-125			
4-Bromofluorobenzene	49.0			ug/l	50.0		98	88-108			
Toluene-d8	48.5			ug/l	50.0		97	92-112			
<b>LCS (W3B0481-BS1)</b>					<b>Prepared &amp; Analyzed: 02/07/23</b>						
2-Chloroethyl vinyl ether	55.4	0.19	1.0	ug/l	50.0		111	0.1-305			
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	50.1			ug/l	50.0		100	82-125			
4-Bromofluorobenzene	48.2			ug/l	50.0		96	88-108			
Toluene-d8	52.1			ug/l	50.0		104	92-112			
<b>LCS Dup (W3B0481-BSD1)</b>					<b>Prepared &amp; Analyzed: 02/07/23</b>						
2-Chloroethyl vinyl ether	54.8	0.19	1.0	ug/l	50.0		110	0.1-305	1	25	
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	50.3			ug/l	50.0		101	82-125			
4-Bromofluorobenzene	52.4			ug/l	50.0		105	88-108			
Toluene-d8	49.2			ug/l	50.0		98	92-112			

## Notes and Definitions

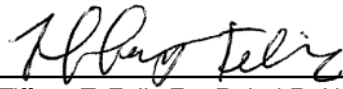
Item	Definition
O-09	This sample was received with the EPA recommended holding time expired.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

**Reviewed by:**



Tiffany T. Felix For Rahul R. Nair  
Project Manager



DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-885-5494

### Chain of Custody Record



3801

Sampler:	Lab PM:	Carrier Tracking No(s):
Client Contact:	Patel, Virendra	
Shipping/Receiving	E-Mail:	State of Origin:
	Virendra.Patel@et.eurofinsus.com	California
Company:	Accreditations Required (See note):	
Weck Laboratories, Inc.	State Program - California	

Due Date Requested:		Analysis Requested	
2/22/2023			
TAT Requested (days):			
City:			
City of Industry:			
State, Zip:			
CA, 917451396			
Phone:			
Email:			
Project Name:			
Boeing SSFL NPDES - Annual 5 Year Arroyo Dry			
Site:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SIB (Weck 624.1 - Z-CVE only (ug/L units) with MDLs (u))
Aroyo_Simi_20230109_Grab (570-123258-1)	1/9/23	07:15 Pacific		Water	X	X	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under the maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  **Sample Disposal (A fee may be assessed if samples are returned)**  
 Return To Client  Disposal By Lab

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2  
 Special Instructions/QC Requirements:

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_

- 1
- 2
- 3

7

Method of Shipment:  
 Date/Time: \_\_\_\_\_  
 Company: \_\_\_\_\_

3Bo,

ICOC No:  
570-206007

**Containers**

**Count** 2      **Container Type** Voa Vial 40ml - unpreserved      **Preservative** None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Weck 624.1 - 2-CEVE only (ug/L units) with MDLs (J))	Level IV, EQUIS 5C, MDL reporting w/J flag. Pe



COC	COC matches sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Receipt Information	Sample Temperature		1.9°C	
	Samples received on ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Ice Type (Blue/Wet)		WET	
	All samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Samples in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Sufficient sample volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Preservation Verification?	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Sample labels checked for correct preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	VOC Headspace: (No) none, If Yes (See comment) 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	pH verified upon receipt?			
	Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 525.2<2; 6710B<2; 608.3 5-9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Free Chlorine Tested <0.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	O&G pH <2 verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH adjusted for O&G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

1
2
3
4
5
6
7
8
9
<6m
pH paper Lot#
Cl Test Strip Lo
pH paper Lot#
pH Reading:
Acid Lot#
Amt added:

08

PM Comments

Sample Receipt Checklist Prepared by:

Signature: *Lester Abad*

Date: 02/02/23

QAF-006 V1.0 12/16/2021

F:\SC\ Resources\Forms\220509 Sample Receipt Checklist.docx(Tyng here)



CHAIN OF CUSTODY FORM

EDBPJOUX

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deitan Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Project: Boeing-SSFL NPDES Permit 2015 Annual 5 Year Arroyo Simi-Frontier Park Dry Weather		Field Readings (Include units) Time of Readings: 0715 pH: 6.22 pH unit Temp: 58.1 °C/F Velocity: 0.4 ft/sec Field readings QC Checked by: <i>[Signature]</i> Date/Time: 1-9-2023/0715		Meter serial #	
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		ANALYSIS REQUIRED			
Sample Matrix: WS Sampling Date/Time: 1-9-2023/0715 Sample I.D.: Arroyo_Simi_20220105_Giab		Container Type: 250 mL Poly # of Cont.: 1 Preservative: HNO <sub>3</sub> Bottle #: 100		Priority Pollutants-Pesticides+PCBs (E608) Priority Pollutants-SVOCs (E626) PP Metals (200 7/200.8) PP VOCs (624) Cyanide (SM4500-CN-E / E335.2)		Comments	
Requisitioned By: <i>[Signature]</i> Date/Time: 1-9-2023/1315 Company: H'A		Received By: <i>[Signature]</i> Date/Time: 1/9/23 Company: EC		Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: X 48 Hour: _____ 5 Day: _____ Normal: _____		Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months: _____ Data Requirements: (Check) No Level IV: _____ All Level IV: X	
Requisitioned By: <i>[Signature]</i> Date/Time: 1/9/23 Company: 1715		Received By: <i>[Signature]</i> Date/Time: 1/9/23 Company: EC		Legend: A=Annual, Q=Quarterly			



570-123258 Chain of Custody

2.3/2.3 5211



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123258-2

**Login Number: 123258**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004  
Generated 1/31/2023 1:54:49 PM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Arroyo Simi

**JOB NUMBER**

570-124079-1

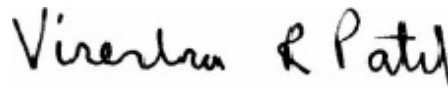
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
1/31/2023 1:54:49 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	18
Receipt Checklists . . . . .	20

## Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124079-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124079-1

---

**Job ID: 570-124079-1**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-124079-1**

## Comments

No additional comments.

## Receipt

The sample was received on 1/13/2023 11:30 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124079-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868





# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124079-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124079-1	ArroyoSimi_20230113	Water	01/13/23 07:30	01/13/23 11:30

1

2

3

4

5

6

7

8

9



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 477410  
Report Level: IV  
Report Date: 01/27/2023

### Microbiology Tests

#### **Analytical Report** *prepared for:*

Virendra Patel  
Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

Project: BOEING NPDES SSFL - Being SSFL NPDES Arroyo Simi 44024446

*Authorized for release by:*

Quynhgiao Le, Project Manager  
714-7716900  
[quynhgiao.le@enthalpy.com](mailto:quynhgiao.le@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



### Sample Summary

---

Virendra Patel	Lab Job #:	477410
Eurofins Calscience	Project No:	BOEING NPDES SSFL
Tustin	Location:	Being SSFL NPDES Arroyo Simi 44024446
2841 Dow Avenue,	Date Received:	01/13/23
Suite 100		
Tustin, CA 92780		

---

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20230113 (570-124079-1)	477410-001	01/13/23 07:30	Water

## Case Narrative

### MICROBIOLOGY TESTS (SM 9223BB)

---

Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Virendra Patel

Lab Job Number: 477410  
Project No: BOEING NPDES SSFL  
Location: Being SSFL NPDES Arroyo Simi 44024446  
Date Received: 01/13/23

---

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/13/23. See attached cooler receipt form for any sample receipt problems or discrepancies.

1

2

3

4

5

6

7

8

9

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

**Chain of Custody**

# Chain of Custody Record 477410



<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: Enthalpy Analytical LLC Address: 931 W. Barkley Ave, City: Orange State, Zip: CA, 92868 Phone: Email: Project Name: Boeing SSFL NPDES - Arroyo Simi Site:			Sampler: Patel, Virendra Lab PM: Patel, Virendra E-Mail: Virendra.Patel@eurofins.com State of Origin: California Carrier Tracking Note(s): COC No: 570-204058.1 Page: Page 1 of 1 Job #: 570-124079-1		
Due Date Requested: 1/27/2023 TAT Requested (days): PO #: WO #: Project #: 44024446 SSOW#:			<b>Analysis Requested</b> Preservation Codes: M - Hexane N - None O - AsMAO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:		
<b>Sample Identification - Client ID (Lab ID)</b> ArroyoSimi_20230113 (570-124079-1)			<b>Field Filled Sample (Yes or No)</b> <input checked="" type="checkbox"/>		
<b>Sample Date</b> 1/13/23			<b>Sample Time</b> 07:30 Pacific		
<b>Sample Type (C=Comp, G=grab)</b> Water			<b>Preservation Code:</b> Water		
<b>Matrix (W=water, S=solid, O=wasteflow, B=bioreactor, A=air)</b>			<b>Perform MS/MSD (Yes or No)</b> <input checked="" type="checkbox"/>		
<b>Sub (Quant-Tray - E, Coll - level 4 required - E, Coll - level 4 required)</b> <input checked="" type="checkbox"/>			<b>Total Number of Containers</b> 3		
<b>Special Instructions/Note:</b> See Attached Instructions					

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 1/13/23 1643 Company: EC  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: 1.4/12.8

477410

ICOC No:  
570-204058

**Containers**

Count 3      Container Type Plastic 120 mL - Sterile/Na2S2O3      Preservative Sodium Thiosulfate

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4





### SAMPLE ACCEPTANCE CHECKLIST


**Section 1**  
 Client: Eurofins Calscience Project: Boeing SSFL NPDES - Arroyo Simi  
 Date Received: 01/13/23 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler): \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 2.8 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 1.4 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a CDC received?	<input checked="" type="checkbox"/>		
Are sample IDs present?	<input checked="" type="checkbox"/>		
Are sampling dates & times present?	<input checked="" type="checkbox"/>		
Is a relinquished signature present?	<input checked="" type="checkbox"/>		
Are the tests required clearly indicated on the COC?	<input checked="" type="checkbox"/>		
Are custody seals present?		<input checked="" type="checkbox"/>	
If custody seals are present, were they intact?			<input checked="" type="checkbox"/>
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	<input checked="" type="checkbox"/>		
Did all samples arrive intact? If no, indicate in Section 4 below.	<input checked="" type="checkbox"/>		
Did all bottle labels agree with COC? (ID, dates and times)	<input checked="" type="checkbox"/>		
Were the samples collected in the correct containers for the required tests?	<input checked="" type="checkbox"/>		
Are the containers labeled with the correct preservatives?	<input checked="" type="checkbox"/>		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			<input checked="" type="checkbox"/>
Was a sufficient amount of sample submitted for the requested tests?	<input checked="" type="checkbox"/>		

**Section 5 Explanations/Comments**  
SAMPLE WAS RECEIVED OUTSIDE OF HOLDING TIME.

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): DGL / 1/13/23  
 Project Manager's response:  


Completed By: \_\_\_\_\_ Date: 1/13/23



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

## Results & QC Summary

### Total Coliform / E. coli by Quanti-Tray

<b>Lab #:</b> 477410	<b>Project#:</b> BOEING NPDES SSFL	
<b>Client:</b> Eurofins Calscience Tustin	<b>Location:</b> Being SSFL NPDES Arroyo Simi 44024446	
<b>Field ID:</b> ARROYOSIMI_20230113 (570-124079-1)	<b>Batch#:</b> 305313	<b>Analyzed:</b> 01/14/23 12:19
<b>Lab ID:</b> 477410-001	<b>Sampled:</b> 01/13/23 07:30	<b>Prep:</b>
<b>Matrix:</b> Water	<b>Received:</b> 01/13/23	<b>Analysis:</b> SM 9223Bb
<b>Diln Fac:</b> 10.00	<b>Prepared:</b> 01/13/23 18:03	<b>Analyst:</b> PAS

477410-001 Analyte	Result	RL	Units	Qual
Coliform, E. Coli	12,000	10	MPN/100ml	H

Legend

H: Holding time was exceeded  
 RL: Reporting Limit



# SM 9223 B-b, Quanti-Tray

Prep Analyst: PS Prep Date/Time: 1/13/23 1803 QC Batch ID: 305313 Batch Page 1 of 1  
 Read Analyst: PS Read Date/Time: 1/14/23 1219 Media Lot #: EUB916 Pipette Lot #: A104116  
 Media Used (check one):  Colisure  Colilert 18  Colilert 24  
 Monthly Quanti-tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 1/3/23 Bottle Lot #: B0009V  
 Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 35.0 1812 \* Quanti-Tray Sealer Check must be performed monthly. Comparator lot #: 4018  
 Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Incubator Out, Temp/Time: 35.1 1719  
 Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells		Large Wells	Small Wells			Large Wells	Small Wells			
		477410-001	1x	49	48	2500	49	48	249.6	>2400					AS-01
		↓	10x	49	47	24000	49	41	249.6	1200.0					↓
		↓	100x	49	23	41000	42	12	116.9	17000					OK to run post hold per PM per 1/13/23
<del>JA 11/0/23</del>															
<b>Quality Control</b>															
Positive +/+ (E. Coli)		1/8/23		49	48	2400	49	48	249.6	>2400					
Positive +/- (K. Pneumonia)		↓		49	48	2400	0	0	<1	<1					
Negative +/- (P. Aeruginosa)				0	0	<1	0	0	<1	<1					

Data Entered By: JAL/1/16/23 Data Reviewed By: \_\_\_\_\_  
 Page 17 of 20  
 83 of 100  
 SM 9223B-b, Quanti-Tray, Rev 3, 1/15/2019  
 Enthalpy Analytical, Orange, Logbook # BK955



**CHAIN OF CUSTODY FORM**

Client Name/Address  
**Haley & Aldrich, Inc.**  
5333 Mission Center Road, Suite 300  
San Diego, CA 92108

Project:  
Boeing-SSFL NPDES  
Arroyo Simi

Sampler: Adrian Mobeka

Eurofins Contact: Virendra Patel  
17461 Denan Ave Suite #100  
Irvine CA 92614  
Tel 949-260-3269  
**ECI #44024446**

Project Manager: Katherine Miller  
Phone Number:  
(520) 289-8606, (520) 904-6944 (cell)  
Field Manager: Mark Dominick  
(978) 234-5033, (818) 599-0702 (cell)

Sample Description	Sample Matrix	Container Type	# of Cont.	Sample ID	Sampling Date/Time	Preservative	Bottle #	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230113	1/13/2023/0730	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	Deliver to lab ASAP 8 hr hold time. Need 1x, 10x, 100x dilutions

Relinquished By \_\_\_\_\_ Date/Time \_\_\_\_\_

Received By \_\_\_\_\_ Date/Time 1-13-2023 1130

\_\_\_\_\_ 1/13/23 1130

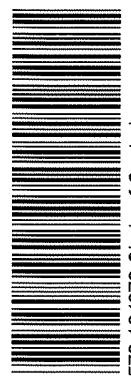
\_\_\_\_\_ 1/13/23 1130

Turn around Time: (check)  
24 Hours \_\_\_\_\_ 5 Days \_\_\_\_\_  
48 Hours \_\_\_\_\_ 10 Days \_\_\_\_\_  
72 Hours \_\_\_\_\_ Normal  X \_\_\_\_\_

Sample Integrity: (check)  
Intact \_\_\_\_\_ On Ice: \_\_\_\_\_

Data Requirements: (check)  
No Level IV \_\_\_\_\_ All Level IV \_\_\_\_\_

NPDES Level IV \_\_\_\_\_





Client Information (Sub Contract Lab)		Lab PM.	Carrier Tracking No(s)		COC No:				
Client Contact: Shipping/Receiving		Patel, Virendra	State of Origin California		570-204058.1				
Company: Enthalpy Analytical LLC		E-Mail: Virendra.Patel@eurolins.com	Page 1 of 1						
Address: 931 W. Barkley Ave, City: Orange		Accreditations Required (See note): State Program - California		Job #: 570-124079-1					
State, Zip: CA, 92868		Analysis Requested		Preservation Codes:	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)				
Phone:				PO #:					
Email:				WO #:					
Project #: 44024446				Project #: 44024446					
Site: Boeing SSFL NPDES - Arroyo Simi				SSOW#:					
Sample	Due Date Requested:	TAT Requested (days):	Analysis Requested		Preservation Codes:				
	1/27/2023								
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E, Coll - level 4 required - F, Coll - level 4 required)	Total Number of Containers	Special Instructions/Note:
ArroyoSimi_20230113 (570-124079-1)	1/13/23	07:30 Pacific	Water		X	X	X	3	See Attached Instructions
<p>Note: Since laboratory accreditations are subject to change, Eurofins CalScience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins CalScience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins CalScience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins CalScience.</p>									
<b>Possible Hazard Identification</b>									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Empty Kit Relinquished by:									
Relinquished by:									
Relinquished by:									
Relinquished by:									
Custody Seals Intact: <input checked="" type="checkbox"/> Custody Seal No.:									
Date/Time: 1/13/23 1643 Company: EC									
Date/Time: 1/13/23 1643 Company: FA									
Date/Time: 1/13/23 1643 Company: FA									

1,911.8

Cooler Temperature(s) °C and Other Remarks:



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124079-1

**Login Number: 124079**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 1/31/2023 11:42:49 AM

## JOB DESCRIPTION

Boeing SSFL NPDES - Arroyo Simi

## JOB NUMBER

570-124388-1

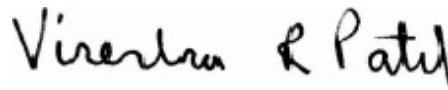
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
1/31/2023 11:42:49 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	18
Receipt Checklists . . . . .	19

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124388-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124388-1

---

**Job ID: 570-124388-1**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative**  
**570-124388-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 1/17/2023 6:25 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

**Lab Admin**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124388-1

Method	Method Description	Protocol	Laboratory
1103.1	E. Coli	EPA	Enthalpy

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Enthalpy = Enthalpy Analytical - Barkley, 931 W. Barkley Ave, Orange, CA 92868



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Arroyo Simi

Job ID: 570-124388-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124388-1	ArroyoSimi_20230117	Water	01/17/23 07:20	01/17/23 18:25

1

2

3

4

5

6

7

8

9



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 477666  
Report Level: IV  
Report Date: 01/30/2023

### Microbiology Tests

#### Analytical Report prepared for:

Virendra Patel  
Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing SSFL NPDES - Arroyo Simi - Project #44024446

Authorized for release by:

Quynhgiao Le, Project Manager  
714-7716900  
[quynhgiao.le@enthalpy.com](mailto:quynhgiao.le@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



### Sample Summary

---

Virendra Patel	Lab Job #:	477666
Eurofins Calscience Tustin	Project No:	BOEING NPDES SSFL
2841 Dow Avenue, Suite 100	Location:	Boeing SSFL NPDES - Arroyo Simi
Tustin, CA 92780		- Project #44024446
	Date Received:	01/17/23

---

Sample ID	Lab ID	Collected	Matrix
ARROYOSIMI_20230117 (570-124388-1)	477666-001	01/17/23 07:20	Water

## Case Narrative

### MICROBIOLOGY TESTS (SM 9223BB)

---

Eurofins Calscience Tustin  
2841 Dow Avenue, Suite  
100  
Tustin, CA 92780  
Virendra Patel

Lab Job 477666  
Number:  
Project No: BOEING NPDES SSFL  
Location: Boeing SSFL NPDES - Arroyo Simi - Project  
#44024446

Date Received: 01/17/23

---

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/17/23. See attached cooler receipt form for any sample receipt problems or discrepancies.





## Chain of Custody

Sampler: Patel, Virendra  
 Phone: E-Mail: Virendra.Patel@eurofins.com  
 Client Information (Sub Contract Lab)  
 Shipping/Receiving  
 Company: Enthalpy Analytical LLC  
 Address: 931 W. Barkley Ave.  
 City: Orange  
 State, Zip: CA, 92868  
 PO #:   
 WO #:   
 Project #: 44024448  
 SSO#:

Lab PM: Patel, Virendra  
 State of Origin: California  
 COC No: 570-204341.1  
 Page: Page 1 of 1  
 Job #: 570-124388-1  
 Preservation Codes:  
 M - Hexane  
 N - None  
 O - AsNO2  
 P - Na2OHS  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4-5  
 Y - Trizma  
 Z - other (specify)  
 Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Quant-Tray - E, Coll - level & required - E, Coll - level & required)	Analysis Requested			Total Number of Containers	Special Instructions/Note:
								Matrix (W=water, S=solid, O=wastewat, BT=tissue, A=Air)				
ArroyoSimi_20230117 (570-124388-1)	1/17/23	07:20 Pacific	Water		X		X				3	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins CalScience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins CalScience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins CalScience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins CalScience.

**Possible Hazard Identification**  
**Unconfirmed**  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
 Primary Deliverable Rank: 2  
 Date: \_\_\_\_\_  
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_  
 Relinquished by: [Signature] Date: 1/17/23 Time: 1745 Company: EC  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact:  Custody Seal No.: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

**ICOC No:**  
570-204341

**Containers**

**Count** 3      **Container Type** Plastic 120 mL - Sterile/Na2S2O3      **Preservative** Sodium Thiosulfate

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4





# ENTHALPY ANALYTICAL

## SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: ECL Amon AS 1/17 Project: Boeing SSFL UPDES  
 Date Received: 1/17/23 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler) : \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 2.1 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 1.2 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	X		
Are sample IDs present?	X		
Are sampling dates & times present?	X		
Is a relinquished signature present?	X		
Are the tests required clearly indicated on the COC?	X		
Are custody seals present?	X		
If custody seals are present, were they intact?			X
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	X		
Did all samples arrive intact? If no, indicate in Section 4 below.	X		
Did all bottle labels agree with COC? (ID, dates and times)	X		
Were the samples collected in the correct containers for the required tests?	X		
Are the containers labeled with the correct preservatives?	X		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			X
Was a sufficient amount of sample submitted for the requested tests?	X		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By: WJ Date: 1/17/23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

## Results & QC Summary

### Total Coliform / E. coli by Quanti-Tray

<b>Lab #:</b> 477666	<b>Project#:</b> BOEING NPDES SSFL	
<b>Client:</b> Eurofins Calscience Tustin	<b>Location:</b> Boeing SSFL NPDES - Arroyo Simi - ...	
<b>Field ID:</b> ARROYOSIMI_20230117 (570-124388-1)	<b>Batch#:</b> 305556	<b>Analyzed:</b> 01/18/23 12:21
<b>Lab ID:</b> 477666-001	<b>Sampled:</b> 01/17/23 07:20	<b>Prep:</b>
<b>Matrix:</b> Water	<b>Received:</b> 01/17/23	<b>Analysis:</b> SM 9223Bb
<b>Diln Fac:</b> 1.000	<b>Prepared:</b> 01/17/23 18:00	<b>Analyst:</b> PAS

477666-001 Analyte	Result	RL	Units	Qual
Coliform, E. Coli	1,200	1.0	MPN/100ml	H

Legend

H: Holding time was exceeded  
 RL: Reporting Limit



# SM 9223 B-b, Quanti-Tray

Prep Analyst: JA Prep Date/Time: 1800 1/19/23 QC Batch ID: 305556 Batch Page 1 of 1  
 Read Analyst: JA Read Date/Time: 1110123 1221

Media Lot #: TU396 Pipette Lot #: A103241  
 Monthly Quanti-tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 1/3/23 \*Quanti-Tray Sealer Check must be performed monthly

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 1820 35.2 Incubator Out, Temp/Time: 1221 34.8  
 Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA Water Bath Out, Temp/Time: WA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colliert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells		Large Wells	Small Wells			Large Wells	Small Wells			
		<u>4776006-001</u>	<u>1X</u>	<u>49</u>	<u>48</u>	<u>72400</u>	<u>49</u>	<u>41</u>	<u>1203.3</u>	<u>1200</u>				<u>CA-01 LX</u>	
		<u>↓</u>	<u>10X</u>	<u>49</u>	<u>40</u>	<u>20000</u>	<u>44</u>	<u>8</u>	<u>118.7</u>	<u>1200</u>				<u>10X</u>	
		<u>↓</u>	<u>100X</u>	<u>44</u>	<u>13</u>	<u>14000</u>		<u>0</u>	<u>11.0</u>	<u>1100</u>				<u>↓ 100X</u>	
<u>118123</u>															
<u>JA</u>															
<u>1/15/23</u>															
<u>↓</u>															
<u>Quality Control</u>															
<u>Positive ++ (E. Coli)</u>															
<u>49 48 7249.6 &gt; 2400</u>															
<u>49 48 7249.6 &gt; 2400</u>															
<u>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</u>															
<u>Negative -/- (P. Aeruginosa)</u>															



# CHAIN OF CUSTODY FORM

Test America Version 7/19/2010

Client Name/Address <b>Haley &amp; Aldrich, Inc.</b> 5333 Mission Center Road, Suite 300 San Diego, CA 92108			Project Boeing-SSFL NPDES Arroyo Simi					
Eurofins Contact <b>Virendra Patel</b> 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3269 <b>ECI #44024446</b>			Sampler: <b>Adrien Mobeka</b> Project Manager: <b>Katherine Miller</b> Phone Number (520) 289-8606, (520) 904-6944 (cell) Field Manager: <b>Mark Dominick</b> (978) 234-5033, (818) 599-0702 (cell)					
Sample Description	Sample Matrix	Container Type	# of Cont.	Sample I.D.	Sampling Date/Time	Preservative	Bottle #	Comments
Arroyo Simi	W	125mL Sterile Poly	3	ArroyoSimi_20230117	1/17/2023/0720	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	
								Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions                 
Relinquished By <i>Mark Dominick</i> Date/Time 1-17-2023 / 1245 Relinquished By <i>Adrien Mobeka</i> Date/Time 1/17/23 1245 Relinquished By _____ Date/Time _____								
Turn around Time (check) 24 Hours _____ 5 Days _____ 48 Hours _____ 10 Days _____ 72 Hours _____ Normal <input checked="" type="checkbox"/> X Sample Integrity (check) Intact _____ On Ice _____ Data Requirements: (check) No Level IV _____ All Level IV _____ NPDES Level IV _____								



570-124388 Chain of Custody





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124388-1

**Login Number: 124388**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/16/2023 3:59:20 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Arroyo 5 Year

## JOB NUMBER

570-124899-1

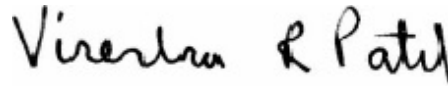
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/16/2023 3:59:20 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
QC Sample Results . . . . .	12
QC Association Summary . . . . .	15
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	23

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
BU	Analyzed out of holding time

### Metals

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

---

**Job ID: 570-124899-1**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative  
570-124899-1**

**Comments**

No additional comments.

**Receipt**

The sample was received on 1/21/2023 11:40 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3° C.

**HPLC/IC**

Method 218.6: The following sample to be analyzed for hexavalent chromium was filtered and buffered with ammonium sulfate solution per EPA Method 218.6 within 24 hours of collection. This extends the holding time to 28 days per the 2017 Clean Water Act Methods Update Rule, which supersedes preservation and holding time requirements in the analytical method.

ArroyoSimi\_20230121\_Grab (570-124899-1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Metals**

Methods 245.1, 7470A: The matrix spike duplicate (MSD) recoveries for preparation batch 570-301111 and analytical batch 570-301539 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

**Client Sample ID: ArroyoSimi\_20230121\_Grab**

**Lab Sample ID: 570-124899-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium, hexavalent	0.26	BU	0.20	0.019	ug/L	1		218.6	Total/NA
Chromium	1.0	J,DX	2.0	0.14	ug/L	1		200.8	Total Recoverable
Mercury	0.12	J,DX	0.20	0.12	ug/L	1		245.1	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: EPA 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: ArroyoSimi\_20230121\_Grab

Lab Sample ID: 570-124899-1

Date Collected: 01/21/23 06:30

Matrix: Water

Date Received: 01/21/23 11:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	0.26	BU	0.20	0.019	ug/L			01/23/23 03:10	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: ArroyoSimi\_20230121\_Grab

Lab Sample ID: 570-124899-1

Date Collected: 01/21/23 06:30

Matrix: Water

Date Received: 01/21/23 11:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		50	3.0	ug/L		01/24/23 07:53	01/24/23 16:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: ArroyoSimi\_20230121\_Grab

Lab Sample ID: 570-124899-1

Date Collected: 01/21/23 06:30

Matrix: Water

Date Received: 01/21/23 11:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	1.0	J,DX	2.0	0.14	ug/L		01/31/23 07:54	01/31/23 12:32	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: ArroyoSimi\_20230121\_Grab

Lab Sample ID: 570-124899-1

Date Collected: 01/21/23 06:30

Matrix: Water

Date Received: 01/21/23 11:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.12	J,DX	0.20	0.12	ug/L		02/03/23 16:00	02/06/23 15:14	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## General Chemistry

Client Sample ID: ArroyoSimi\_20230121\_Grab

Lab Sample ID: 570-124899-1

Date Collected: 01/21/23 06:30

Matrix: Water

Date Received: 01/21/23 11:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III) (EPA 218.6 CR3)	ND		0.050	0.0030	mg/L			02/02/23 15:28	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

**Lab Sample ID: MB 570-297658/5**  
**Matrix: Water**  
**Analysis Batch: 297658**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.20	0.019	ug/L			01/23/23 02:34	1

**Lab Sample ID: LCS 570-297658/6**  
**Matrix: Water**  
**Analysis Batch: 297658**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium, hexavalent	50.1	49.5		ug/L		99	95 - 107

**Lab Sample ID: LCSD 570-297658/7**  
**Matrix: Water**  
**Analysis Batch: 297658**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium, hexavalent	50.1	49.3		ug/L		98	95 - 107	1	20

**Lab Sample ID: 580-122429-G-2 MS**  
**Matrix: Water**  
**Analysis Batch: 297658**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium, hexavalent	0.69		50.1	49.7		ug/L		98	85 - 121

**Lab Sample ID: 580-122429-G-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 297658**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium, hexavalent	0.69		50.1	49.8		ug/L		98	85 - 121	0	25

## Method: 200.7 Rev 4.4 - Metals (ICP)

**Lab Sample ID: MB 570-298060/1-A**  
**Matrix: Water**  
**Analysis Batch: 298305**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298060**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		50	3.0	ug/L		01/24/23 07:53	01/24/23 16:27	1

**Lab Sample ID: LCS 570-298060/2-A**  
**Matrix: Water**  
**Analysis Batch: 298305**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298060**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	500	511		ug/L		102	85 - 115

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

**Lab Sample ID: LCSD 570-298060/3-A**  
**Matrix: Water**  
**Analysis Batch: 298305**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298060**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	500	516		ug/L		103	85 - 115	1	20

**Lab Sample ID: 570-124644-A-2-B MS**  
**Matrix: Water**  
**Analysis Batch: 298305**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298060**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	ND		500	524		ug/L		105	80 - 120

**Lab Sample ID: 570-124644-A-2-C MSD**  
**Matrix: Water**  
**Analysis Batch: 298305**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298060**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	ND		500	497		ug/L		99	80 - 120	5	20

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-299829/1-A**  
**Matrix: Water**  
**Analysis Batch: 300009**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 299829**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		2.0	0.14	ug/L		01/31/23 07:54	01/31/23 12:40	1

**Lab Sample ID: LCS 570-299829/2-A**  
**Matrix: Water**  
**Analysis Batch: 300009**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 299829**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	80.0	79.7		ug/L		100	85 - 115

**Lab Sample ID: LCSD 570-299829/3-A**  
**Matrix: Water**  
**Analysis Batch: 300009**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 299829**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	80.0	80.8		ug/L		101	85 - 115	1	20

**Lab Sample ID: 570-124219-A-52-B MS**  
**Matrix: Water**  
**Analysis Batch: 300009**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 299829**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	1.3	J,DX	80.0	79.8		ug/L		98	80 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: 570-124219-A-52-C MSD  
 Matrix: Water  
 Analysis Batch: 300009

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total Recoverable  
 Prep Batch: 299829

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	1.3	J,DX	80.0	80.7		ug/L		99	80 - 120	1	20

## Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-301111/1-A  
 Matrix: Water  
 Analysis Batch: 301539

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 301111

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		02/03/23 16:00	02/06/23 15:09	1

Lab Sample ID: LCS 570-301111/2-A  
 Matrix: Water  
 Analysis Batch: 301539

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 301111

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.84		ug/L		111	85 - 115

Lab Sample ID: LCSD 570-301111/3-A  
 Matrix: Water  
 Analysis Batch: 301539

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 301111

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.99		ug/L		112	85 - 115	2	10

Lab Sample ID: 570-124899-1 MS  
 Matrix: Water  
 Analysis Batch: 301539

Client Sample ID: ArroyoSimi\_20230121\_Grab  
 Prep Type: Total/NA  
 Prep Batch: 301111

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.12	J,DX	8.00	8.92		ug/L		112	85 - 115

Lab Sample ID: 570-124899-1 MSD  
 Matrix: Water  
 Analysis Batch: 301539

Client Sample ID: ArroyoSimi\_20230121\_Grab  
 Prep Type: Total/NA  
 Prep Batch: 301111

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.12	J,DX	8.00	9.24	LM	ug/L		116	85 - 115	4	10

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## HPLC/IC

### Analysis Batch: 297658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total/NA	Water	218.6	
MB 570-297658/5	Method Blank	Total/NA	Water	218.6	
LCS 570-297658/6	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-297658/7	Lab Control Sample Dup	Total/NA	Water	218.6	
580-122429-G-2 MS	Matrix Spike	Total/NA	Water	218.6	
580-122429-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

## Metals

### Prep Batch: 298060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total Recoverable	Water	200.7	
MB 570-298060/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-298060/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-298060/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
570-124644-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.7	
570-124644-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

### Analysis Batch: 298305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total Recoverable	Water	200.7 Rev 4.4	298060
MB 570-298060/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	298060
LCS 570-298060/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	298060
LCSD 570-298060/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	298060
570-124644-A-2-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	298060
570-124644-A-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	298060

### Prep Batch: 299829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total Recoverable	Water	200.8	
MB 570-299829/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-299829/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-299829/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-124219-A-52-B MS	Matrix Spike	Total Recoverable	Water	200.8	
570-124219-A-52-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 300009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total Recoverable	Water	200.8	299829
MB 570-299829/1-A	Method Blank	Total Recoverable	Water	200.8	299829
LCS 570-299829/2-A	Lab Control Sample	Total Recoverable	Water	200.8	299829
LCSD 570-299829/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	299829
570-124219-A-52-B MS	Matrix Spike	Total Recoverable	Water	200.8	299829
570-124219-A-52-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	299829

### Prep Batch: 301111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total/NA	Water	245.1	
MB 570-301111/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-301111/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-301111/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	



# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Metals (Continued)

### Prep Batch: 301111 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1 MS	ArroyoSimi_20230121_Grab	Total/NA	Water	245.1	
570-124899-1 MSD	ArroyoSimi_20230121_Grab	Total/NA	Water	245.1	

### Analysis Batch: 301539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total/NA	Water	245.1	301111
MB 570-301111/1-A	Method Blank	Total/NA	Water	245.1	301111
LCS 570-301111/2-A	Lab Control Sample	Total/NA	Water	245.1	301111
LCSD 570-301111/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	301111
570-124899-1 MS	ArroyoSimi_20230121_Grab	Total/NA	Water	245.1	301111
570-124899-1 MSD	ArroyoSimi_20230121_Grab	Total/NA	Water	245.1	301111

## General Chemistry

### Analysis Batch: 300743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124899-1	ArroyoSimi_20230121_Grab	Total/NA	Water	218.6 CR3	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

**Client Sample ID: ArroyoSimi\_20230121\_Grab**

**Lab Sample ID: 570-124899-1**

**Date Collected: 01/21/23 06:30**

**Matrix: Water**

**Date Received: 01/21/23 11:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	218.6		1	4 mL	4 mL	297658	01/23/23 03:10	YO8L	EET CAL 4
Instrument ID: IC33										
Total Recoverable	Prep	200.7			50 mL	50 mL	298060	01/24/23 07:53	JP8N	EET CAL 4
Total Recoverable	Analysis	200.7 Rev 4.4		1			298305	01/24/23 16:56	P1R	EET CAL 4
Instrument ID: ICP10										
Total Recoverable	Prep	200.8			50 mL	50 mL	299829	01/31/23 07:54	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			300009	01/31/23 12:32	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Total/NA	Prep	245.1			25 mL	50 mL	301111	02/03/23 16:00	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			301539	02/06/23 15:14	C0YH	EET CAL 4
Instrument ID: HG8										
Total/NA	Analysis	218.6 CR3		1			300743	02/02/23 15:28	WH6J	EET CAL 4
Instrument ID: NOEQUIP										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

Method	Method Description	Protocol	Laboratory
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	EET CAL 4
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Arroyo 5 Year

Job ID: 570-124899-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124899-1	ArroyoSimi_20230121_Grab	Water	01/21/23 06:30	01/21/23 11:40

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Loc: 570  
124899

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine  
570-124899 Chain of Custody

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 <b>Eurofins Calscience Project Manager</b> Virendra Patel 2841 Dow Avenue Suite #100 Tustin CA 92780 Tel: 714-895-5494 <b>ECI Project #44024446</b> <small>Eurofins's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement 2022-24 Performance by and between Haley &amp; Aldrich, Inc. its subsidiaries and affiliates, and Eurofins Laboratories Inc.</small>		<b>Project:</b> Boeing-SSFL NPDES Permit 2015 Annual 5 Year Arroyo Simi-Frontier Park Dry Weather		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell)		<b>Field Readings</b>		<b>Meter serial #</b>	
<b>Sampler:</b> Mark Dominick		<b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		<b>Total Recoverable Metals (E245 1)</b> (E200 7); Cr Cr III X		<b>Total Recoverable Metals Mercury (E245 1)</b> X		<b>Cr (VI) Total (E218 6)</b>	
<b>Sample Description</b> Arroyo		<b>Sample I.D.</b> ArroyoSimi_20230121_Grab		<b>Sampling Date/Time</b> 1-21-2023 / 0630		<b>Sample Matrix</b> WS WS WS WS WS WS		<b>Container Type</b> 250 mL Poly 250 mL Poly	
				<b># of Cont.</b> 1 1		<b>Preservative</b> HNO <sub>3</sub> None		<b>Bottle #</b>  	
				<b>M/MS/SD</b> Yes Yes				<b>Comments</b>	
<b>ANALYSIS REQUIRED</b>									
Legend: A=Annual, Q=Quarterly									
<b>Relinquished By</b> STEPHEN SCHILLER		<b>Date/Time:</b> 1-21-2023 / 40		<b>Company:</b> HALEY ALDRICH		<b>Received By</b> EC		<b>Date/Time:</b> 1-21-23 11:40	
<b>Relinquished By</b>		<b>Date/Time:</b>		<b>Company:</b>		<b>Received By</b>		<b>Date/Time:</b>	
Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal: _____ Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: _____ X									

13/1/23 Sc11



## Virendra Patel

---

**From:** Miller, Katherine <KMiller@haleyaldrich.com>  
**Sent:** Monday, January 30, 2023 9:27 AM  
**To:** Virendra Patel  
**Subject:** 200.8 Metals SSFL NPDES

EXTERNAL EMAIL\*

Virendra,

Please revise any metals requested as 200.7 to 200.8 for the SSFL NPDES program starting from data collected January 1<sup>st</sup>, 2023.

**Katherine Miller**  
Project Manager

**Haley Aldrich, Inc.**  
600 South Meyer Ave. | Suite 100  
Tucson, AZ 85701

T: (520) 289.8606  
C: (520) 904.6944

[www.haleyaldrich.com](http://www.haleyaldrich.com)

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124899-1

**Login Number: 124899**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	







# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/9/2023 11:17:37 AM

## JOB DESCRIPTION

Boeing NPDES SSFL-Annual 5 Year Simi-Frontier Park  
SDG NUMBER Dry Weather

## JOB NUMBER

570-129004-1

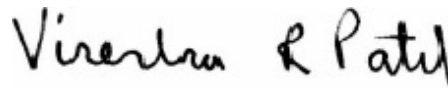
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
4/9/2023 11:17:37 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Method Summary . . . . .	7
Sample Summary . . . . .	8
Subcontract Data . . . . .	9
Chain of Custody . . . . .	14
Receipt Checklists . . . . .	15

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL-Annual 5 Year Simi-Frontier  
Park

Job ID: 570-129004-1  
SDG: Dry Weather

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL-Annual 5 Year Simi-Frontier Park

Job ID: 570-129004-1  
SDG: Dry Weather

---

**Job ID: 570-129004-1**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative**  
**570-129004-1**

**Comments**

No additional comments.

**Receipt**

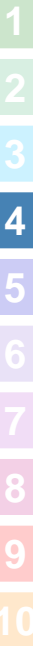
The sample was received on 2/27/2023 6:00 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0° C.

**Lab Admin**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Subcontract Work**

Method Asbestos 100.2: This method was subcontracted to EMSL Analytical Inc - LA Testing - Pasadena. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL-Annual 5 Year Simi-Frontier  
Park

Job ID: 570-129004-1  
SDG: Dry Weather

**Client Sample ID: ArryoSimi\_20230224\_Grab**

**Lab Sample ID: 570-129004-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL-Annual 5 Year Simi-Frontier  
Park

Job ID: 570-129004-1  
SDG: Dry Weather

---

Method	Method Description	Protocol	Laboratory
100.2	EPA 100.2 Asbestos in Drinking Water	EPA	EMSL-LA

---

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EMSL-LA = EMSL Analytical Inc - LA Testing - Pasadena, 520 Mission Street, South Pasadena, CA 91030



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL-Annual 5 Year  
Simi-Frontier Park

Job ID: 570-129004-1  
SDG: Dry Weather

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129004-1	ArryoSimi_20230224_Grab	Water	02/24/23 14:55	02/27/23 18:00







# LA Testing

520 Mission Street South Pasadena, CA 91030  
Phone/Fax: (323) 254-9960 / (323) 254-9982  
<http://www.LATesting.com> / [pasadenalab@latesting.com](mailto:pasadenalab@latesting.com)

LA Testing Order ID: 322305815  
Customer ID: 32CAL551  
Customer PO:  
Project ID:

**Attn:** Virendra Patel Phone: (714) 895-5494  
Eurofins Calscience, Inc. Fax: (714) 894-7501  
2841 Dow Ave, Suite 100 Received: 03/04/2023  
Tustin, CA 92780 Analyzed: 03/11/2023

**Proj:** 570-209103.1 | 570-129004-1 | 57013187 | Boeing NPDES SSGL-Annual 5 Year Simi-Frontier Park

## Test Report: Determination of Asbestos Structures $\geq 0.5 \mu\text{m}$ & $> 10\mu\text{m}$ in Water Performed by the 100.2 Method (EPA 600/R-94/134)

Sample ID Client / EMSL	Sample Filtration Date/Time	Original Sample Vol. Filtered (ml)	Effective Filter Area (mm <sup>2</sup> )	Area Analyzed (mm <sup>2</sup> )	ASBESTOS					
					Asbestos Types	Fibers Detected	Analytical Sensitivity	Concentration	Confidence Limits	
ArryoSimi_20230224 _Grab (570-129004-1) 322305815-0001	3/6/2023 10:05 AM	0.10	1288	0.2580	$\geq 0.5$ $\mu\text{m}$	None Detected	ND	50.00	<50.00	0.00 - 180.00
					$> 10$ $\mu\text{m}$ only	None Detected	ND	50.00	<50.00	0.00 - 180.00

Collection Date/Time: 02/24/2023 14:55 PM

Sample ozonated prior to analysis due to lab receipt time exceeding 48hr method hold time.

Analyst(s)  
Sherrie Ahmad (1)

Jerry Drapala Ph.D, Laboratory Manager  
or Other Approved Signatory

Any questions please contact Jerry Drapala.

Initial report from: 03/12/2023 18:48:32

LA Testing maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by LA Testing. LA Testing bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. Estimation of uncertainty is available on request. Sample collection and containers provided by the client, acceptable bottle blank level is defined as  $\leq 0.01\text{MFL} > 10\mu\text{m}$ . ND=None Detected. No Fibers Detected: the value will be reported as less than 369% of the concentration equivalent to one fiber. 1 to 4 fibers: The result will be reported as less than the corresponding upper 95% confidence limit (Poisson). 5 to 30 fibers: Mean and 95% confidence intervals will be reported on the basis of the Poisson assumption. When more than 30 fibers are counted, both the Gaussian 95% confidence interval and the Poisson 95% confidence interval will be calculated. The large of these two intervals will be selected for data reporting. When the Gaussian 95% confidence interval is selected for data reporting, the Poisson will also be noted.

Samples analyzed by LA Testing South Pasadena, CA CA ELAP 2283

#322305815



# Chain of Custody Record

**Eurofins Calscience**  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone: 714-895-5494

<b>Client Information (Sub Contract Lab)</b>		Lab PM: Patel, Virendra		Carrier Tracking No(s): 570-209103.1	
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofins.com		Page: Page 1 of 1	
Company: EMSL Analytical, Inc.		Accreditations Required (See note): State Program - California		Job #: 570-129004-1	
Address: 520 Mission Street, South Pasadena, CA, 91030		Due Date Requested: 3/20/2023		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
City: South Pasadena		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
State, Zip: CA, 91030		PO #:			
Phone:		WO #:			
Project Name: Boeing NPDES SSFL-Annual 5 Year Simi-Frontier Park		Project #: 57013187			
Site:		SSOW#:			
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>		<b>Field Filtered Sample (Yes or No)</b>	
AryoSimi_20230224_Grab (570-129004-1)		2/24/23		X	
<b>Sample Type (C=Comp, G=grab)</b>		<b>Sample Time</b>		<b>Perform MS/MSD (Yes or No)</b>	
Water		14:55 Pacific		X	
<b>Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)</b>		<b>Preservation Code:</b>		<b>Total Number of Containers</b>	
				1	
<b>Special Instructions/Note:</b>				12c	
See Attached Instructions					

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Return To Client     Disposal By Lab     Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements:

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: Makenna Everett (AK) Date/Time: 3.4.23 11:15 Company  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company

Cooler Temperature(s) °C and Other Remarks:



#322305815

ICOC No:  
570-209103

**Containers**

<u>Count</u>	<u>Container Type</u>	<u>Preservative</u>
1	Plastic 1 liter - unpreserved	None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Asbestos 100.2)/ Asbestos 100.2	Level IV package needed



#322305815

**McKissack, Annette**

**From:** Virendra Patel <Virendra.Patel@et.eurofinsus.com>  
**Sent:** Monday, March 6, 2023 11:31 AM  
**To:** McKissack, Annette  
**Cc:** LA Testing Lab - Pasadena  
**Subject:** RE: 570-209103.1 | 570-129004-1 | 57013187 | Boeing NPDES SSSL-Annual 5 Year Simi-Frontier Park

**[EXTERNAL E-MAIL]**

Wastewater please. Report both detection levels.

Best Regards,

**Virendra Patel**  
Project Manager

Eurofins Environment Testing Southwest, LLC  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895 5494  
 Direct: 657-210-6327  
 Mobile: 714-887-9901

[Virendra.Patel@ET.EurofinsUS.com](mailto:Virendra.Patel@ET.EurofinsUS.com)  
[www.EurofinsUS.com/Env](http://www.EurofinsUS.com/Env)

Follow Us! [Facebook](#) | [LinkedIn](#)

**From:** McKissack, Annette <amckissack@latesting.com>  
**Sent:** Monday, March 6, 2023 11:16 AM  
**To:** Virendra Patel <Virendra.Patel@et.eurofinsus.com>  
**Cc:** LA Testing Lab - Pasadena <pasadenalab@EMSL.com>  
**Subject:** 570-209103.1 | 570-129004-1 | 57013187 | Boeing NPDES SSSL-Annual 5 Year Simi-Frontier Park

EXTERNAL EMAIL\*

Good Morning Virendra,

Please confirm if the above mentioned project will be for drinking water or waste water analysis.

Thank you,





**Annette McKissack**  
Laboratory Administrative Assistant  
**LA Testing** 520 Mission Street South Pasadena, CA 91030  
Phone: 323-254-9960 Toll Free: 800-303-0047

#322305815

Conduct Field Surveys From Your Smart Device Today! Download EMSL's APP: [iTunes App Store - Apple](#) or [Google Play](#)  
Resources: [LABConnectTM](#) | [Order Products](#) | [Free Webinars](#) | [Additional Resources](#) | [EMSL.tv](#)



Connect With Us:

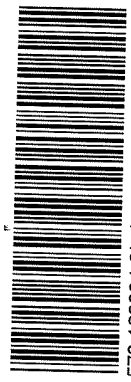
"This email may contain privileged and confidential information and is solely for the use of the sender's intended recipient(s). **If you are not the intended recipient of this communication, you are hereby notified that any unauthorized review, use, dissemination, distribution, downloading, or copying of this communication is strictly prohibited.** If you received this email in error, please notify the sender by reply email and delete all copies and attachments. Thank you."

**\* WARNING - EXTERNAL:** This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

129004

CHAIN OF CUSTODY FORM

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Project Manager - Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel 714-895-5494 <b>ECI Project #57013187</b>		<b>Project:</b> Boeing-SSFL NPDES Permit 2015 <b>Annual 5 Year Arroyo Simi-Frontier Park          Dry Weather</b>		<b>ANALYSIS REQUIRED</b>		Field Readings	Meter serial #		
<b>Eurofins Calscience's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement#2022-24-Eurofins by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and Eurofins Calscience, Inc.</b>		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell)		Asbestos					
<b>Sampler</b>		<b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Comments
Arroyo	ArroyoSimi_202302_24_Grab	2-24-2023 / 11:55	WS	1 L Poly	1	None		No	
			WS						
			WS						
			WS						
			WS						
			WS						
			WS						



570-129004 Chain of Custody

2-11-20, +9/18 SCR

Legend: A=Annual, Q=Quarterly

Relinquished By: <i>[Signature]</i> Date/Time: 2/27-2023/11:20 Company: <i>[Signature]</i>	Received By: <i>[Signature]</i> Date/Time: 2/27/23 11:20 Company: EC
Relinquished By: <i>[Signature]</i> Date/Time: 2/27/23 1800 Company: EC	Received By: <i>[Signature]</i> Date/Time: 2/27/23 1800 Company: EC

Turn-around time: (Check)  
 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal: \_\_\_\_\_  
 Sample Integrity (Check)  
 Intact \_\_\_\_\_ On Ice: \_\_\_\_\_  
 Store samples for 6 months.  
 Data Requirements: (Check)  
 No Level IV \_\_\_\_\_ All Level IV: \_\_\_\_\_ X



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129004-1

SDG Number: Dry Weather

**Login Number: 129004**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 1/18/2023 4:28:10 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - GRAB

## JOB NUMBER

570-122682-1



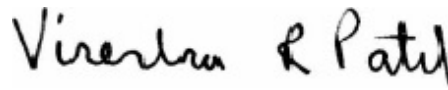
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/18/2023 4:28:10 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	13
QC Sample Results . . . . .	14
QC Association Summary . . . . .	23
Lab Chronicle . . . . .	25
Certification Summary . . . . .	26
Method Summary . . . . .	27
Sample Summary . . . . .	28
Chain of Custody . . . . .	29
Receipt Checklists . . . . .	30

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
BU	Analyzed out of holding time

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

---

## Job ID: 570-122682-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-122682-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/5/2023 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.8° C, 1.9° C, 2.8° C and 2.9° C.

#### GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-294198. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: Reanalysis of the following sample was performed outside of the analytical holding time due to over dilution in initial analysis : Outfall001\_20230105\_Grab (570-122682-1).

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-294547. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 624.1: The preservative used in the sample containers provided is not compatible with the Method 624 analytes requested. The following sample was received preserved with hydrochloric acid: Outfall001\_20230105\_Grab (570-122682-1). The requested target analyte list contains 2-Chloroethyl vinyl ether and/or Acrolein, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-294128.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 1664A: The reference method requires samples to be preserved to a pH of 2. The following sample was received with insufficient preservation at a pH of 6: Outfall001\_20230105\_Grab (570-122682-1). The sample(s) was preserved to the appropriate pH in the laboratory.

Method: 1664.

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-294834.

Method: 1664.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

---

## Job ID: 570-122682-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Method 3510C: The reference method requires samples to be preserved to a pH of 7. The following sample was received with insufficient preservation at a pH of 12. Outfall001\_20230105\_Grab (570-122682-1). The sample(s) was preserved to the appropriate pH in the laboratory.

Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-294217. 8015B\_DRO. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-122682-1

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

**Client Sample ID: Outfall001\_20230105\_Grab**

**Lab Sample ID: 570-122682-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
C13-C28	0.051		0.050	0.036	mg/L	1		8015B	Total/NA
Specific Conductance	98		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA
Settleable Solids	0.10		0.10	0.10	mL/L	1		SM 2540F	Total/NA

**Client Sample ID: TB-20230105**

**Lab Sample ID: 570-122682-3**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230105\_Grab**

**Date Collected: 01/05/23 07:55**

**Date Received: 01/05/23 16:00**

**Lab Sample ID: 570-122682-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	BU	0.50	0.25	ug/L			01/09/23 17:25	1
1,1,1,2-Tetrachloroethane	ND	BU	0.50	0.20	ug/L			01/09/23 17:25	1
1,1,2-Trichloroethane	ND	BU	0.50	0.17	ug/L			01/09/23 17:25	1
1,1-Dichloroethane	ND	BU	0.50	0.39	ug/L			01/09/23 17:25	1
1,1-Dichloroethene	ND	BU	0.50	0.33	ug/L			01/09/23 17:25	1
1,2-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/09/23 17:25	1
1,2-Dichloroethane	ND	BU	0.50	0.15	ug/L			01/09/23 17:25	1
1,2-Dichloropropane	ND	BU	0.50	0.17	ug/L			01/09/23 17:25	1
1,3-Dichlorobenzene	ND	BU	0.50	0.16	ug/L			01/09/23 17:25	1
1,4-Dichlorobenzene	ND	BU	0.50	0.11	ug/L			01/09/23 17:25	1
2-Chloroethyl vinyl ether	ND	BU	2.0	1.1	ug/L			01/09/23 17:25	1
Acrolein	ND	BU	5.0	4.6	ug/L			01/09/23 17:25	1
Acrylonitrile	ND	BU	2.0	1.4	ug/L			01/09/23 17:25	1
Benzene	ND	BU	0.50	0.28	ug/L			01/09/23 17:25	1
Bromoform	ND	BU	1.0	0.25	ug/L			01/09/23 17:25	1
Bromomethane	ND	BU	0.50	0.22	ug/L			01/09/23 17:25	1
Carbon tetrachloride	ND	BU	0.50	0.28	ug/L			01/09/23 17:25	1
Chlorobenzene	ND	BU	0.50	0.19	ug/L			01/09/23 17:25	1
Dibromochloromethane	ND	BU	0.50	0.15	ug/L			01/09/23 17:25	1
Chloroethane	ND	BU	1.0	0.29	ug/L			01/09/23 17:25	1
Chloroform	ND	BU	0.50	0.19	ug/L			01/09/23 17:25	1
Chloromethane	ND	BU	0.50	0.30	ug/L			01/09/23 17:25	1
cis-1,2-Dichloroethene	ND	BU	0.50	0.21	ug/L			01/09/23 17:25	1
cis-1,3-Dichloropropene	ND	BU	0.50	0.30	ug/L			01/09/23 17:25	1
Bromodichloromethane	ND	BU	0.50	0.19	ug/L			01/09/23 17:25	1
Ethylbenzene	ND	BU	0.50	0.25	ug/L			01/09/23 17:25	1
Methylene Chloride	ND	BU	2.0	0.57	ug/L			01/09/23 17:25	1
m,p-Xylene	ND	BU	1.0	0.17	ug/L			01/09/23 17:25	1
Naphthalene	ND	BU	1.0	0.33	ug/L			01/09/23 17:25	1
o-Xylene	ND	BU	0.50	0.15	ug/L			01/09/23 17:25	1
Tetrachloroethene	ND	BU	0.50	0.21	ug/L			01/09/23 17:25	1
Toluene	ND	BU	0.50	0.23	ug/L			01/09/23 17:25	1
trans-1,2-Dichloroethene	ND	BU	0.50	0.24	ug/L			01/09/23 17:25	1
trans-1,3-Dichloropropene	ND	BU	0.50	0.18	ug/L			01/09/23 17:25	1
Trichloroethene	ND	BU	0.50	0.17	ug/L			01/09/23 17:25	1
Trichlorofluoromethane	ND	BU	0.50	0.29	ug/L			01/09/23 17:25	1
Vinyl chloride	ND	BU	0.50	0.47	ug/L			01/09/23 17:25	1
Xylenes, Total	ND	BU	1.0	0.17	ug/L			01/09/23 17:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	BU	2.0	0.33	ug/L			01/09/23 17:25	1
1,2-Dichloro-1,1,2-trifluoroethane	ND	BU	2.0	0.58	ug/L			01/09/23 17:25	1
Cyclohexane	ND	BU	2.0	0.79	ug/L			01/09/23 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					01/09/23 17:25	1
Toluene-d8 (Surr)	99		60 - 140					01/09/23 17:25	1
Dibromofluoromethane (Surr)	93		60 - 140					01/09/23 17:25	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: TB-20230105**  
**Date Collected: 01/05/23 07:55**  
**Date Received: 01/05/23 16:00**

**Lab Sample ID: 570-122682-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/23 15:51	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/23 15:51	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/23 15:51	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/23 15:51	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/23 15:51	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/23 15:51	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/23 15:51	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/23 15:51	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/23 15:51	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/23 15:51	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/23 15:51	1
Acrolein	ND		5.0	4.6	ug/L			01/06/23 15:51	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/23 15:51	1
Benzene	ND		0.50	0.28	ug/L			01/06/23 15:51	1
Bromoform	ND		1.0	0.25	ug/L			01/06/23 15:51	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/23 15:51	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/23 15:51	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/23 15:51	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/23 15:51	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/23 15:51	1
Chloroform	ND		0.50	0.19	ug/L			01/06/23 15:51	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/23 15:51	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/23 15:51	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/23 15:51	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/23 15:51	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/23 15:51	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/23 15:51	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/23 15:51	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/23 15:51	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/23 15:51	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/23 15:51	1
Toluene	ND		0.50	0.23	ug/L			01/06/23 15:51	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/23 15:51	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/23 15:51	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/23 15:51	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/23 15:51	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/23 15:51	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/23 15:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/23 15:51	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/23 15:51	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/23 15:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		60 - 140					01/06/23 15:51	1
Toluene-d8 (Surr)	100		60 - 140					01/06/23 15:51	1
Dibromofluoromethane (Surr)	93		60 - 140					01/06/23 15:51	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: SW846 8015B - Gasoline Range Organics - (GC)

Client Sample ID: Outfall001\_20230105\_Grab  
Date Collected: 01/05/23 07:55  
Date Received: 01/05/23 16:00

Lab Sample ID: 570-122682-1  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/09/23 15:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		20 - 144		01/09/23 15:00	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: SW846 8015B - Diesel Range Organics (DRO) (GC)

**Client Sample ID: Outfall001\_20230105\_Grab**  
**Date Collected: 01/05/23 07:55**  
**Date Received: 01/05/23 16:00**

**Lab Sample ID: 570-122682-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>C13-C28</b>	<b>0.051</b>		0.050	0.036	mg/L		01/06/23 14:38	01/10/23 22:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)	87		53 - 151				01/06/23 14:38	01/10/23 22:49	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## General Chemistry

**Client Sample ID: Outfall001\_20230105\_Grab**  
**Date Collected: 01/05/23 07:55**  
**Date Received: 01/05/23 16:00**

**Lab Sample ID: 570-122682-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease (1664A)	ND		1.0	0.53	mg/L		01/10/23 13:16	01/11/23 13:49	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Specific Conductance (SM 2510B)</b>	<b>98</b>		1.0	1.0	umhos/cm			01/11/23 20:06	1
<b>Settleable Solids (SM 2540F)</b>	<b>0.10</b>		0.10	0.10	mL/L			01/06/23 09:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (60-140)	TOL (60-140)	DBFM (60-140)
570-122682-1	Outfall001_20230105_Grab	97	99	93
570-122682-3	TB-20230105	100	100	93
LCS 570-294198/1003	Lab Control Sample	101	98	97
LCS 570-294547/1003	Lab Control Sample	100	99	100
LCSD 570-294198/4	Lab Control Sample Dup	99	104	97
LCSD 570-294547/4	Lab Control Sample Dup	101	103	99
MB 570-294198/6	Method Blank	101	99	94
MB 570-294547/6	Method Blank	97	99	96

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene (Surr)  
 TOL = Toluene-d8 (Surr)  
 DBFM = Dibromofluoromethane (Surr)

## Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB1 (20-144)
570-122605-E-1 MS	Matrix Spike	117
570-122605-E-1 MSD	Matrix Spike Duplicate	114
570-122682-1	Outfall001_20230105_Grab	76
LCS 570-294400/3	Lab Control Sample	114
LCSD 570-294400/4	Lab Control Sample Dup	117
MB 570-294400/5	Method Blank	91

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene (Surr)

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		OTCSN1 (53-151)
570-122682-1	Outfall001_20230105_Grab	87
LCS 570-294217/2-A	Lab Control Sample	99
LCSD 570-294217/3-A	Lab Control Sample Dup	82
MB 570-294217/1-A	Method Blank	98

**Surrogate Legend**  
 OTCSN = n-Octacosane (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-294198/6  
 Matrix: Water  
 Analysis Batch: 294198

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/06/23 15:06	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/06/23 15:06	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/06/23 15:06	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/06/23 15:06	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/06/23 15:06	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/23 15:06	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/06/23 15:06	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/06/23 15:06	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/06/23 15:06	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/06/23 15:06	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/06/23 15:06	1
Acrolein	ND		5.0	4.6	ug/L			01/06/23 15:06	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/06/23 15:06	1
Benzene	ND		0.50	0.28	ug/L			01/06/23 15:06	1
Bromoform	ND		1.0	0.25	ug/L			01/06/23 15:06	1
Bromomethane	ND		0.50	0.22	ug/L			01/06/23 15:06	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/06/23 15:06	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/06/23 15:06	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/06/23 15:06	1
Chloroethane	ND		1.0	0.29	ug/L			01/06/23 15:06	1
Chloroform	ND		0.50	0.19	ug/L			01/06/23 15:06	1
Chloromethane	ND		0.50	0.30	ug/L			01/06/23 15:06	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/06/23 15:06	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/06/23 15:06	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/06/23 15:06	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/06/23 15:06	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/06/23 15:06	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/06/23 15:06	1
Naphthalene	ND		1.0	0.33	ug/L			01/06/23 15:06	1
o-Xylene	ND		0.50	0.15	ug/L			01/06/23 15:06	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/06/23 15:06	1
Toluene	ND		0.50	0.23	ug/L			01/06/23 15:06	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/06/23 15:06	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/06/23 15:06	1
Trichloroethene	ND		0.50	0.17	ug/L			01/06/23 15:06	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/06/23 15:06	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/06/23 15:06	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/06/23 15:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/06/23 15:06	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/06/23 15:06	1
Cyclohexane	ND		2.0	0.79	ug/L			01/06/23 15:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		60 - 140		01/06/23 15:06	1
Toluene-d8 (Surr)	99		60 - 140		01/06/23 15:06	1
Dibromofluoromethane (Surr)	94		60 - 140		01/06/23 15:06	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 570-294198/1003**  
**Matrix: Water**  
**Analysis Batch: 294198**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	10.0	9.35		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.45		ug/L		95	60 - 140
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	70 - 130
1,1-Dichloroethane	10.0	9.71		ug/L		97	70 - 130
1,1-Dichloroethene	10.0	9.13		ug/L		91	50 - 150
1,2-Dichlorobenzene	10.0	9.41		ug/L		94	65 - 135
1,2-Dichloroethane	10.0	9.57		ug/L		96	70 - 130
1,2-Dichloropropane	10.0	9.32		ug/L		93	35 - 165
1,3-Dichlorobenzene	10.0	9.66		ug/L		97	70 - 130
1,4-Dichlorobenzene	10.0	9.01		ug/L		90	65 - 135
2-Chloroethyl vinyl ether	10.0	9.18		ug/L		92	1 - 225
Acrolein	20.0	17.2		ug/L		86	60 - 140
Acrylonitrile	100	99.6		ug/L		100	60 - 140
Benzene	10.0	9.50		ug/L		95	65 - 135
Bromoform	10.0	9.53		ug/L		95	70 - 130
Bromomethane	10.0	10.3		ug/L		103	15 - 185
Carbon tetrachloride	10.0	9.43		ug/L		94	70 - 130
Chlorobenzene	10.0	9.54		ug/L		95	65 - 135
Dibromochloromethane	10.0	9.62		ug/L		96	70 - 135
Chloroethane	10.0	9.48		ug/L		95	40 - 160
Chloroform	10.0	9.08		ug/L		91	70 - 135
Chloromethane	10.0	9.37		ug/L		94	1 - 205
cis-1,2-Dichloroethene	10.0	9.52		ug/L		95	60 - 140
cis-1,3-Dichloropropene	10.0	9.83		ug/L		98	25 - 175
Bromodichloromethane	10.0	9.73		ug/L		97	65 - 135
Ethylbenzene	10.0	9.81		ug/L		98	60 - 140
Methylene Chloride	10.0	8.61		ug/L		86	60 - 140
m,p-Xylene	10.0	9.85		ug/L		99	60 - 140
Naphthalene	10.0	10.2		ug/L		102	60 - 140
o-Xylene	10.0	9.70		ug/L		97	60 - 140
Tetrachloroethene	10.0	9.68		ug/L		97	70 - 130
Toluene	10.0	9.55		ug/L		95	70 - 130
trans-1,2-Dichloroethene	10.0	9.29		ug/L		93	70 - 130
trans-1,3-Dichloropropene	10.0	9.81		ug/L		98	50 - 150
Trichloroethene	10.0	9.34		ug/L		93	65 - 135
Trichlorofluoromethane	10.0	10.3		ug/L		103	50 - 150
Vinyl chloride	10.0	9.57		ug/L		96	5 - 195
Xylenes, Total	20.0	19.6		ug/L		98	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.04		ug/L		90	60 - 140
1,2-Dichloro-1,1,2-trifluoroethane	20.0	20.0		ug/L		100	60 - 140
Cyclohexane	10.0	8.47		ug/L		85	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		60 - 140
Toluene-d8 (Surr)	98		60 - 140
Dibromofluoromethane (Surr)	97		60 - 140

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 570-294198/4**  
**Matrix: Water**  
**Analysis Batch: 294198**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	10.0	9.71		ug/L		97	70 - 130	4	36
1,1,2,2-Tetrachloroethane	10.0	9.27		ug/L		93	60 - 140	2	61
1,1,2-Trichloroethane	10.0	9.65		ug/L		97	70 - 130	5	45
1,1-Dichloroethane	10.0	9.73		ug/L		97	70 - 130	0	40
1,1-Dichloroethene	10.0	9.28		ug/L		93	50 - 150	2	32
1,2-Dichlorobenzene	10.0	9.76		ug/L		98	65 - 135	4	57
1,2-Dichloroethane	10.0	9.85		ug/L		99	70 - 130	3	49
1,2-Dichloropropane	10.0	9.86		ug/L		99	35 - 165	6	55
1,3-Dichlorobenzene	10.0	9.82		ug/L		98	70 - 130	2	43
1,4-Dichlorobenzene	10.0	9.44		ug/L		94	65 - 135	5	57
2-Chloroethyl vinyl ether	10.0	10.5		ug/L		105	1 - 225	14	71
Acrolein	20.0	15.7		ug/L		79	60 - 140	9	60
Acrylonitrile	100	98.9		ug/L		99	60 - 140	1	60
Benzene	10.0	10.2		ug/L		102	65 - 135	7	61
Bromoform	10.0	9.55		ug/L		96	70 - 130	0	42
Bromomethane	10.0	10.4		ug/L		104	15 - 185	1	61
Carbon tetrachloride	10.0	9.41		ug/L		94	70 - 130	0	41
Chlorobenzene	10.0	9.71		ug/L		97	65 - 135	2	53
Dibromochloromethane	10.0	9.42		ug/L		94	70 - 135	2	50
Chloroethane	10.0	9.75		ug/L		97	40 - 160	3	78
Chloroform	10.0	9.24		ug/L		92	70 - 135	2	30
Chloromethane	10.0	10.0		ug/L		100	1 - 205	7	60
cis-1,2-Dichloroethene	10.0	9.57		ug/L		96	60 - 140	1	30
cis-1,3-Dichloropropene	10.0	10.0		ug/L		100	25 - 175	2	58
Bromodichloromethane	10.0	10.2		ug/L		102	65 - 135	4	56
Ethylbenzene	10.0	10.0		ug/L		100	60 - 140	2	63
Methylene Chloride	10.0	8.70		ug/L		87	60 - 140	1	28
m,p-Xylene	10.0	9.83		ug/L		98	60 - 140	0	30
Naphthalene	10.0	10.4		ug/L		104	60 - 140	1	30
o-Xylene	10.0	9.91		ug/L		99	60 - 140	2	30
Tetrachloroethene	10.0	9.88		ug/L		99	70 - 130	2	39
Toluene	10.0	10.1		ug/L		101	70 - 130	5	41
trans-1,2-Dichloroethene	10.0	9.43		ug/L		94	70 - 130	2	45
trans-1,3-Dichloropropene	10.0	9.95		ug/L		100	50 - 150	1	86
Trichloroethene	10.0	10.1		ug/L		101	65 - 135	8	48
Trichlorofluoromethane	10.0	10.4		ug/L		104	50 - 150	1	84
Vinyl chloride	10.0	10.2		ug/L		102	5 - 195	6	66
Xylenes, Total	20.0	19.7		ug/L		99	60 - 140	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.26		ug/L		93	60 - 140	2	30
1,2-Dichloro-1,1,2-trifluoroethane	20.0	20.5		ug/L		103	60 - 140	3	30
Cyclohexane	10.0	8.54		ug/L		85	60 - 140	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	99		60 - 140
Toluene-d8 (Surr)	104		60 - 140
Dibromofluoromethane (Surr)	97		60 - 140

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 570-294547/6**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.50	0.25	ug/L			01/09/23 16:40	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.20	ug/L			01/09/23 16:40	1
1,1,2-Trichloroethane	ND		0.50	0.17	ug/L			01/09/23 16:40	1
1,1-Dichloroethane	ND		0.50	0.39	ug/L			01/09/23 16:40	1
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/09/23 16:40	1
1,2-Dichlorobenzene	ND		0.50	0.16	ug/L			01/09/23 16:40	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/09/23 16:40	1
1,2-Dichloropropane	ND		0.50	0.17	ug/L			01/09/23 16:40	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			01/09/23 16:40	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			01/09/23 16:40	1
2-Chloroethyl vinyl ether	ND		2.0	1.1	ug/L			01/09/23 16:40	1
Acrolein	ND		5.0	4.6	ug/L			01/09/23 16:40	1
Acrylonitrile	ND		2.0	1.4	ug/L			01/09/23 16:40	1
Benzene	ND		0.50	0.28	ug/L			01/09/23 16:40	1
Bromoform	ND		1.0	0.25	ug/L			01/09/23 16:40	1
Bromomethane	ND		0.50	0.22	ug/L			01/09/23 16:40	1
Carbon tetrachloride	ND		0.50	0.28	ug/L			01/09/23 16:40	1
Chlorobenzene	ND		0.50	0.19	ug/L			01/09/23 16:40	1
Dibromochloromethane	ND		0.50	0.15	ug/L			01/09/23 16:40	1
Chloroethane	ND		1.0	0.29	ug/L			01/09/23 16:40	1
Chloroform	ND		0.50	0.19	ug/L			01/09/23 16:40	1
Chloromethane	ND		0.50	0.30	ug/L			01/09/23 16:40	1
cis-1,2-Dichloroethene	ND		0.50	0.21	ug/L			01/09/23 16:40	1
cis-1,3-Dichloropropene	ND		0.50	0.30	ug/L			01/09/23 16:40	1
Bromodichloromethane	ND		0.50	0.19	ug/L			01/09/23 16:40	1
Ethylbenzene	ND		0.50	0.25	ug/L			01/09/23 16:40	1
Methylene Chloride	ND		2.0	0.57	ug/L			01/09/23 16:40	1
m,p-Xylene	ND		1.0	0.17	ug/L			01/09/23 16:40	1
Naphthalene	ND		1.0	0.33	ug/L			01/09/23 16:40	1
o-Xylene	ND		0.50	0.15	ug/L			01/09/23 16:40	1
Tetrachloroethene	ND		0.50	0.21	ug/L			01/09/23 16:40	1
Toluene	ND		0.50	0.23	ug/L			01/09/23 16:40	1
trans-1,2-Dichloroethene	ND		0.50	0.24	ug/L			01/09/23 16:40	1
trans-1,3-Dichloropropene	ND		0.50	0.18	ug/L			01/09/23 16:40	1
Trichloroethene	ND		0.50	0.17	ug/L			01/09/23 16:40	1
Trichlorofluoromethane	ND		0.50	0.29	ug/L			01/09/23 16:40	1
Vinyl chloride	ND		0.50	0.47	ug/L			01/09/23 16:40	1
Xylenes, Total	ND		1.0	0.17	ug/L			01/09/23 16:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2.0	0.33	ug/L			01/09/23 16:40	1
1,2-Dichloro-1,1,2-trifluoroethane	ND		2.0	0.58	ug/L			01/09/23 16:40	1
Cyclohexane	ND		2.0	0.79	ug/L			01/09/23 16:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140		01/09/23 16:40	1
Toluene-d8 (Surr)	99		60 - 140		01/09/23 16:40	1
Dibromofluoromethane (Surr)	96		60 - 140		01/09/23 16:40	1



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 570-294547/1003**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	10.0	9.18		ug/L		92	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.49		ug/L		95	60 - 140
1,1,2-Trichloroethane	10.0	9.43		ug/L		94	70 - 130
1,1-Dichloroethane	10.0	9.46		ug/L		95	70 - 130
1,1-Dichloroethene	10.0	9.10		ug/L		91	50 - 150
1,2-Dichlorobenzene	10.0	9.44		ug/L		94	65 - 135
1,2-Dichloroethane	10.0	9.48		ug/L		95	70 - 130
1,2-Dichloropropane	10.0	9.47		ug/L		95	35 - 165
1,3-Dichlorobenzene	10.0	9.76		ug/L		98	70 - 130
1,4-Dichlorobenzene	10.0	9.04		ug/L		90	65 - 135
2-Chloroethyl vinyl ether	10.0	8.98		ug/L		90	1 - 225
Acrolein	20.0	15.8		ug/L		79	60 - 140
Acrylonitrile	100	99.9		ug/L		100	60 - 140
Benzene	10.0	9.23		ug/L		92	65 - 135
Bromoform	10.0	9.10		ug/L		91	70 - 130
Bromomethane	10.0	6.41		ug/L		64	15 - 185
Carbon tetrachloride	10.0	9.49		ug/L		95	70 - 130
Chlorobenzene	10.0	9.37		ug/L		94	65 - 135
Dibromochloromethane	10.0	9.42		ug/L		94	70 - 135
Chloroethane	10.0	10.1		ug/L		101	40 - 160
Chloroform	10.0	9.02		ug/L		90	70 - 135
Chloromethane	10.0	10.7		ug/L		107	1 - 205
cis-1,2-Dichloroethene	10.0	9.24		ug/L		92	60 - 140
cis-1,3-Dichloropropene	10.0	9.19		ug/L		92	25 - 175
Bromodichloromethane	10.0	9.39		ug/L		94	65 - 135
Ethylbenzene	10.0	9.41		ug/L		94	60 - 140
Methylene Chloride	10.0	8.67		ug/L		87	60 - 140
m,p-Xylene	10.0	9.22		ug/L		92	60 - 140
Naphthalene	10.0	10.1		ug/L		101	60 - 140
o-Xylene	10.0	9.31		ug/L		93	60 - 140
Tetrachloroethene	10.0	9.23		ug/L		92	70 - 130
Toluene	10.0	9.33		ug/L		93	70 - 130
trans-1,2-Dichloroethene	10.0	9.09		ug/L		91	70 - 130
trans-1,3-Dichloropropene	10.0	9.62		ug/L		96	50 - 150
Trichloroethene	10.0	9.38		ug/L		94	65 - 135
Trichlorofluoromethane	10.0	11.4		ug/L		114	50 - 150
Vinyl chloride	10.0	11.0		ug/L		110	5 - 195
Xylenes, Total	20.0	18.5		ug/L		93	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.51		ug/L		95	60 - 140
1,2-Dichloro-1,1,2-trifluoroethane	20.0	19.8		ug/L		99	60 - 140
Cyclohexane	10.0	8.96		ug/L		90	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		60 - 140
Toluene-d8 (Surr)	99		60 - 140
Dibromofluoromethane (Surr)	100		60 - 140

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-294547/4  
 Matrix: Water  
 Analysis Batch: 294547

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	10.0	9.43		ug/L		94	70 - 130	3	36
1,1,2,2-Tetrachloroethane	10.0	9.20		ug/L		92	60 - 140	3	61
1,1,2-Trichloroethane	10.0	9.42		ug/L		94	70 - 130	0	45
1,1-Dichloroethane	10.0	9.56		ug/L		96	70 - 130	1	40
1,1-Dichloroethene	10.0	9.16		ug/L		92	50 - 150	1	32
1,2-Dichlorobenzene	10.0	9.59		ug/L		96	65 - 135	2	57
1,2-Dichloroethane	10.0	9.74		ug/L		97	70 - 130	3	49
1,2-Dichloropropane	10.0	9.67		ug/L		97	35 - 165	2	55
1,3-Dichlorobenzene	10.0	9.80		ug/L		98	70 - 130	0	43
1,4-Dichlorobenzene	10.0	9.32		ug/L		93	65 - 135	3	57
2-Chloroethyl vinyl ether	10.0	9.65		ug/L		96	1 - 225	7	71
Acrolein	20.0	15.1		ug/L		76	60 - 140	4	60
Acrylonitrile	100	97.2		ug/L		97	60 - 140	3	60
Benzene	10.0	9.69		ug/L		97	65 - 135	5	61
Bromoform	10.0	9.43		ug/L		94	70 - 130	4	42
Bromomethane	10.0	8.83		ug/L		88	15 - 185	32	61
Carbon tetrachloride	10.0	9.50		ug/L		95	70 - 130	0	41
Chlorobenzene	10.0	9.40		ug/L		94	65 - 135	0	53
Dibromochloromethane	10.0	9.29		ug/L		93	70 - 135	1	50
Chloroethane	10.0	10.7		ug/L		107	40 - 160	5	78
Chloroform	10.0	9.05		ug/L		91	70 - 135	0	30
Chloromethane	10.0	10.9		ug/L		109	1 - 205	2	60
cis-1,2-Dichloroethene	10.0	9.22		ug/L		92	60 - 140	0	30
cis-1,3-Dichloropropene	10.0	10.1		ug/L		101	25 - 175	9	58
Bromodichloromethane	10.0	9.91		ug/L		99	65 - 135	5	56
Ethylbenzene	10.0	9.84		ug/L		98	60 - 140	4	63
Methylene Chloride	10.0	8.49		ug/L		85	60 - 140	2	28
m,p-Xylene	10.0	9.56		ug/L		96	60 - 140	4	30
Naphthalene	10.0	10.2		ug/L		102	60 - 140	1	30
o-Xylene	10.0	9.58		ug/L		96	60 - 140	3	30
Tetrachloroethene	10.0	9.48		ug/L		95	70 - 130	3	39
Toluene	10.0	9.91		ug/L		99	70 - 130	6	41
trans-1,2-Dichloroethene	10.0	8.97		ug/L		90	70 - 130	1	45
trans-1,3-Dichloropropene	10.0	9.74		ug/L		97	50 - 150	1	86
Trichloroethene	10.0	9.90		ug/L		99	65 - 135	5	48
Trichlorofluoromethane	10.0	11.5		ug/L		115	50 - 150	1	84
Vinyl chloride	10.0	11.2		ug/L		112	5 - 195	2	66
Xylenes, Total	20.0	19.1		ug/L		96	60 - 140	3	30
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.0		ug/L		100	60 - 140	5	30
1,2-Dichloro-1,1,2-trifluoroethane	20.0	19.8		ug/L		99	60 - 140	0	30
Cyclohexane	10.0	8.98		ug/L		90	60 - 140	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene (Surr)	101		60 - 140
Toluene-d8 (Surr)	103		60 - 140
Dibromofluoromethane (Surr)	99		60 - 140

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 8015B - Gasoline Range Organics - (GC)

**Lab Sample ID: MB 570-294400/5**  
**Matrix: Water**  
**Analysis Batch: 294400**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		50	30	ug/L			01/09/23 11:50	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		20 - 144					01/09/23 11:50	1

**Lab Sample ID: LCS 570-294400/3**  
**Matrix: Water**  
**Analysis Batch: 294400**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	1920	1780		ug/L		93	71 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	114		20 - 144				

**Lab Sample ID: LCSD 570-294400/4**  
**Matrix: Water**  
**Analysis Batch: 294400**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	1920	1770		ug/L		92	71 - 120	0	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	117		20 - 144						

**Lab Sample ID: 570-122605-E-1 MS**  
**Matrix: Water**  
**Analysis Batch: 294400**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	ND		1920	2000		ug/L		104	54 - 125
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	117		20 - 144						

**Lab Sample ID: 570-122605-E-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 294400**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	ND		1920	2000		ug/L		104	54 - 125	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	114		20 - 144								

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 570-294217/1-A**  
**Matrix: Water**  
**Analysis Batch: 294463**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294217**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C28	ND		0.050	0.036	mg/L		01/06/23 14:38	01/10/23 18:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	98		53 - 151				01/06/23 14:38	01/10/23 18:43	1

**Lab Sample ID: LCS 570-294217/2-A**  
**Matrix: Water**  
**Analysis Batch: 294463**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294217**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
C10-C28	4.00	3.57		mg/L		89	65 - 129		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
n-Octacosane (Surr)	99		53 - 151						

**Lab Sample ID: LCSD 570-294217/3-A**  
**Matrix: Water**  
**Analysis Batch: 294463**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294217**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C10-C28	4.00	3.04		mg/L		76	65 - 129	16	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
n-Octacosane (Surr)	82		53 - 151						

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-294834/1-A**  
**Matrix: Water**  
**Analysis Batch: 295148**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294834**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/10/23 13:16	01/11/23 13:49	1

**Lab Sample ID: LCS 570-294834/2-A**  
**Matrix: Water**  
**Analysis Batch: 295148**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294834**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HEM: Oil and Grease	40.0	37.1		mg/L		93	78 - 114		

**Lab Sample ID: LCSD 570-294834/3-A**  
**Matrix: Water**  
**Analysis Batch: 295148**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294834**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	38.2		mg/L		95	78 - 114	3	18

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-295410/10**  
**Matrix: Water**  
**Analysis Batch: 295410**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/11/23 17:59	1

**Lab Sample ID: 570-123412-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 295410**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	600		604		umhos/cm		0.3	25

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## GC/MS VOA

### Analysis Batch: 294198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-3	TB-20230105	Total/NA	Water	624.1	
MB 570-294198/6	Method Blank	Total/NA	Water	624.1	
LCS 570-294198/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-294198/4	Lab Control Sample Dup	Total/NA	Water	624.1	

### Analysis Batch: 294547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	624.1	
MB 570-294547/6	Method Blank	Total/NA	Water	624.1	
LCS 570-294547/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-294547/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## GC VOA

### Analysis Batch: 294400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	8015B	
MB 570-294400/5	Method Blank	Total/NA	Water	8015B	
LCS 570-294400/3	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-294400/4	Lab Control Sample Dup	Total/NA	Water	8015B	
570-122605-E-1 MS	Matrix Spike	Total/NA	Water	8015B	
570-122605-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

## GC Semi VOA

### Prep Batch: 294217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	3510C	
MB 570-294217/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-294217/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-294217/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 294463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	8015B	294217
MB 570-294217/1-A	Method Blank	Total/NA	Water	8015B	294217
LCS 570-294217/2-A	Lab Control Sample	Total/NA	Water	8015B	294217
LCSD 570-294217/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	294217

## General Chemistry

### Analysis Batch: 294128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 294834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	1664A	
MB 570-294834/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-294834/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-294834/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## General Chemistry

### Analysis Batch: 295148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	1664A	294834
MB 570-294834/1-A	Method Blank	Total/NA	Water	1664A	294834
LCS 570-294834/2-A	Lab Control Sample	Total/NA	Water	1664A	294834
LCSD 570-294834/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	294834

### Analysis Batch: 295410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122682-1	Outfall001_20230105_Grab	Total/NA	Water	SM 2510B	
MB 570-295410/10	Method Blank	Total/NA	Water	SM 2510B	
570-123412-A-1 DU	Duplicate	Total/NA	Water	SM 2510B	



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

**Client Sample ID: Outfall001\_20230105\_Grab**

**Lab Sample ID: 570-122682-1**

**Date Collected: 01/05/23 07:55**

**Matrix: Water**

**Date Received: 01/05/23 16:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	294547	01/09/23 17:25	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Analysis	8015B		1	5 mL	5 mL	294400	01/09/23 15:00	P1R	EET CAL 4
Instrument ID: GC1										
Total/NA	Prep	3510C			249.8 mL	2.5 mL	294217	01/06/23 14:38	UFLU	EET CAL 4
Total/NA	Analysis	8015B		1	10 mL	10 mL	294463	01/10/23 22:49	A1W	EET CAL 4
Instrument ID: GC45										
Total/NA	Prep	1664A			961 mL	1000 mL	294834	01/10/23 13:16	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			295148	01/11/23 13:49	L6IE	EET CAL 4
Instrument ID: NO EQUIP										
Total/NA	Analysis	SM 2510B		1			295410	01/11/23 20:06	UAPD	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	294128	01/06/23 09:56	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230105**

**Lab Sample ID: 570-122682-3**

**Date Collected: 01/05/23 07:55**

**Matrix: Water**

**Date Received: 01/05/23 16:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	294198	01/06/23 15:51	A1W	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-12-22 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
8015B	Gasoline Range Organics - (GC)	SW846	EET CAL 4
8015B	Diesel Range Organics (DRO) (GC)	SW846	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4

#### Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122682-1	Outfall001_20230105_Grab	Water	01/05/23 07:55	01/05/23 16:00
570-122682-3	TB-20230105	Water	01/05/23 07:55	01/05/23 16:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

12208

CHAIN OF CUSTODY FORM



570-122682 Chain of Custody

E 007 Joux

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SFL NPDES Permit 2023 Annual Outfall 001, 002, 011, 018 Outfall 001 Grab		ANALYSIS REQUIRED		Field Readings		Meter serial #	
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		MST-Bacterioides, Human in (SAM348-357) Source Molecular in Miami Lakes, FL		Time of Readings: 0855			
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Oil & Grease (E1664A-HEM)		Field readings QC			
Sample Description		Sample I.D.		Sampling Date/Time		Sample Matrix		Container Type	
Outfall001_20230105_Grab		Outfall001_20230105_Grab		1/5/2023 10:35		YM		125mL Sterile Poly	
Trip Blanks		TB-20230105		1/5/2023 10:35		YM		40 mL VOA	
Sample Description		Sample I.D.		Sampling Date/Time		Sample Matrix		Container Type	
Outfall001_20230105_Grab_Extra		Outfall001_20230105_Grab_Extra		1/5/2023 10:35		YM		40 mL VOA	
Trip Blanks		TB-20230105		1/5/2023 10:35		YM		40 mL VOA	
Sample Description		Sample I.D.		Sampling Date/Time		Sample Matrix		Container Type	
Outfall001_20230105_Grab		Outfall001_20230105_Grab		1/5/2023 10:35		YM		40 mL VOA	
Trip Blanks		TB-20230105		1/5/2023 10:35		YM		40 mL VOA	

Relinquished By: <i>Mark Dominick</i>	Date/Time: 1-5-2023 / 1310	Company: <i>HIA</i>
Received By: <i>Christian Bondoc</i>	Date/Time: 1/5/23 1316	Company: <i>EC</i>
Relinquished By: <i>Mark Dominick</i>	Date/Time: 1/5/23 1600	Company: <i>EC</i>

Sample shipped separately via FedEx to Lumin Ultra 1-9/19 2.8/2.8 2.9/2.9 1.8/1.8 5C11

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122682-1

**Login Number: 122682**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004  
Generated 1/18/2023 12:33:48 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - GRAB

## JOB NUMBER

570-122682-2

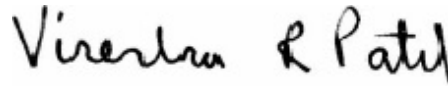
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/18/2023 12:33:48 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Sample Summary . . . . .	6
Subcontract Data . . . . .	7
Chain of Custody . . . . .	18
Receipt Checklists . . . . .	19



# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-122682-2

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

---

## Job ID: 570-122682-2

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-122682-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/5/2023 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.8° C, 1.9° C, 2.8° C and 2.9° C.

#### Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Subcontract Work

Method Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required: This method was subcontracted to Enthalpy Analytical - Barkley. The subcontract laboratory certification is different from that of the facility issuing the final report.

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122682-1	Outfall001_20230105_Grab	Water	01/05/23 07:55	01/05/23 16:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8



Enthalpy Analytical  
931 West Barkley Ave  
Orange, CA 92868  
(714) 771-6900

enthalpy.com

Lab Job Number: 476660  
Report Level: IV  
Report Date: 01/18/2023

### Microbiology Tests

#### Analytical Report *prepared for:*

Virendra Patel  
Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

Project: BOEING NPDES SSFL - Boeing SSFL NPDES - Outfall 001 - GRAB

*Authorized for release by:*

Quynhgiao Le, Project Manager  
714-7716900  
[quynhgiao.le@enthalpy.com](mailto:quynhgiao.le@enthalpy.com)

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105



### Sample Summary

---

Virendra Patel	Lab Job #:	476660
Eurofins Calscience	Project No:	BOEING NPDES SSFL
Tustin	Location:	Boeing SSFL NPDES - Outfall 001 - GRAB
2841 Dow Avenue, Suite	Date Received:	01/05/23
100		
Tustin, CA 92780		

---

Sample ID	Lab ID	Collected	Matrix
OUTFALL001_20230105_GRAB (570-122682-1)	476660-001	01/05/23 07:55	Water

## Case Narrative

### MICROBIOLOGY TESTS (SM 9223BB)

---

Eurofins Calscience Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Virendra Patel

Lab Job Number: 476660  
Project No: BOEING NPDES SSFL  
Location: Boeing SSFL NPDES - Outfall 001 - GRAB  
Date Received: 01/05/23

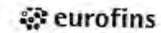
---

This data package contains sample and QC results for one water sample, requested for the above referenced project on 01/05/23. See attached cooler receipt form for any sample receipt problems or discrepancies.

**Chain of Custody**

2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record 476660



Environment Testing

<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving		Sampler: Patel, Virendra		Lab PM: Patel, Virendra		Carrier Tracking No(s):		COC No: 570-203294.1	
Company: Enthalpy Analytical LLC		Address: 931 W. Barkley Ave, City: Orange State, Zip: CA, 92868		Due Date Requested: 1/19/2023		TAT Requested (days):		Accreditations Required (See note): State Program - California	
Project Name: Boeing SSFL NPDES - Outfall 001 - GRAB		Site:		Project #: 44024446		SSOW#:		Job #: 570-122682-2	
Phone:		Email:		PO #:		WO #:		Analysis Requested	
Project Name: Boeing SSFL NPDES - Outfall 001 - GRAB		Site:		Project #: 44024446		SSOW#:		Preservation Codes:	
Phone:		Email:		PO #:		WO #:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=acid, O=wastelol, BT=TISSUE, A=Air)	SUB (Quant-Try - E. Coll - level 4 required - E. Coll - level 4 required)		Total Number of Containers	
Outfall001_20230105_Grab (570-122682-1)		1/5/23	07:55 Pacific	Water		X		3	Special Instructions/Note: See Attached Instructions
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>									
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
Unconfirmed					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2				
Empty Kit Relinquished by:					Special Instructions/QC Requirements:				
Relinquished by:		Date/Time:		Time:		Method of Shipment:			
Relinquished by:		Date/Time:		Time:		Method of Shipment:			
Relinquished by:		Date/Time:		Time:		Method of Shipment:			
Custody Seals Intact: _____					Custody Seal No.: _____				
Cooler Temperature(s) °C and Other Remarks:					5.4/2.3				





ICOC No:  
570-203294

**Containers**

<b>Count</b>	<b>Container Type</b>	<b>Preservative</b>
3	Plastic 120 mL - Sterile/Na2S2O3	Sodium Thiosulfate

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
1	SUBCONTRACT	SUB (Quant-Tray - E. Coli - level 4 required - E. Coli - level 4 required)	E Coli (1x, 10x, 100x Dilutions) - 8 hour hold time - level 4





### SAMPLE ACCEPTANCE CHECKLIST

**Section 1**  
 Client: Eurofins Calscience Project: Boeing SSFL NPDES - Outfall 001-Grab  
 Date Received: 01/05/2023 Sampler's Name Present:  Yes  No

**Section 2**  
 Sample(s) received in a cooler?  Yes, How many? 1  No (skip section 2) Sample Temp (°C) (No Cooler): \_\_\_\_\_  
 Sample Temp (°C), One from each cooler: #1: 5.4 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_  
*(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)*  
 Shipping Information: \_\_\_\_\_

**Section 3**  
 Was the cooler packed with:  Ice  Ice Packs  Bubble Wrap  Styrofoam  
 Paper  None  Other \_\_\_\_\_  
 Cooler Temp (°C): #1: 2.3 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_

Section 4	YES	NO	N/A
Was a COC received?	<input checked="" type="checkbox"/>		
Are sample IDs present?	<input checked="" type="checkbox"/>		
Are sampling dates & times present?	<input checked="" type="checkbox"/>		
Is a relinquished signature present?	<input checked="" type="checkbox"/>		
Are the tests required clearly indicated on the COC?	<input checked="" type="checkbox"/>		
Are custody seals present?		<input checked="" type="checkbox"/>	
If custody seals are present, were they intact?			<input checked="" type="checkbox"/>
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Did all samples arrive intact? If no, indicate in Section 4 below.	<input checked="" type="checkbox"/>		
Did all bottle labels agree with COC? (ID, dates and times)	<input checked="" type="checkbox"/>		
Were the samples collected in the correct containers for the required tests?	<input checked="" type="checkbox"/>		
Are the containers labeled with the correct preservatives?	<input checked="" type="checkbox"/>		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			<input checked="" type="checkbox"/>
Was a sufficient amount of sample submitted for the requested tests?	<input checked="" type="checkbox"/>		

**Section 5 Explanations/Comments**  
 \_\_\_\_\_  
 \_\_\_\_\_

**Section 6**  
 For discrepancies, how was the Project Manager notified?  Verbal PM Initials: \_\_\_\_\_ Date/Time \_\_\_\_\_  
 Email (email sent to/on): \_\_\_\_\_ / \_\_\_\_\_  
 Project Manager's response:  
 \_\_\_\_\_

Completed By: [Signature] Date: 1/5/23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

## Results & QC Summary

### Total Coliform / E. coli by Quanti-Tray

<b>Lab #:</b> 476660	<b>Project#:</b> BOEING NPDES SSFL
<b>Client:</b> Eurofins Calscience Tustin	<b>Location:</b> Boeing SSFL NPDES - Outfall 001 - ...
<b>Field ID:</b> OUTFALL001_20230105_GRAB (570-122682-1)	<b>Batch#:</b> 304722
<b>Lab ID:</b> 476660-001	<b>Analyzed:</b> 01/06/23 11:58
<b>Matrix:</b> Water	<b>Sampled:</b> 01/05/23 07:55
<b>Diln Fac:</b> 1.000	<b>Received:</b> 01/05/23
	<b>Prepared:</b> 01/05/23 15:30
	<b>Prep:</b>
	<b>Analysis:</b> SM 9223Bb
	<b>Analyst:</b> PAS

476660-001 Analyte	Result	RL	Units
Coliform, E. Coli	650	1.0	MPN/100ml

Legend  
 RL: Reporting Limit



# SM 9223 B-b, Quanti-Tray

Computer lot #: H1120

Prep Analyst: JA Prep Date/Time: 1/5/23 1530

QC Batch ID: 304722

Batch Page 1 of 1

Read Analyst: JA Read Date/Time: 1/6/23 1150

Media Used (check one):  Colisure  Colilert 18  Colilert 24

Media Lot #: EU396

Pipette Lot #: A104117 / A03047

Monthly Quanti-tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 01/03/23 \* Quanti-Tray Sealer Check must be performed monthly

Bacti bottle lot #: BUC09N

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.8 1545

Incubator Out, Temp/Time: 1156 35.0

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA

Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells			
		476659-001	1x	49	40	2419.6	>2000	42	7	101.7	100					VU-01 1
		↓	10x	49	43	1413.6	14000	13	1	16.0	160					↓ 10x
		↓	100x	43	8	111.2	11000	5	0	5.2	520					↓ 100x
		476660-001	1x	49	40	2419.6	>2000	49	31	648.8	650					EE-01 1x
		↓	10x	49	45	1732.9	17000	31	4	52.9	530					↓ 10x
		↓	100x	45	9	131.4	13000	5	4	9.4	940					↓ 100x
		476658-001	1x	49	40	2419.6	>2000	49	27	517.2	520					TU-01 1x
		↓	10x	49	43	2419.6	>2000	17	3	24.1	240					↓ 10x
		↓	100x	47	15	191.8	19000	3	0	3.1	310					↓ 100x
JA 01/09/23																
<b>Quality Control</b>		<b>Culture ID</b>														
	Positive +/- (E. Coli)	2/31/22		49	40	2419.6	>2000	49	40	2419.6	>2000					
	Positive +/- (K. Pneumonia)	↓		49	40	2419.6	>2000	0	0	<1	<1					
	Negative -/ (P. Aeruginosa)	↓		0	0	<1	<1	0	0	<1	<1					

Data Entered By: JA 01/09/23

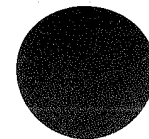
Data Reviewed By: \_\_\_\_\_

Page 16 of 19

1/1/2023 09:31 11



# SM 9223 B-b, Quanti-Tray



Computer lot #: H1120

Prep Analyst: JA Prep Date/Time: 1/5/23 1530

QC Batch ID: 304722

Batch Page 1 of 1

Read Analyst: JA Read Date/Time: 1/6/23 1150

Media Used (check one):  Colisure  Colilert 18  Colilert 24

Media Lot #: EU396

Pipette Lot #: A104117 / A03047

Monthly Quanti-tray Sealer Check: Did it Pass?  Yes  No Date of last check\*: 01/03/23 \* Quanti-Tray Sealer Check must be performed monthly

Bacti bottle lot #: BUC09V

Total and E. coli: Incubator ID: M3 Incubator In, Temp/Time: 34.8 1545

Incubator Out, Temp/Time: 1156 35.0

Fecal Coliform: Water Bath ID: NA Water Bath In, Temp/Time: NA

Water Bath Out, Temp/Time: NA

Client	Client Sample ID	Enthalpy Sample ID	Dilution Factor	Total Coliform Counts		MPN Table Value	Final Result, MPN	E. coli Counts		MPN Table Value	Final Result, MPN	Fecal Coliform Counts (Colilert 18 only)		MPN Table Value	Final Result, MPN	Comments	
				Large Wells	Small Wells			Large Wells	Small Wells			Large Wells	Small Wells				
		476659-001	1x	49	40	2249.6	2200	42	7	101.7	100						VU-01 1
		↓	10x	49	43	1413.6	14000	13	1	16.0	160						↓ 10x
		↓	100x	43	8	111.2	11000	5	0	5.2	520						↓ 100x
		476660-001	1x	49	40	2249.6	2200	49	31	648.8	650						EE-01 1x
		↓	10x	49	45	1732.9	17000	31	4	52.9	530						↓ 10x
		↓	100x	45	9	131.4	13000	5	4	9.4	940						↓ 100x
		476658-001	1x	49	40	2249.6	2200	49	27	517.2	520						TU-01 1x
		↓	10x	49	43	2249.6	2200	17	3	24.1	240						↓ 10x
		↓	100x	47	15	191.8	19000	3	0	3.1	310						↓ 100x
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(45deg); opacity: 0.5; position: absolute; top: 50%; left: 50%; pointer-events: none;"> <span style="position: absolute; top: -20px; left: -20px; font-size: 24px;">NA</span> <span style="position: absolute; top: 0; left: 50%; transform: translate(-50%, 0); font-size: 24px;">01/09/23</span> </div>																	
<b>Quality Control</b>		<b>Culture ID</b>															
Positive +/- (E. Coli)		2/31/22		49	40	2249.6	2200	49	40	2249.6	2200						
Positive +/- (K. Pneumonia)		↓		49	40	2249.6	2200	0	0	<1	<1						
Negative +/- (P. Aeruginosa)		↓		0	0	<1	<1	0	0	<1	<1						

Data Entered By: JA 01/09/23

Data Reviewed By: \_\_\_\_\_

Page 17 of 19

1/19/2023 11





570-122682 Chain of Custody

CHAIN OF CUSTODY FORM

A A R R R R/Q/A A A A

EDDP, Joux

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Annual Outfall [001, 002, 011, 018] Outfall 001 Grab		ANALYSIS REQUIRED										Field Readings		Meter serial #
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		<input checked="" type="checkbox"/> MST-Bacteroidales, Human (SAM348-367) <input checked="" type="checkbox"/> Source Molecular in Miami Lakes, FL <input type="checkbox"/> LE cell (SM9221) <input type="checkbox"/> Entralpy Analytical Orange CA <input type="checkbox"/> Settleable Solids (E160.5 (SM2540F)) <input type="checkbox"/> Conductivity (SM2510B /E120 1) <input type="checkbox"/> Oil & Grease (E1664A-HEM) <input type="checkbox"/> VOCs + VOCs PP + Xlenes, Freon 11, Freon 113, Freon 123A, Cyclohexane, cis-1,2-DCE (E824) <input type="checkbox"/> VOCs - only A+A+2CVE (E824) <input type="checkbox"/> TPH: gas (GRC/C4-C12) (SW8015B) <input type="checkbox"/> TPH: diesel/jet fuel (DRO (C19-C28)) (SW8015B)										Field Readings: (Include units) Time of Readings: <u>0755</u> DO <u>20.26</u> mg/L pH <u>7.97</u> pH unit Temp <u>51.8</u> °C TRC <u>0.06</u> mg/L		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Field Manager: Mark Domjnick 978.234.5033, 818.599.0702 (cell)												Field readings QC		
Sampler: Adrian Mobeka														Checked by: <u>mdm</u>		
														Date/Time: <u>1-5-2023/0755</u>		
														Comments		

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MSMSD	MST-Bacteroidales, Human (SAM348-367)	Source Molecular in Miami Lakes, FL	LE cell (SM9221)	Entralpy Analytical Orange CA	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B /E120 1)	Oil & Grease (E1664A-HEM)	VOCs + VOCs PP + Xlenes, Freon 11, Freon 113, Freon 123A, Cyclohexane, cis-1,2-DCE (E824)	VOCs - only A+A+2CVE (E824)	TPH: gas (GRC/C4-C12) (SW8015B)	TPH: diesel/jet fuel (DRO (C19-C28)) (SW8015B)	Field Readings	Meter serial #					
Page 1 of 19 Outfall 001	Outfall001_20230105_Grab	1/5/2023 10755	YM	125mL Sterile Poly	1	None	5	No	X													Deliver to lab ASAP 8 hr hold time	*			
			YM	125mL Sterile Poly	3	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	10	No		X														Deliver to lab ASAP 8 hr hold time, Need 1x, 10x, 100x dilutions		
			YM	1 L Glass Amber	2	HCl	16	No				X														
			YM	40 mL VOA	3	HCl	45	No					X													
			YM	40 mL VOA	3	None	55	No											X							
			YM	40 mL VOA	3	HCl	60	No												X						
			YM	1 L Glass Amber	2	None	65	No													X					
			YM	1 L Poly	1	None	70	No				X														
	Outfall001_20230105_Grab_Extra	1/5/2023 10755	YM	1 L Glass Amber	2	HCl	15	No								H							Hold			
			YM	40 mL VOA	3	HCl	45	No									H							Hold		
			YM	40 mL VOA	3	None	55	No												H					Hold	
			<del>YM</del>	<del>500 mL Poly</del>	<del>1</del>	<del>None</del>	<del>75</del>	<del>No</del>																	Hold	
	Trip Blanks	TB-20230105	1/5/2023 10755	YQ	40 mL VOA	2	HCl	45	No									X								
				YQ	40 mL VOA	2	None	55	No											X						

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By: <u>mdm</u> Date/Time: <u>1-5-2023/1310</u> Company: <u>HA</u>	Received By: _____ Date/Time: _____	Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day <u>X</u> 48 Hour _____ 5 Day _____ Normal: _____  Sample Integrity: (Check) Intact _____ On Ice: _____  Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>
Relinquished By: <u>Received by</u> Date/Time: <u>1/5/23</u> Company: <u>EC</u>	Received By: _____ Date/Time: _____	
Relinquished By: <u>EC</u> Date/Time: <u>1/5/23</u> Company: <u>EC</u>	Received By: <u>JPab</u> Date/Time: <u>1/5/23</u> Company: <u>1600</u>	

\* Sample shipped separately via FedEx to Lumina Ultra 1-9/1-9 2-8/2-8 2-9/2-9 1-8/1-8 SC11



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122682-2

**Login Number: 122682**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	







# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/11/2023 12:39:16 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - GRAB

## JOB NUMBER

570-122682-3

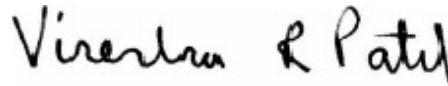
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/11/2023 12:39:16 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	14
Receipt Checklists . . . . .	15

# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-122682-3

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-3

---

**Job ID: 570-122682-3**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative**  
**570-122682-3**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/5/2023 4:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.8° C, 1.9° C, 2.8° C and 2.9° C.

**Lab Admin**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Subcontract Work**

Method Weck 624.1 - 2-CEVE only (ug/L units) with MDLs (J): This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-3

Method	Method Description	Protocol	Laboratory
624	EPA 624 Purgeable Organic Compounds	EPA	Weck Lab

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-122682-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-122682-2	Outfall001_20230105_Grab_Extra	Water	01/05/23 07:55	01/05/23 16:00

1

2

3

4

5

6

7

8

9

**Work Orders:** 3B02095

**Project:** 570-122682-3

**Attn:** Virendra Patel

**Client:** Eurofins Calscience - Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

**Report Date:** 2/16/2023

**Received Date:** 2/2/2023

**Turnaround Time:** Normal

**Phones:** (949) 261-1022

**Fax:** (949) 260-3297

**P.O. #:**

**Billing Code:**

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 2/02/23 with the Chain-of-Custody document. The samples were received in good condition, at 1.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

## Sample Results

Sample: Outfall001\_20230105\_Grab\_Extra (570-122682-2)  
3B02095-01 (Water)

Sampled: 01/05/23 7:55 by Client

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 624.1			<b>Instr:</b> GCMS21				
<b>Batch ID:</b> W3B0481		<b>Preparation:</b> EPA 5030B			<b>Prepared:</b> 02/07/23 06:54		<b>Analyst:</b> ADM
2-Chloroethyl vinyl ether	ND	0.19	1.0	ug/l	1	02/07/23	O-09
<i>Surrogate(s)</i>							
1,2-Dichloroethane-d4	115%		82-125	Conc: 57.5		02/07/23	
4-Bromofluorobenzene	97%		88-108	Conc: 48.6		02/07/23	
Toluene-d8	101%		92-112	Conc: 50.3		02/07/23	



## Quality Control Results

### Volatile Organic Compounds by P&T and GC/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limit	RPD	Limit	Qualifier
<b>Blank (W3B0481-BLK1)</b>											
<b>Prepared &amp; Analyzed: 02/07/23</b>											
Methylene chloride	ND	0.39	1.0	ug/l							
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	51.1			ug/l	50.0		102	82-125			
4-Bromofluorobenzene	49.0			ug/l	50.0		98	88-108			
Toluene-d8	48.5			ug/l	50.0		97	92-112			
<b>LCS (W3B0481-BS1)</b>											
<b>Prepared &amp; Analyzed: 02/07/23</b>											
Methylene chloride	48.4	0.39	1.0	ug/l	50.0		97	0.1-221			
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	50.1			ug/l	50.0		100	82-125			
4-Bromofluorobenzene	48.2			ug/l	50.0		96	88-108			
Toluene-d8	52.1			ug/l	50.0		104	92-112			
<b>LCS Dup (W3B0481-BSD1)</b>											
<b>Prepared &amp; Analyzed: 02/07/23</b>											
Methylene chloride	48.4	0.39	1.0	ug/l	50.0		97	0.1-221	0.03	25	
<i>Surrogate(s)</i>											
1,2-Dichloroethane-d4	50.3			ug/l	50.0		101	82-125			
4-Bromofluorobenzene	52.4			ug/l	50.0		105	88-108			
Toluene-d8	49.2			ug/l	50.0		98	92-112			

## Notes and Definitions

Item	Definition
O-09	This sample was received with the EPA recommended holding time expired.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

**Reviewed by:**



Rahul R. Nair  
Project Manager



DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494



**Chain of Custody Record**

**Client Information (Sub Contract Lab)**

Client Contact: **Patel, Virendra**  
 Shipping/Receiving: **Virendra.Patel@et.eurofinsus.com**  
 Company: **Weck Laboratories, Inc.**  
 Address: **14859 East Clark Avenue,**  
 City: **City of Industry**  
 State, Zip: **CA, 917451396**  
 Phone:   
 Email:   
 Project Name: **Boeing SSFL NPDES - Outfall 001 - GRAB**  
 Site:

Sampler:   
 Phone:   
 Lab P#/:   
 E-Mail:   
 Carrier Tracking No(s):   
 State of Origin: **California**

Accreditations Required (See note):  
 State Program - California

Due Date Requested: **2/22/2023**  
 TAT Requested (days):

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Sediment, O=Other)	Preservation Code	Analysis Requested		
						Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck 624.1 - Z-CVE only (ug/L units) with MDLs (u))
Outfall001_20230105_Grab_Extra (570-122682-2)	1/5/23	07:55 Pacific		Water		X		

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under the maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**

Unconfirmed  Return To Client  Disposal By Lab

Deliverable Requested: I, II, III, IV, Other (specify) **Primary Deliverable Rank: 2**

Special Instructions/QC Requirements:

Empty Kit Relinquished by:  Date:

Reinforced by:  Date/Time: **1-9-23 11:55** Company: **PT**

Received by:  Date/Time:  Method of Shipment:

**ICOC No:**  
570-206007

**Containers**

**Count** 3      **Container Type** Voa Vial 40ml - unpreserved      **Preservative** None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (Weck 624.1 - 2-CEVE only (ug/L units) with MDLs (J))	Level IV, EQUIS 5C, MDL reporting w/J flag. Pe



COC	COC matches sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Receipt Information	Sample Temperature	1.9°C		
	Samples received on ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Ice Type (Blue/Wet)	WET		
	All samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Samples in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Sufficient sample volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample Preservation Verification?	Sample labels checked for correct preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	VOC Headspace: (No) none, If Yes (See comment) 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	pH verified upon receipt?			
	Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 525.2<2; 6710B<2; 608.3 5-9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Free Chlorine Tested <0.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	O&G pH <2 verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	pH adjusted for O&G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

08

PM Comments

Sample Receipt Checklist Prepared by:

Signature: Lester Abad

Date: 02/02/23

QAF-006 V1.0 12/16/2021

F:\SC\ Resources\Forms\220509 Sample Receipt Checklist.docx(Type here)

12208

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Page 1 of 1



570-122682 Chain of Custody

E DDP Joux

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108				Project: Boeing-SFSL NPDES Permit 2023 Annual Outfall [001, 002, 011, 018] Outfall 001 Grab				ANALYSIS REQUIRED															
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)				MST-Bacteroides, Human (SAM348-357)		Settleable Solids (E160.5) (SM25407)		Conductivity (SM2510B / E120 1)		Oil & Grease (E1664A-HEM)		VOCs & VOCs FP + xylenes, Freon 11, Freon 113, Cyclohexane, ds-1, 2-DCE (E624)		VOCs - only A+A+2CVE (E624)		TPH: gas (GRC4-C12) (SW8015B)		TPH: diesel/fuel (DRO (C13-C28)) (SW8015B)	
Sampler: Adrian Mobeka				Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)				MST-Bacteroides, Human (SAM348-357)		Settleable Solids (E160.5) (SM25407)		Conductivity (SM2510B / E120 1)		Oil & Grease (E1664A-HEM)		VOCs & VOCs FP + xylenes, Freon 11, Freon 113, Cyclohexane, ds-1, 2-DCE (E624)		VOCs - only A+A+2CVE (E624)		TPH: gas (GRC4-C12) (SW8015B)		TPH: diesel/fuel (DRO (C13-C28)) (SW8015B)	
Sample Description		Sample I.D.		Sampling Date/Time		Sample Matrix		Container Type		# of Cont.		Preservative		Bottle #		MS/MSD		Field Readings: (Include units)		Time of Readings:			
Outfall001_20230105_Grab		1/5/2023		1/5/2023		YM		125ml Sterile Poly		3		None		5		No		DO 0.06 mg/L		08:55			
Outfall001_20230105_Grab_Extra		1/5/2023		1/5/2023		YM		1 L Glass Amber		3		HCl		10		No		pH 7.97 pH unit		08:55			
Trip Blanks		TB-20230105		1/5/2023		YM		40 mL VOA		3		None		16		No		Temp 51.8 °C		08:55			
								40 mL VOA		3		HCl		45		No		TRC 0.06 mg/L		08:55			
								1 L Glass Amber		2		None		65		No		Field readings QC		08:55			
								1 L Poly		1		None		70		No		Checked by: <i>[Signature]</i>		08:55			
								500 mL Poly		1		None		75		No		Date/Time: 1-5-2023/08:55		08:55			
								1 L Glass Amber		2		HCl		15		No				08:55			
								40 mL VOA		3		HCl		45		No				08:55			
								40 mL VOA		3		None		55		No				08:55			
								40 mL VOA		1		None		75		No				08:55			
								40 mL VOA		2		HCl		45		No				08:55			
								40 mL VOA		2		None		55		No				08:55			

Legend: A=Annual, R=Routine, Q=Quarterly

Relinquished By: *[Signature]* Date/Time: 1-5-2023 / 1310 Company: *[Signature]*

Received By: *[Signature]* Date/Time: 1/5/23 1316 Company: *[Signature]*

Relinquished By: *[Signature]* Date/Time: 1/5/23 1600 Company: *[Signature]*

Turn-around time: (Check) 24 Hour  72 Hour  10 Day  48 Hour  5 Day  Normal:

Sample Integrity: (Check) Intact:  On Ice:

Store samples for 6 months. Data Requirements: (Check) No Level IV:  All Level IV:

*[Signature]* 1/5/23 1600

*[Signature]* 1-9/19 2.8/2.8 2.9/2.9 1.8/1.8 5C11

Sample shipped separately via FedEx to Lumin Ultra

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-122682-3

**Login Number: 122682**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/3/2023 3:13:24 PM Revision 2

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 COMP

## JOB NUMBER

570-123016-1



## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/3/2023 3:13:24 PM  
Revision 2

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	6
Detection Summary . . . . .	12
Client Sample Results . . . . .	14
Surrogate Summary . . . . .	32
QC Sample Results . . . . .	34
QC Association Summary . . . . .	57
Lab Chronicle . . . . .	63
Certification Summary . . . . .	65
Method Summary . . . . .	66
Sample Summary . . . . .	67
Chain of Custody . . . . .	68
Receipt Checklists . . . . .	72

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LQ	LCS/LCSD recovery above method control limits

### GC Semi VOA

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LQ	LCS/LCSD recovery above method control limits
PI	Primary and confirm results varied by > than 40% RPD

### HPLC/IC

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

### Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
MB	Analyte present in the method blank

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

**Job ID: 570-123016-1**

**Laboratory: Eurofins Calscience**

**Narrative**

## CASE NARRATIVE

**Client: Haley & Aldrich, Inc.**

**Project: Boeing SSFL NPDES - Outfall 001 COMP**

**Report Number: 570-123016-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 1/6/2023 at 6:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.3°C, 1.5°C, 1.9°C and 2.4°C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2 degrees Celsius of the required temperature or method specified range. For samples with a specified temperature of 4 degrees Celsius, samples with a temperature ranging from just above freezing temperature of water to 6 degrees Celsius shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

### **EMERGENT VOLATILES (GC-MS SIM)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for 1,4-Dioxane in accordance with EPA 8260B SIM. The samples were analyzed on 01/07/2023.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-294255. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **SEMI-VOLATILE ORGANIC COMPOUNDS (GC-MS SIM)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Semi-Volatile Organic Compounds in accordance with EPA Method 625.1 SIM. The samples were prepared and analyzed on 01/13/2023.

The continuing calibration verification (CCV) associated with batch 570-295532 recovered above the upper control limit for 4,6-Dinitro-2-methylphenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: Outfall001\_20230106\_Comp (570-123016-1).

4,6-Dinitro-2-methylphenol failed the recovery criteria high for LCSD 570-295604/3-A. Benidine exceeded the RPD limit. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. Refer to the QC

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Job ID: 570-123016-1 (Continued)

### Laboratory: Eurofins Calscience (Continued)

report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ORGANOCHLORINE PCB (GC)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Organochlorine PCBs in accordance with EPA Method 608.3. The samples were prepared on 01/10/2023 and analyzed on 01/11/2023.

Aroclor 1016 failed the recovery criteria high for LCS 570-294695/4-A. Aroclor 1016 failed the recovery criteria high for LCSD 570-294695/5-A. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ORGANOCHLORINE PESTICIDES (GC)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for organochlorine pesticides in accordance with EPA 608.3 Pest\_LL. The samples were prepared on 01/10/2023 and analyzed on 01/11/2023.

4,4'-DDD failed the recovery criteria high for LCS 570-294695/2-A. 4,4'-DDD and 4,4'-DDT exceeded the RPD limit for LCSD 570-294695/3-A. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Refer to the QC report for details.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **HEXAVALENT CHROMIUM (IC)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for hexavalent chromium in accordance with EPA Method 218.6. The samples were analyzed on 01/09/2023.

The following samples to be analyzed for hexavalent chromium were filtered and buffered with ammonium sulfate solution per EPA Method 218.6 within 24 hours of collection. This extends the holding time to 28 days per the 2017 Clean Water Act Methods Update Rule, which supersedes preservation and holding time requirements in the analytical method.

Outfall001\_20230106\_Comp (570-123016-1) and (570-123038-J-2)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **PERCHLORATE (IC)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for perchlorate (IC) in accordance with EPA Method 314.0. The samples were analyzed on 01/09/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DISSOLVED METALS (ICP)**

Sample Outfall001\_20230106\_Comp\_F (570-123016-3) was analyzed for Dissolved Metals (ICP) in accordance with EPA Method 200.7. The samples were analyzed on 01/11/2023.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230106\_Comp\_F (570-123016-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL RECOVERABLE METALS (ICP)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 01/12/2023 and analyzed on 01/17/2023.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Job ID: 570-123016-1 (Continued)

### Laboratory: Eurofins Calscience (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DISSOLVED METALS (ICPMS)**

Sample Outfall001\_20230106\_Comp\_F (570-123016-3) was analyzed for dissolved metals (ICPMS) in accordance with EPA Method 200.8. The samples were analyzed on 01/10/2023.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230106\_Comp\_F (570-123016-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Calcium failed the recovery criteria low for the MS of sample 570-122945-2 in batch 570-294823.

Calcium failed the recovery criteria low for the MSD of sample 570-122945-2 in batch 570-294823.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-294776 and analytical batch 570-294823 were outside control limits for Calcium. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL RECOVERABLE METALS (ICPMS)**

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for total recoverable metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared and analyzed on 01/12/2023.

Boron, Copper and Lead were detected in method blank MB 570-295281/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The method blank for preparation batch 570-295281 and analytical batch 570-295467 contained Boron, Copper and Lead above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Iron and Manganese failed the recovery criteria high for the MS of sample 570-122995-7 in batch 570-295467.

Iron failed the recovery criteria high for the MSD of sample 570-122995-7 in batch 570-295467.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-295281 and analytical batch 570-295467 were outside control limits for Magnesium and Iron. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DISSOLVED MERCURY (CVAA)**

Sample Outfall001\_20230106\_Comp\_F (570-123016-3) was analyzed for dissolved mercury (CVAA) in accordance with EPA Method 245.1. The samples were prepared on 01/10/2023 and analyzed on 01/12/2023.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230106\_Comp\_F (570-123016-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Job ID: 570-123016-1 (Continued)

### Laboratory: Eurofins Calscience (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL MERCURY (CVAA)

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for total mercury (CVAA) in accordance with EPA Method 245.1. The samples were prepared on 01/10/2023 and analyzed on 01/12/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### DISSOLVED HARDNESS AS CALCIUM CARBONATE

Sample Outfall001\_20230106\_Comp\_F (570-123016-3) was analyzed for hardness in accordance with SM 2340B. The samples were analyzed on 01/12/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL HARDNESS AS CALCIUM CARBONATE

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for hardness as calcium carbonate in accordance with SM 2340B. The samples were analyzed on 01/13/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### CHROMIUM (III)

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Chromium (III) in accordance with EPA Method 218.6. The samples were analyzed on 01/16/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL DISSOLVED SOLIDS

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 01/10/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL SUSPENDED SOLIDS

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 01/11/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### ANIONS (IC)

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Chloride, Fluoride, and Sulfate in accordance with EPA Method 300.0. The samples were analyzed on 01/07/2023.

Sulfate failed the recovery criteria high for the MS of sample 570-123038-2 in batch 570-294335.

Sulfate failed the recovery criteria high for the MSD of sample 570-123038-2 in batch 570-294335.

The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-294335 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Dilutions were performed for the following samples due to sample matrix properties: Outfall001\_20230106\_Comp (570-123016-1).

Refer to the QC report for details.

Sample Outfall001\_20230106\_Comp (570-123016-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

---

## Job ID: 570-123016-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### ANIONS (IC)

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Nitrite as N and Nitrate as N in accordance with EPA Method 300.0. The samples were analyzed on 01/07/2023.

Sample Outfall001\_20230106\_Comp (570-123016-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### AMMONIA

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for ammonia in accordance with EPA Method 350.1. The samples were prepared and analyzed on 01/18/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### MBAS

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for MBAS in accordance with SM 5540C. The samples were prepared and analyzed on 01/07/2023.

Calibration date on instrument raw date for Sample Outfall001\_20230106\_Comp (570-123016-1) mistakenly printed with date 1/6/2023. Verified with chemist and Raw Data no further correction needed.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL CYANIDE

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Total Cyanide in accordance with Method Kelada\_01. The samples were analyzed on 01/11/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### NITROGEN, NITRATE-NITRITE

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Nitrogen, Nitrate-Nitrite in accordance with NO2NO3 Calc. The samples were analyzed on 01/13/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TURBIDITY

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for turbidity in accordance with SM 2130B. The samples were analyzed on 01/07/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### BIOCHEMICAL OXYGEN DEMAND

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for Biochemical Oxygen Demand in accordance with SM 5210B. The samples were analyzed on 01/07/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL ORGANIC CARBON

Sample Outfall001\_20230106\_Comp (570-123016-1) was analyzed for total organic carbon (Aqueous) in accordance with SM5310D. The samples were analyzed on 01/12/2023.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

---

## Job ID: 570-123016-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Sample Outfall001\_20230106\_Comp (570-123016-1)[4X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-295604. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.12	J,DX	0.19	0.11	ug/L	1		625.1 SIM	Total/NA
delta-BHC	0.0044	PI	0.0033	0.0020	ug/L	1		608.3	Total/NA
Heptachlor	0.0012	J,DX PI	0.0013	0.0012	ug/L	1		608.3	Total/NA
Chromium, hexavalent	0.063	J,DX	0.20	0.019	ug/L	1		218.6	Total/NA
Chloride	4.9	J,DX	5.0	1.8	mg/L	5		300.0	Total/NA
Nitrate as N	2.8		0.50	0.098	mg/L	5		300.0	Total/NA
Sulfate	5.3		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	2.8		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Boron	61	J,DX	500	3.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Antimony	0.50	J,DX	2.0	0.36	ug/L	1		200.8	Total Recoverable
Copper	2.8	MB	2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	0.79	J,DX MB	1.0	0.12	ug/L	1		200.8	Total Recoverable
Barium	19		1.0	0.17	ug/L	1		200.8	Total Recoverable
Iron	830		20	3.7	ug/L	1		200.8	Total Recoverable
Nickel	2.4		2.0	0.17	ug/L	1		200.8	Total Recoverable
Vanadium	2.7		2.0	0.17	ug/L	1		200.8	Total Recoverable
Arsenic	0.98	J,DX	1.0	0.16	ug/L	1		200.8	Total Recoverable
Zinc	13	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Manganese	26		1.0	0.41	ug/L	1		200.8	Total Recoverable
Chromium	1.1	J,DX	2.0	0.14	ug/L	1		200.8	Total Recoverable
Cobalt	0.51	J,DX	1.0	0.14	ug/L	1		200.8	Total Recoverable
Hardness as calcium carbonate	35		7.1	0.50	mg/L	1		SM 2340B	Total Recoverable
Ammonia	0.056	J,DX	0.075	0.032	mg/L	1		350.1	Total/NA
Turbidity	30		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	130		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	20		2.0	1.7	mg/L	1		SM 2540D	Total/NA
Carbon, Total Organic	17		2.0	1.1	mg/L	4		SM 5310D	Total/NA
MBAS	0.11	J,DX	0.30	0.054	mg/L	1		SM 5540C	Total/NA

**Client Sample ID: Outfall001\_20230106\_Comp\_F**

**Lab Sample ID: 570-123016-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	59	J,DX BU	500	3.5	ug/L	1		200.7 Rev 4.4	Dissolved
Antimony	0.47	J,DX BU	2.0	0.36	ug/L	1		200.8	Dissolved
Copper	1.8	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Barium	12	BU	1.0	0.17	ug/L	1		200.8	Dissolved
Iron	110	BU	20	3.7	ug/L	1		200.8	Dissolved
Nickel	1.7	J,DX BU	2.0	0.17	ug/L	1		200.8	Dissolved
Vanadium	1.2	J,DX BU	2.0	0.17	ug/L	1		200.8	Dissolved
Arsenic	0.79	J,DX BU	1.0	0.16	ug/L	1		200.8	Dissolved
Zinc	4.8	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Euofins Calscience

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-123016-1

Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

**Client Sample ID: Outfall001\_20230106\_Comp\_F (Continued)**

**Lab Sample ID: 570-123016-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.5	BU	1.0	0.41	ug/L	1		200.8	Dissolved
Chromium	0.39	J,DX BU	2.0	0.14	ug/L	1		200.8	Dissolved
Cobalt	0.15	J,DX BU	1.0	0.14	ug/L	1		200.8	Dissolved
Mercury	0.16	J,DX BU	0.20	0.12	ug/L	1		245.1	Dissolved
Hardness as calcium carbonate	35		7.1	0.50	mg/L	1		SM 2340B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SW846 8260B SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: Outfall001\_20230106\_Comp

Date Collected: 01/06/23 07:20

Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/07/23 02:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dichlorobutane (Surr)	99		67 - 133		01/07/23 02:02	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
1,2-Dichlorobenzene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 19:49	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.19	0.087	ug/L		01/13/23 05:33	01/13/23 19:49	1
1,3-Dichlorobenzene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 19:49	1
1,4-Dichlorobenzene	ND		0.19	0.13	ug/L		01/13/23 05:33	01/13/23 19:49	1
2,4,6-Trichlorophenol	ND		0.96	0.13	ug/L		01/13/23 05:33	01/13/23 19:49	1
2,4-Dichlorophenol	ND		0.96	0.13	ug/L		01/13/23 05:33	01/13/23 19:49	1
2,4-Dimethylphenol	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
2,4-Dinitrophenol	ND		4.8	4.1	ug/L		01/13/23 05:33	01/13/23 19:49	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 19:49	1
2,6-Dinitrotoluene	ND		0.19	0.17	ug/L		01/13/23 05:33	01/13/23 19:49	1
2-Chloronaphthalene	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 19:49	1
2-Chlorophenol	ND		0.19	0.091	ug/L		01/13/23 05:33	01/13/23 19:49	1
2-Nitrophenol	ND		4.8	3.3	ug/L		01/13/23 05:33	01/13/23 19:49	1
3,3'-Dichlorobenzidine	ND		4.8	2.9	ug/L		01/13/23 05:33	01/13/23 19:49	1
4,6-Dinitro-2-methylphenol	ND	LQ	4.8	4.3	ug/L		01/13/23 05:33	01/13/23 19:49	1
4-Bromophenyl phenyl ether	ND		0.19	0.095	ug/L		01/13/23 05:33	01/13/23 19:49	1
4-Chloro-3-methylphenol	ND		0.96	0.13	ug/L		01/13/23 05:33	01/13/23 19:49	1
4-Chlorophenyl phenyl ether	ND		0.19	0.16	ug/L		01/13/23 05:33	01/13/23 19:49	1
4-Nitrophenol	ND		4.8	3.2	ug/L		01/13/23 05:33	01/13/23 19:49	1
Acenaphthene	ND		0.19	0.094	ug/L		01/13/23 05:33	01/13/23 19:49	1
Acenaphthylene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
Anthracene	ND		0.19	0.080	ug/L		01/13/23 05:33	01/13/23 19:49	1
Benzidine	ND	BA	4.8	2.6	ug/L		01/13/23 05:33	01/13/23 19:49	1
Benzo[a]anthracene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
Benzo[a]pyrene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 19:49	1
<b>Benzo[b]fluoranthene</b>	<b>0.12</b>	<b>J,DX</b>	0.19	0.11	ug/L		01/13/23 05:33	01/13/23 19:49	1
Benzo[g,h,i]perylene	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 19:49	1
Benzo[k]fluoranthene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 19:49	1
bis (2-chloroisopropyl) ether	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
Bis(2-chloroethoxy)methane	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 19:49	1
Bis(2-chloroethyl)ether	ND		0.19	0.099	ug/L		01/13/23 05:33	01/13/23 19:49	1
Bis(2-ethylhexyl) phthalate	ND		4.8	3.4	ug/L		01/13/23 05:33	01/13/23 19:49	1
Butyl benzyl phthalate	ND		0.96	0.64	ug/L		01/13/23 05:33	01/13/23 19:49	1
Chrysene	ND		0.19	0.11	ug/L		01/13/23 05:33	01/13/23 19:49	1
Dibenz(a,h)anthracene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 19:49	1
Diethyl phthalate	ND		1.9	0.17	ug/L		01/13/23 05:33	01/13/23 19:49	1
Dimethyl phthalate	ND		1.9	0.093	ug/L		01/13/23 05:33	01/13/23 19:49	1
Di-n-butyl phthalate	ND		1.9	1.8	ug/L		01/13/23 05:33	01/13/23 19:49	1
Di-n-octyl phthalate	ND		2.9	0.51	ug/L		01/13/23 05:33	01/13/23 19:49	1
Fluoranthene	ND		0.19	0.096	ug/L		01/13/23 05:33	01/13/23 19:49	1
Fluorene	ND		0.19	0.090	ug/L		01/13/23 05:33	01/13/23 19:49	1
Hexachlorobenzene	ND		0.19	0.13	ug/L		01/13/23 05:33	01/13/23 19:49	1
Hexachlorobutadiene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 19:49	1
Hexachlorocyclopentadiene	ND		0.19	0.15	ug/L		01/13/23 05:33	01/13/23 19:49	1
Hexachloroethane	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.12	ug/L		01/13/23 05:33	01/13/23 19:49	1
Isophorone	ND		0.19	0.094	ug/L		01/13/23 05:33	01/13/23 19:49	1
Naphthalene	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 19:49	1

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 19:49	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		01/13/23 05:33	01/13/23 19:49	1
N-Nitrosodi-n-propylamine	ND		0.19	0.14	ug/L		01/13/23 05:33	01/13/23 19:49	1
N-Nitrosodiphenylamine	ND		0.19	0.10	ug/L		01/13/23 05:33	01/13/23 19:49	1
Pentachlorophenol	ND		0.96	0.81	ug/L		01/13/23 05:33	01/13/23 19:49	1
Phenanthrene	ND		0.19	0.16	ug/L		01/13/23 05:33	01/13/23 19:49	1
Phenol	ND		0.96	0.50	ug/L		01/13/23 05:33	01/13/23 19:49	1
Pyrene	ND		0.19	0.082	ug/L		01/13/23 05:33	01/13/23 19:49	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>2,4,6-Tribromophenol</i>	71		28 - 127				01/13/23 05:33	01/13/23 19:49	1
<i>2-Fluorobiphenyl (Surr)</i>	45		31 - 120				01/13/23 05:33	01/13/23 19:49	1
<i>2-Fluorophenol</i>	26		17 - 120				01/13/23 05:33	01/13/23 19:49	1
<i>Nitrobenzene-d5</i>	46		27 - 120				01/13/23 05:33	01/13/23 19:49	1
<i>p-Terphenyl-d14 (Surr)</i>	67		45 - 120				01/13/23 05:33	01/13/23 19:49	1
<i>Phenol-d6 (Surr)</i>	20		10 - 120				01/13/23 05:33	01/13/23 19:49	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	ND		0.033	0.026	ug/L		01/10/23 08:13	01/11/23 13:24	1
4,4'-DDD	ND	LQ BA	0.0067	0.0044	ug/L		01/10/23 08:13	01/11/23 13:24	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		01/10/23 08:13	01/11/23 13:24	1
4,4'-DDT	ND	BA	0.0033	0.0016	ug/L		01/10/23 08:13	01/11/23 13:24	1
Dieldrin	ND		0.0033	0.0013	ug/L		01/10/23 08:13	01/11/23 13:24	1
Toxaphene	ND		0.067	0.054	ug/L		01/10/23 08:13	01/11/23 13:24	1
alpha-BHC	ND		0.0013	0.0012	ug/L		01/10/23 08:13	01/11/23 13:24	1
Endrin aldehyde	ND		0.033	0.024	ug/L		01/10/23 08:13	01/11/23 13:24	1
<b>delta-BHC</b>	<b>0.0044</b>	<b>PI</b>	0.0033	0.0020	ug/L		01/10/23 08:13	01/11/23 13:24	1
Aldrin	ND		0.0033	0.0031	ug/L		01/10/23 08:13	01/11/23 13:24	1
Endosulfan sulfate	ND		0.0033	0.0014	ug/L		01/10/23 08:13	01/11/23 13:24	1
Endosulfan I	ND		0.0013	0.0013	ug/L		01/10/23 08:13	01/11/23 13:24	1
Endrin	ND		0.0033	0.0023	ug/L		01/10/23 08:13	01/11/23 13:24	1
Endosulfan II	ND		0.0067	0.0041	ug/L		01/10/23 08:13	01/11/23 13:24	1
beta-BHC	ND		0.0050	0.0039	ug/L		01/10/23 08:13	01/11/23 13:24	1
<b>Heptachlor</b>	<b>0.0012</b>	<b>J,DX PI</b>	0.0013	0.0012	ug/L		01/10/23 08:13	01/11/23 13:24	1
Heptachlor epoxide	ND		0.0067	0.0039	ug/L		01/10/23 08:13	01/11/23 13:24	1
gamma-BHC (Lindane)	ND		0.0013	0.00066	ug/L		01/10/23 08:13	01/11/23 13:24	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Tetrachloro-m-xylene</i>	74	PI	20 - 139				01/10/23 08:13	01/11/23 13:24	1
<i>DCB Decachlorobiphenyl (Surr)</i>	36		20 - 154				01/10/23 08:13	01/11/23 13:24	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND	LQ	0.10	0.044	ug/L		01/10/23 08:13	01/11/23 17:57	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 17:57	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 17:57	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 17:57	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 17:57	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/10/23 08:13	01/11/23 17:57	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/10/23 08:13	01/11/23 17:57	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Tetrachloro-m-xylene (Surr)</i>	48		20 - 139				01/10/23 08:13	01/11/23 17:57	1
<i>DCB Decachlorobiphenyl (Surr)</i>	54	PI	20 - 154				01/10/23 08:13	01/11/23 17:57	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 218.6 - Chromium, Hexavalent (Ion Chromatography)

Client Sample ID: Outfall001\_20230106\_Comp

Lab Sample ID: 570-123016-1

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	0.063	J,DX	0.20	0.019	ug/L			01/09/23 04:41	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230106\_Comp

Date Collected: 01/06/23 07:20

Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.9	J,DX	5.0	1.8	mg/L			01/07/23 19:29	5
Nitrite as N	ND		0.50	0.22	mg/L			01/07/23 19:29	5
Fluoride	ND		0.50	0.23	mg/L			01/07/23 19:29	5
Nitrate as N	2.8		0.50	0.098	mg/L			01/07/23 19:29	5
Sulfate	5.3		5.0	1.2	mg/L			01/07/23 19:29	5

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230106\_Comp

Date Collected: 01/06/23 07:20

Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/09/23 18:52	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230106\_Comp

Lab Sample ID: 570-123016-1

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.8		0.10	0.020	mg/L			01/13/23 11:53	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: Outfall001\_20230106\_Comp

Lab Sample ID: 570-123016-1

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	61	J,DX	500	3.5	ug/L		01/12/23 06:20	01/17/23 13:40	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Client Sample ID: Outfall001\_20230106\_Comp\_F

Date Collected: 01/06/23 07:20

Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	59	J,DX BU	500	3.5	ug/L			01/11/23 09:34	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

**Client Sample ID: Outfall001\_20230106\_Comp**

**Date Collected: 01/06/23 07:20**

**Date Received: 01/06/23 18:15**

**Lab Sample ID: 570-123016-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.50</b>	<b>J,DX</b>	2.0	0.36	ug/L		01/12/23 00:28	01/12/23 13:00	1
Cadmium	ND		1.0	0.13	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Copper</b>	<b>2.8</b>	<b>MB</b>	2.0	0.32	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Lead</b>	<b>0.79</b>	<b>J,DX MB</b>	1.0	0.12	ug/L		01/12/23 00:28	01/12/23 13:00	1
Selenium	ND		2.0	0.52	ug/L		01/12/23 00:28	01/12/23 13:00	1
Silver	ND		1.0	0.23	ug/L		01/12/23 00:28	01/12/23 13:00	1
Thallium	ND		1.0	0.11	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Barium</b>	<b>19</b>		1.0	0.17	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Iron</b>	<b>830</b>		20	3.7	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Nickel</b>	<b>2.4</b>		2.0	0.17	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Vanadium</b>	<b>2.7</b>		2.0	0.17	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Arsenic</b>	<b>0.98</b>	<b>J,DX</b>	1.0	0.16	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Zinc</b>	<b>13</b>	<b>J,DX</b>	20	2.8	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Manganese</b>	<b>26</b>		1.0	0.41	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Chromium</b>	<b>1.1</b>	<b>J,DX</b>	2.0	0.14	ug/L		01/12/23 00:28	01/12/23 13:00	1
Beryllium	ND		0.50	0.26	ug/L		01/12/23 00:28	01/12/23 13:00	1
<b>Cobalt</b>	<b>0.51</b>	<b>J,DX</b>	1.0	0.14	ug/L		01/12/23 00:28	01/12/23 13:00	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230106\_Comp\_F

Date Collected: 01/06/23 07:20

Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Antimony</b>	<b>0.47</b>	<b>J,DX BU</b>	2.0	0.36	ug/L			01/10/23 12:15	1
Cadmium	ND	BU	1.0	0.13	ug/L			01/10/23 12:15	1
<b>Copper</b>	<b>1.8</b>	<b>J,DX BU</b>	2.0	0.32	ug/L			01/10/23 12:15	1
Lead	ND	BU	1.0	0.12	ug/L			01/10/23 12:15	1
Selenium	ND	BU	2.0	0.52	ug/L			01/10/23 12:15	1
Silver	ND	BU	1.0	0.23	ug/L			01/10/23 12:15	1
Thallium	ND	BU	1.0	0.11	ug/L			01/10/23 12:15	1
Beryllium	ND	BU	0.50	0.26	ug/L			01/10/23 12:15	1
<b>Barium</b>	<b>12</b>	<b>BU</b>	1.0	0.17	ug/L			01/10/23 12:15	1
<b>Iron</b>	<b>110</b>	<b>BU</b>	20	3.7	ug/L			01/10/23 12:15	1
<b>Nickel</b>	<b>1.7</b>	<b>J,DX BU</b>	2.0	0.17	ug/L			01/10/23 12:15	1
<b>Vanadium</b>	<b>1.2</b>	<b>J,DX BU</b>	2.0	0.17	ug/L			01/10/23 12:15	1
<b>Arsenic</b>	<b>0.79</b>	<b>J,DX BU</b>	1.0	0.16	ug/L			01/10/23 12:15	1
<b>Zinc</b>	<b>4.8</b>	<b>J,DX BU</b>	20	2.8	ug/L			01/10/23 12:15	1
<b>Manganese</b>	<b>3.5</b>	<b>BU</b>	1.0	0.41	ug/L			01/10/23 12:15	1
<b>Chromium</b>	<b>0.39</b>	<b>J,DX BU</b>	2.0	0.14	ug/L			01/10/23 12:15	1
<b>Cobalt</b>	<b>0.15</b>	<b>J,DX BU</b>	1.0	0.14	ug/L			01/10/23 12:15	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230106\_Comp  
Date Collected: 01/06/23 07:20  
Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/10/23 17:07	01/12/23 15:22	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230106\_Comp\_F  
Date Collected: 01/06/23 07:20  
Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-3  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.16	J,DX BU	0.20	0.12	ug/L		01/10/23 17:32	01/12/23 15:03	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Client Sample ID: Outfall001\_20230106\_Comp

Lab Sample ID: 570-123016-1

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	35		7.1	0.50	mg/L			01/13/23 16:31	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Dissolved

Client Sample ID: Outfall001\_20230106\_Comp\_F

Lab Sample ID: 570-123016-3

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	35		7.1	0.50	mg/L			01/12/23 16:31	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## General Chemistry

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III) (EPA 218.6 CR3)	ND		0.050	0.0030	mg/L			01/16/23 11:45	1
<b>Ammonia (EPA 350.1)</b>	<b>0.056</b>	<b>J,DX</b>	0.075	0.032	mg/L		01/18/23 13:02	01/18/23 14:53	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			01/11/23 14:55	1
<b>Turbidity (SM 2130B)</b>	<b>30</b>		0.05	0.05	NTU			01/07/23 14:03	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>130</b>		10	8.7	mg/L			01/10/23 16:16	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>20</b>		2.0	1.7	mg/L			01/11/23 13:19	1
<b>Carbon, Total Organic (SM 5310D)</b>	<b>17</b>		2.0	1.1	mg/L			01/12/23 16:53	4
<b>MBAS (SM 5540C)</b>	<b>0.11</b>	<b>J,DX</b>	0.30	0.054	mg/L		01/07/23 09:00	01/07/23 10:43	1
Biochemical Oxygen Demand (SM5210B)	ND		2.0	1.0	mg/L			01/07/23 13:25	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	14DCBTN (67-133)
570-123016-1	Outfall001_20230106_Comp	99
LCS 570-294255/1012	Lab Control Sample	104
LCSD 570-294255/13	Lab Control Sample Dup	101
MB 570-294255/15	Method Blank	110

#### Surrogate Legend

14DCBTN = 1,4-Dichlorobutane (Surr)

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	TPHd14 (45-120)	PHL6 (10-120)
570-123016-1	Outfall001_20230106_Comp	71	45	26	46	67	20
LCS 570-295604/2-A	Lab Control Sample	84	63	45	63	86	33
LCSD 570-295604/3-A	Lab Control Sample Dup	86	66	44	62	78	32
MB 570-295604/1-A	Method Blank	79	59	43	68	68	30

#### Surrogate Legend

TBP = 2,4,6-Tribromophenol  
 FBP = 2-Fluorobiphenyl (Surr)  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 PHL6 = Phenol-d6 (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-123016-1	Outfall001_20230106_Comp	74 PI	36

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (20-139)	DCB2 (20-154)
LCS 570-294695/2-A	Lab Control Sample	108	110
LCSD 570-294695/3-A	Lab Control Sample Dup	103	93
MB 570-294695/1-A	Method Blank	121	89

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# Surrogate Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-123016-1

Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

**Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-123016-1	Outfall001_20230106_Comp	48	54 PI
LCS 570-294695/4-A	Lab Control Sample	86	75 PI
LCSD 570-294695/5-A	Lab Control Sample Dup	69	68
MB 570-294695/1-A	Method Blank	59	81

### Surrogate Legend

TCX = Tetrachloro-m-xylene (Surr)

DCB = DCB Decachlorobiphenyl (Surr)



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-294255/15**  
**Matrix: Water**  
**Analysis Batch: 294255**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1.0	0.55	ug/L			01/07/23 00:02	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dichlorobutane (Surr)	110		67 - 133					01/07/23 00:02	1

**Lab Sample ID: LCS 570-294255/1012**  
**Matrix: Water**  
**Analysis Batch: 294255**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	20.0	19.0		ug/L		95	75 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dichlorobutane (Surr)	104		67 - 133				

**Lab Sample ID: LCSD 570-294255/13**  
**Matrix: Water**  
**Analysis Batch: 294255**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	20.0	19.8		ug/L		99	75 - 120	4	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dichlorobutane (Surr)	101		67 - 133						

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-295604/1-A**  
**Matrix: Water**  
**Analysis Batch: 295532**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,2-Dichlorobenzene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		0.20	0.091	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,3-Dichlorobenzene	ND		0.20	0.12	ug/L		01/13/23 05:33	01/13/23 17:44	1
1,4-Dichlorobenzene	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dichlorophenol	ND		1.0	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dimethylphenol	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dinitrophenol	ND		5.0	4.3	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		01/13/23 05:33	01/13/23 17:44	1
2,6-Dinitrotoluene	ND		0.20	0.18	ug/L		01/13/23 05:33	01/13/23 17:44	1
2-Chloronaphthalene	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
2-Chlorophenol	ND		0.20	0.096	ug/L		01/13/23 05:33	01/13/23 17:44	1
2-Nitrophenol	ND		5.0	3.5	ug/L		01/13/23 05:33	01/13/23 17:44	1
3,3'-Dichlorobenzidine	ND		5.0	3.0	ug/L		01/13/23 05:33	01/13/23 17:44	1

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: MB 570-295604/1-A**  
**Matrix: Water**  
**Analysis Batch: 295532**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		5.0	4.5	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Bromophenyl phenyl ether	ND		0.20	0.10	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Chloro-3-methylphenol	ND		1.0	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Chlorophenyl phenyl ether	ND		0.20	0.17	ug/L		01/13/23 05:33	01/13/23 17:44	1
4-Nitrophenol	ND		5.0	3.4	ug/L		01/13/23 05:33	01/13/23 17:44	1
Acenaphthene	ND		0.20	0.098	ug/L		01/13/23 05:33	01/13/23 17:44	1
Acenaphthylene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Anthracene	ND		0.20	0.084	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzidine	ND		5.0	2.7	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[a]anthracene	ND		0.20	0.12	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[a]pyrene	ND		0.20	0.15	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[b]fluoranthene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[g,h,i]perylene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Benzo[k]fluoranthene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
bis (2-chloroisopropyl) ether	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Bis(2-chloroethoxy)methane	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Bis(2-chloroethyl)ether	ND		0.20	0.10	ug/L		01/13/23 05:33	01/13/23 17:44	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		01/13/23 05:33	01/13/23 17:44	1
Butyl benzyl phthalate	ND		1.0	0.67	ug/L		01/13/23 05:33	01/13/23 17:44	1
Chrysene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Dibenz(a,h)anthracene	ND		0.20	0.16	ug/L		01/13/23 05:33	01/13/23 17:44	1
Diethyl phthalate	ND		2.0	0.18	ug/L		01/13/23 05:33	01/13/23 17:44	1
Dimethyl phthalate	ND		2.0	0.098	ug/L		01/13/23 05:33	01/13/23 17:44	1
Di-n-butyl phthalate	ND		2.0	1.8	ug/L		01/13/23 05:33	01/13/23 17:44	1
Di-n-octyl phthalate	ND		3.0	0.54	ug/L		01/13/23 05:33	01/13/23 17:44	1
Fluoranthene	ND		0.20	0.10	ug/L		01/13/23 05:33	01/13/23 17:44	1
Fluorene	ND		0.20	0.095	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachlorobenzene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachlorobutadiene	ND		0.20	0.15	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachlorocyclopentadiene	ND		0.20	0.15	ug/L		01/13/23 05:33	01/13/23 17:44	1
Hexachloroethane	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.13	ug/L		01/13/23 05:33	01/13/23 17:44	1
Isophorone	ND		0.20	0.099	ug/L		01/13/23 05:33	01/13/23 17:44	1
Naphthalene	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Nitrobenzene	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		01/13/23 05:33	01/13/23 17:44	1
N-Nitrosodi-n-propylamine	ND		0.20	0.14	ug/L		01/13/23 05:33	01/13/23 17:44	1
N-Nitrosodiphenylamine	ND		0.20	0.11	ug/L		01/13/23 05:33	01/13/23 17:44	1
Pentachlorophenol	ND		1.0	0.84	ug/L		01/13/23 05:33	01/13/23 17:44	1
Phenanthrene	ND		0.20	0.16	ug/L		01/13/23 05:33	01/13/23 17:44	1
Phenol	ND		1.0	0.52	ug/L		01/13/23 05:33	01/13/23 17:44	1
Pyrene	ND		0.20	0.086	ug/L		01/13/23 05:33	01/13/23 17:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	79		28 - 127	01/13/23 05:33	01/13/23 17:44	1
2-Fluorobiphenyl (Surr)	59		31 - 120	01/13/23 05:33	01/13/23 17:44	1
2-Fluorophenol	43		17 - 120	01/13/23 05:33	01/13/23 17:44	1
Nitrobenzene-d5	68		27 - 120	01/13/23 05:33	01/13/23 17:44	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: MB 570-295604/1-A**  
**Matrix: Water**  
**Analysis Batch: 295532**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
<i>p</i> -Terphenyl-d14 (Surr)	68		45 - 120	01/13/23 05:33	01/13/23 17:44	1
Phenol-d6 (Surr)	30		10 - 120	01/13/23 05:33	01/13/23 17:44	1

**Lab Sample ID: LCS 570-295604/2-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichlorobenzene	20.0	12.1		ug/L		60	40 - 120
1,2-Diphenylhydrazine(as Azobenzene)	20.0	13.9		ug/L		70	60 - 115
1,3-Dichlorobenzene	20.0	11.8		ug/L		59	37 - 120
1,4-Dichlorobenzene	20.0	11.7		ug/L		59	39 - 120
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129
2,4-Dichlorophenol	20.0	15.0		ug/L		75	53 - 122
2,4-Dimethylphenol	20.0	14.6		ug/L		73	42 - 120
2,4-Dinitrophenol	20.0	26.0		ug/L		130	1 - 173
2,4-Dinitrotoluene	20.0	18.9		ug/L		95	48 - 127
2,6-Dinitrotoluene	20.0	18.9		ug/L		95	68 - 137
2-Chloronaphthalene	20.0	14.5		ug/L		72	65 - 120
2-Chlorophenol	20.0	15.5		ug/L		78	36 - 120
2-Nitrophenol	20.0	17.3		ug/L		87	45 - 167
3,3'-Dichlorobenzidine	20.0	16.3		ug/L		82	8 - 213
4,6-Dinitro-2-methylphenol	20.0	26.1		ug/L		130	53 - 130
4-Bromophenyl phenyl ether	20.0	15.6		ug/L		78	65 - 120
4-Chloro-3-methylphenol	20.0	17.0		ug/L		85	41 - 128
4-Chlorophenyl phenyl ether	20.0	15.7		ug/L		78	38 - 145
4-Nitrophenol	20.0	9.30		ug/L		46	13 - 129
Benzidine	20.0	5.62		ug/L		28	20 - 164
bis (2-chloroisopropyl) ether	20.0	16.0		ug/L		80	63 - 139
Bis(2-chloroethoxy)methane	20.0	14.8		ug/L		74	49 - 165
Bis(2-chloroethyl)ether	20.0	15.9		ug/L		80	43 - 126
Bis(2-ethylhexyl) phthalate	20.0	18.7		ug/L		93	29 - 137
Butyl benzyl phthalate	20.0	19.9		ug/L		99	1 - 140
Diethyl phthalate	20.0	16.8		ug/L		84	1 - 120
Dimethyl phthalate	20.0	16.6		ug/L		83	1 - 120
Di-n-butyl phthalate	20.0	16.5		ug/L		82	8 - 120
Di-n-octyl phthalate	20.0	18.9		ug/L		95	19 - 132
Hexachlorobenzene	20.0	16.3		ug/L		82	8 - 142
Hexachlorobutadiene	20.0	11.3		ug/L		57	38 - 120
Hexachlorocyclopentadiene	20.0	19.2		ug/L		96	43 - 145
Hexachloroethane	20.0	11.8		ug/L		59	55 - 120
Isophorone	20.0	14.1		ug/L		71	47 - 180
Nitrobenzene	20.0	13.2		ug/L		66	54 - 158
N-Nitrosodimethylamine	20.0	9.48		ug/L		47	20 - 120
N-Nitrosodi-n-propylamine	20.0	15.2		ug/L		76	14 - 198
N-Nitrosodiphenylamine	20.0	17.2		ug/L		86	65 - 133
Pentachlorophenol	20.0	16.3		ug/L		82	38 - 152

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCS 570-295604/2-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Phenol	20.0	7.32		ug/L		37	17 - 120
<b>Surrogate</b>							
	<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>				
2,4,6-Tribromophenol	84		28 - 127				
2-Fluorobiphenyl (Surr)	63		31 - 120				
2-Fluorophenol	45		17 - 120				
Nitrobenzene-d5	63		27 - 120				
p-Terphenyl-d14 (Surr)	86		45 - 120				
Phenol-d6 (Surr)	33		10 - 120				

**Lab Sample ID: LCSD 570-295604/3-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,2,4-Trichlorobenzene	20.0	11.3		ug/L		57	57 - 130	1	30
1,2-Dichlorobenzene	20.0	12.2		ug/L		61	40 - 120	1	20
1,2-Diphenylhydrazine(as Azobenzene)	20.0	14.5		ug/L		72	60 - 115	4	30
1,3-Dichlorobenzene	20.0	11.5		ug/L		58	37 - 120	3	20
1,4-Dichlorobenzene	20.0	11.6		ug/L		58	39 - 120	1	20
2,4,6-Trichlorophenol	20.0	17.1		ug/L		85	52 - 129	0	35
2,4-Dichlorophenol	20.0	15.1		ug/L		76	53 - 122	1	30
2,4-Dimethylphenol	20.0	14.5		ug/L		73	42 - 120	1	35
2,4-Dinitrophenol	20.0	27.6		ug/L		138	1 - 173	6	79
2,4-Dinitrotoluene	20.0	19.9		ug/L		99	48 - 127	5	25
2,6-Dinitrotoluene	20.0	19.6		ug/L		98	68 - 137	3	29
2-Chloronaphthalene	20.0	15.1		ug/L		76	65 - 120	4	15
2-Chlorophenol	20.0	14.7		ug/L		73	36 - 120	5	37
2-Nitrophenol	20.0	16.5		ug/L		83	45 - 167	5	33
3,3'-Dichlorobenzidine	20.0	17.0		ug/L		85	8 - 213	4	65
4,6-Dinitro-2-methylphenol	20.0	27.4	LQ	ug/L		137	53 - 130	5	122
4-Bromophenyl phenyl ether	20.0	15.6		ug/L		78	65 - 120	0	26
4-Chloro-3-methylphenol	20.0	16.4		ug/L		82	41 - 128	3	44
4-Chlorophenyl phenyl ether	20.0	16.3		ug/L		81	38 - 145	4	36
4-Nitrophenol	20.0	10.5		ug/L		53	13 - 129	12	79
Benzidine	20.0	9.78	BA	ug/L		49	20 - 164	54	30
bis (2-chloroisopropyl) ether	20.0	15.3		ug/L		76	63 - 139	5	46
Bis(2-chloroethoxy)methane	20.0	14.3		ug/L		71	49 - 165	4	32
Bis(2-chloroethyl)ether	20.0	14.7		ug/L		73	43 - 126	8	65
Bis(2-ethylhexyl) phthalate	20.0	19.3		ug/L		97	29 - 137	3	50
Butyl benzyl phthalate	20.0	19.8		ug/L		99	1 - 140	0	36
Diethyl phthalate	20.0	17.1		ug/L		85	1 - 120	1	60
Dimethyl phthalate	20.0	16.7		ug/L		83	1 - 120	1	110
Di-n-butyl phthalate	20.0	16.9		ug/L		85	8 - 120	3	28
Di-n-octyl phthalate	20.0	20.4		ug/L		102	19 - 132	8	42
Hexachlorobenzene	20.0	17.1		ug/L		85	8 - 142	5	33
Hexachlorobutadiene	20.0	10.8		ug/L		54	38 - 120	4	38
Hexachlorocyclopentadiene	20.0	20.1		ug/L		100	43 - 145	5	22

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-295604/3-A**  
**Matrix: Water**  
**Analysis Batch: 296124**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295604**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Hexachloroethane	20.0	11.2		ug/L		56	55 - 120	5	32	
Isophorone	20.0	13.9		ug/L		69	47 - 180	2	56	
Nitrobenzene	20.0	12.8		ug/L		64	54 - 158	3	37	
N-Nitrosodimethylamine	20.0	9.54		ug/L		48	20 - 120	1	21	
N-Nitrosodi-n-propylamine	20.0	14.8		ug/L		74	14 - 198	3	52	
N-Nitrosodiphenylamine	20.0	17.3		ug/L		86	65 - 133	0	20	
Pentachlorophenol	20.0	16.8		ug/L		84	38 - 152	3	52	
Phenol	20.0	6.93		ug/L		35	17 - 120	5	39	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	86		28 - 127
2-Fluorobiphenyl (Surr)	66		31 - 120
2-Fluorophenol	44		17 - 120
Nitrobenzene-d5	62		27 - 120
p-Terphenyl-d14 (Surr)	78		45 - 120
Phenol-d6 (Surr)	32		10 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-294695/1-A**  
**Matrix: Water**  
**Analysis Batch: 294966**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294695**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chlordane (technical)	ND		0.033	0.026	ug/L		01/10/23 08:13	01/11/23 10:57	1
4,4'-DDD	ND		0.0067	0.0044	ug/L		01/10/23 08:13	01/11/23 10:57	1
4,4'-DDE	ND		0.0033	0.0019	ug/L		01/10/23 08:13	01/11/23 10:57	1
4,4'-DDT	ND		0.0033	0.0016	ug/L		01/10/23 08:13	01/11/23 10:57	1
Dieldrin	ND		0.0033	0.0013	ug/L		01/10/23 08:13	01/11/23 10:57	1
Toxaphene	ND		0.067	0.054	ug/L		01/10/23 08:13	01/11/23 10:57	1
alpha-BHC	ND		0.0013	0.0012	ug/L		01/10/23 08:13	01/11/23 10:57	1
Endrin aldehyde	ND		0.033	0.024	ug/L		01/10/23 08:13	01/11/23 10:57	1
delta-BHC	ND		0.0033	0.0020	ug/L		01/10/23 08:13	01/11/23 10:57	1
Aldrin	ND		0.0033	0.0031	ug/L		01/10/23 08:13	01/11/23 10:57	1
Endosulfan sulfate	ND		0.0033	0.0014	ug/L		01/10/23 08:13	01/11/23 10:57	1
Endosulfan I	ND		0.0013	0.0013	ug/L		01/10/23 08:13	01/11/23 10:57	1
Endrin	ND		0.0033	0.0023	ug/L		01/10/23 08:13	01/11/23 10:57	1
Endosulfan II	ND		0.0067	0.0041	ug/L		01/10/23 08:13	01/11/23 10:57	1
beta-BHC	ND		0.0050	0.0039	ug/L		01/10/23 08:13	01/11/23 10:57	1
Heptachlor	ND		0.0013	0.0012	ug/L		01/10/23 08:13	01/11/23 10:57	1
Heptachlor epoxide	ND		0.0067	0.0039	ug/L		01/10/23 08:13	01/11/23 10:57	1
gamma-BHC (Lindane)	ND		0.0013	0.00066	ug/L		01/10/23 08:13	01/11/23 10:57	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	121		20 - 139	01/10/23 08:13	01/11/23 10:57	1
DCB Decachlorobiphenyl (Surr)	89		20 - 154	01/10/23 08:13	01/11/23 10:57	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 608.3 - Organochlorine Pesticides in Water (Continued)

**Lab Sample ID: LCS 570-294695/2-A**  
**Matrix: Water**  
**Analysis Batch: 294966**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294695**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
4,4'-DDD	0.0333	0.0528	LQ	ug/L		159	31 - 141
4,4'-DDE	0.0333	0.0370		ug/L		111	30 - 145
4,4'-DDT	0.0333	0.0143		ug/L		43	25 - 160
Dieldrin	0.0333	0.0345		ug/L		103	36 - 146
alpha-BHC	0.0333	0.0362		ug/L		108	37 - 140
Endrin aldehyde	0.0333	0.0315	J,DX	ug/L		94	50 - 135
delta-BHC	0.0333	0.0378		ug/L		113	19 - 140
Aldrin	0.0333	0.0351		ug/L		105	42 - 140
Endosulfan sulfate	0.0333	0.0332		ug/L		100	26 - 144
Endosulfan I	0.0333	0.0334		ug/L		100	45 - 153
Endrin	0.0333	0.0392		ug/L		118	30 - 147
Endosulfan II	0.0333	0.0347		ug/L		104	1 - 202
beta-BHC	0.0333	0.0330		ug/L		99	17 - 147
Heptachlor	0.0333	0.0351		ug/L		105	34 - 140
Heptachlor epoxide	0.0333	0.0350		ug/L		105	37 - 142
gamma-BHC (Lindane)	0.0333	0.0354		ug/L		106	32 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	108		20 - 139
DCB Decachlorobiphenyl (Surr)	110		20 - 154

**Lab Sample ID: LCSD 570-294695/3-A**  
**Matrix: Water**  
**Analysis Batch: 294966**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294695**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4,4'-DDD	0.0333	0.0343	BA	ug/L		103	31 - 141	42	39
4,4'-DDE	0.0333	0.0340		ug/L		102	30 - 145	9	35
4,4'-DDT	0.0333	0.0336	BA	ug/L		101	25 - 160	81	42
Dieldrin	0.0333	0.0311		ug/L		93	36 - 146	10	49
alpha-BHC	0.0333	0.0336		ug/L		101	37 - 140	7	36
Endrin aldehyde	0.0333	0.0289	J,DX	ug/L		87	50 - 135	9	30
delta-BHC	0.0333	0.0335		ug/L		101	19 - 140	12	52
Aldrin	0.0333	0.0323		ug/L		97	42 - 140	8	35
Endosulfan sulfate	0.0333	0.0298		ug/L		89	26 - 144	11	38
Endosulfan I	0.0333	0.0306		ug/L		92	45 - 153	9	28
Endrin	0.0333	0.0347		ug/L		104	30 - 147	12	48
Endosulfan II	0.0333	0.0305		ug/L		91	1 - 202	13	53
beta-BHC	0.0333	0.0304		ug/L		91	17 - 147	8	44
Heptachlor	0.0333	0.0337		ug/L		101	34 - 140	4	43
Heptachlor epoxide	0.0333	0.0320		ug/L		96	37 - 142	9	26
gamma-BHC (Lindane)	0.0333	0.0331		ug/L		99	32 - 140	7	39

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	103		20 - 139
DCB Decachlorobiphenyl (Surr)	93		20 - 154

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 570-294695/1-A**  
**Matrix: Water**  
**Analysis Batch: 295061**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294695**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor 1016	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 16:40	1
Aroclor 1221	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 16:40	1
Aroclor 1232	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 16:40	1
Aroclor 1242	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 16:40	1
Aroclor 1248	ND		0.10	0.044	ug/L		01/10/23 08:13	01/11/23 16:40	1
Aroclor 1254	ND		0.10	0.052	ug/L		01/10/23 08:13	01/11/23 16:40	1
Aroclor 1260	ND		0.10	0.052	ug/L		01/10/23 08:13	01/11/23 16:40	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene (Surr)	59		20 - 139	01/10/23 08:13	01/11/23 16:40	1
DCB Decachlorobiphenyl (Surr)	81		20 - 154	01/10/23 08:13	01/11/23 16:40	1

**Lab Sample ID: LCS 570-294695/4-A**  
**Matrix: Water**  
**Analysis Batch: 295061**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294695**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor 1016	0.133	0.370	PI LQ	ug/L		278	50 - 140
Aroclor 1260	0.133	0.147	PI	ug/L		110	8 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	86		20 - 139
DCB Decachlorobiphenyl (Surr)	75	PI	20 - 154

**Lab Sample ID: LCSD 570-294695/5-A**  
**Matrix: Water**  
**Analysis Batch: 295061**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294695**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Aroclor 1016	0.133	0.424	PI LQ	ug/L		318	50 - 140	13	36
Aroclor 1260	0.133	0.123	PI	ug/L		92	8 - 140	18	38

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene (Surr)	69		20 - 139
DCB Decachlorobiphenyl (Surr)	68		20 - 154

## Method: 218.6 - Chromium, Hexavalent (Ion Chromatography)

**Lab Sample ID: MB 570-294364/4**  
**Matrix: Water**  
**Analysis Batch: 294364**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chromium, hexavalent	ND		0.20	0.019	ug/L			01/09/23 03:42	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 218.6 - Chromium, Hexavalent (Ion Chromatography) (Continued)

**Lab Sample ID: LCS 570-294364/5**  
**Matrix: Water**  
**Analysis Batch: 294364**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium, hexavalent	50.1	49.4		ug/L		99	95 - 107

**Lab Sample ID: LCSD 570-294364/6**  
**Matrix: Water**  
**Analysis Batch: 294364**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium, hexavalent	50.1	49.7		ug/L		99	95 - 107	1	20

**Lab Sample ID: 570-123038-J-2 MS**  
**Matrix: Water**  
**Analysis Batch: 294364**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium, hexavalent	0.22		50.1	50.3		ug/L		100	85 - 121

**Lab Sample ID: 570-123038-J-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 294364**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium, hexavalent	0.22		50.1	49.9		ug/L		99	85 - 121	1	25

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-294334/5**  
**Matrix: Water**  
**Analysis Batch: 294334**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			01/07/23 14:36	1
Nitrate as N	ND		0.10	0.020	mg/L			01/07/23 14:36	1

**Lab Sample ID: LCS 570-294334/6**  
**Matrix: Water**  
**Analysis Batch: 294334**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.52		mg/L		101	90 - 110
Nitrate as N	5.00	4.92		mg/L		98	90 - 110

**Lab Sample ID: LCSD 570-294334/7**  
**Matrix: Water**  
**Analysis Batch: 294334**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.50		mg/L		100	90 - 110	1	15
Nitrate as N	5.00	4.92		mg/L		98	90 - 110	0	15

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: 570-123038-J-2 MS**  
**Matrix: Water**  
**Analysis Batch: 294334**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	0.097	J,DX MB	2.50	2.58		mg/L		99	80 - 120
Nitrate as N	0.92		5.00	6.05		mg/L		103	80 - 120

**Lab Sample ID: 570-123038-J-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 294334**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	0.097	J,DX MB	2.50	2.57		mg/L		99	80 - 120	0	20
Nitrate as N	0.92		5.00	6.04		mg/L		102	80 - 120	0	20

**Lab Sample ID: MB 570-294335/5**  
**Matrix: Water**  
**Analysis Batch: 294335**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/07/23 14:36	1
Fluoride	ND		0.10	0.046	mg/L			01/07/23 14:36	1
Sulfate	ND		1.0	0.24	mg/L			01/07/23 14:36	1

**Lab Sample ID: LCS 570-294335/6**  
**Matrix: Water**  
**Analysis Batch: 294335**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.7		mg/L		99	90 - 110
Fluoride	2.50	2.40		mg/L		96	90 - 110
Sulfate	50.0	49.5		mg/L		99	90 - 110

**Lab Sample ID: LCSD 570-294335/7**  
**Matrix: Water**  
**Analysis Batch: 294335**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	49.8		mg/L		100	90 - 110	0	15
Fluoride	2.50	2.43		mg/L		97	90 - 110	1	15
Sulfate	50.0	49.5		mg/L		99	90 - 110	0	15

**Lab Sample ID: 570-123038-J-2 MS**  
**Matrix: Water**  
**Analysis Batch: 294335**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	4.9		50.0	57.3		mg/L		105	80 - 120
Fluoride	ND		2.50	2.51		mg/L		101	80 - 120
Sulfate	180	EY	50.0	246	EY LM	mg/L		125	80 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 570-123038-J-2 MSD  
 Matrix: Water  
 Analysis Batch: 294335

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	4.9		50.0	57.3		mg/L		105	80 - 120	0	20
Fluoride	ND		2.50	2.52		mg/L		101	80 - 120	0	20
Sulfate	180	EY	50.0	246	EY LM	mg/L		125	80 - 120	0	20

## Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-294424/7  
 Matrix: Water  
 Analysis Batch: 294424

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/09/23 12:57	1

Lab Sample ID: LCS 570-294424/8  
 Matrix: Water  
 Analysis Batch: 294424

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

Lab Sample ID: LCSD 570-294424/9  
 Matrix: Water  
 Analysis Batch: 294424

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.2		ug/L		97	85 - 115	1	15

Lab Sample ID: 570-122945-B-1 MS  
 Matrix: Water  
 Analysis Batch: 294424

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	1.3	J,DX	50.0	52.3		ug/L		102	80 - 120

Lab Sample ID: 570-122945-B-1 MSD  
 Matrix: Water  
 Analysis Batch: 294424

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	1.3	J,DX	50.0	52.6		ug/L		103	80 - 120	0	15

## Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 570-295271/1-A  
 Matrix: Water  
 Analysis Batch: 296497

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 295271

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		500	3.5	ug/L		01/12/23 06:20	01/17/23 12:21	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

**Lab Sample ID: LCS 570-295271/2-A**  
**Matrix: Water**  
**Analysis Batch: 296497**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295271**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	500	499	J,DX	ug/L		100	85 - 115

**Lab Sample ID: LCSD 570-295271/3-A**  
**Matrix: Water**  
**Analysis Batch: 296497**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295271**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	500	498	J,DX	ug/L		100	85 - 115	0	20

**Lab Sample ID: 570-123346-A-1-C MS**  
**Matrix: Water**  
**Analysis Batch: 296497**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295271**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	28	J,DX	500	531		ug/L		101	80 - 120

**Lab Sample ID: 570-123346-A-1-D MSD**  
**Matrix: Water**  
**Analysis Batch: 296497**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295271**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	28	J,DX	500	524		ug/L		99	80 - 120	1	20

**Lab Sample ID: MB 570-294801/1-A**  
**Matrix: Water**  
**Analysis Batch: 295098**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		500	3.5	ug/L			01/11/23 09:15	1

**Lab Sample ID: LCS 570-294801/2-A**  
**Matrix: Water**  
**Analysis Batch: 295098**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	500	475	J,DX	ug/L		95	85 - 115

**Lab Sample ID: LCSD 570-294801/3-A**  
**Matrix: Water**  
**Analysis Batch: 295098**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	500	453	J,DX	ug/L		91	85 - 115	5	20

**Lab Sample ID: 570-122945-H-2-E MS**  
**Matrix: Water**  
**Analysis Batch: 295098**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	78	J,DX	500	532		ug/L		91	80 - 120

Euromins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 200.7 Rev 4.4 - Metals (ICP)

**Lab Sample ID: 570-122945-H-2-F MSD**  
**Matrix: Water**  
**Analysis Batch: 295098**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	78	J,DX	500	549		ug/L		94	80 - 120	3	20

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-295281/1-A**  
**Matrix: Water**  
**Analysis Batch: 295467**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295281**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.36	ug/L		01/12/23 00:28	01/12/23 12:28	1
Cadmium	ND		1.0	0.13	ug/L		01/12/23 00:28	01/12/23 12:28	1
Copper	0.329	J,DX	2.0	0.32	ug/L		01/12/23 00:28	01/12/23 12:28	1
Lead	0.510	J,DX	1.0	0.12	ug/L		01/12/23 00:28	01/12/23 12:28	1
Selenium	ND		2.0	0.52	ug/L		01/12/23 00:28	01/12/23 12:28	1
Silver	ND		1.0	0.23	ug/L		01/12/23 00:28	01/12/23 12:28	1
Thallium	ND		1.0	0.11	ug/L		01/12/23 00:28	01/12/23 12:28	1
Barium	ND		1.0	0.17	ug/L		01/12/23 00:28	01/12/23 12:28	1
Iron	ND		20	3.7	ug/L		01/12/23 00:28	01/12/23 12:28	1
Nickel	ND		2.0	0.17	ug/L		01/12/23 00:28	01/12/23 12:28	1
Vanadium	ND		2.0	0.17	ug/L		01/12/23 00:28	01/12/23 12:28	1
Arsenic	ND		1.0	0.16	ug/L		01/12/23 00:28	01/12/23 12:28	1
Zinc	ND		20	2.8	ug/L		01/12/23 00:28	01/12/23 12:28	1
Manganese	ND		1.0	0.41	ug/L		01/12/23 00:28	01/12/23 12:28	1
Chromium	ND		2.0	0.14	ug/L		01/12/23 00:28	01/12/23 12:28	1
Beryllium	ND		0.50	0.26	ug/L		01/12/23 00:28	01/12/23 12:28	1
Cobalt	ND		1.0	0.14	ug/L		01/12/23 00:28	01/12/23 12:28	1

**Lab Sample ID: LCS 570-295281/2-A**  
**Matrix: Water**  
**Analysis Batch: 295467**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295281**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	80.0	84.1		ug/L		105	85 - 115
Cadmium	80.0	84.7		ug/L		106	85 - 115
Copper	80.0	81.9		ug/L		102	85 - 115
Lead	80.0	82.2		ug/L		103	85 - 115
Selenium	80.0	84.6		ug/L		106	85 - 115
Silver	80.0	82.0		ug/L		103	85 - 115
Thallium	80.0	84.6		ug/L		106	85 - 115
Barium	80.0	83.4		ug/L		104	85 - 115
Iron	800	831		ug/L		104	85 - 115
Nickel	80.0	81.9		ug/L		102	85 - 115
Vanadium	80.0	82.7		ug/L		103	85 - 115
Arsenic	80.0	83.5		ug/L		104	85 - 115
Zinc	80.0	83.6		ug/L		104	85 - 115
Manganese	80.0	84.1		ug/L		105	85 - 115
Chromium	80.0	82.7		ug/L		103	85 - 115
Beryllium	80.0	89.5		ug/L		112	85 - 115
Cobalt	80.0	83.1		ug/L		104	85 - 115

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-295281/3-A**  
**Matrix: Water**  
**Analysis Batch: 295467**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295281**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	80.0	86.1		ug/L		108	85 - 115	2	20
Cadmium	80.0	85.5		ug/L		107	85 - 115	1	20
Copper	80.0	85.8		ug/L		107	85 - 115	5	20
Lead	80.0	81.9		ug/L		102	85 - 115	0	20
Selenium	80.0	84.4		ug/L		105	85 - 115	0	20
Silver	80.0	82.2		ug/L		103	85 - 115	0	20
Thallium	80.0	83.8		ug/L		105	85 - 115	1	20
Barium	80.0	83.9		ug/L		105	85 - 115	1	20
Iron	800	835		ug/L		104	85 - 115	0	20
Nickel	80.0	82.6		ug/L		103	85 - 115	1	20
Vanadium	80.0	83.4		ug/L		104	85 - 115	1	20
Arsenic	80.0	82.8		ug/L		103	85 - 115	1	20
Zinc	80.0	86.3		ug/L		108	85 - 115	3	20
Manganese	80.0	84.0		ug/L		105	85 - 115	0	20
Chromium	80.0	83.8		ug/L		105	85 - 115	1	20
Beryllium	80.0	89.0		ug/L		111	85 - 115	1	20
Cobalt	80.0	83.7		ug/L		105	85 - 115	1	20

**Lab Sample ID: 570-122995-B-7-B MS**  
**Matrix: Water**  
**Analysis Batch: 295467**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295281**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.56	J,DX	80.0	76.9		ug/L		95	80 - 120		
Cadmium	ND		80.0	84.8		ug/L		106	80 - 120		
Copper	7.2	MB	80.0	87.7		ug/L		101	80 - 120		
Lead	5.5	MB	80.0	86.8		ug/L		102	80 - 120		
Selenium	ND		80.0	78.2		ug/L		98	80 - 120		
Silver	ND		80.0	81.2		ug/L		101	80 - 120		
Thallium	ND		80.0	83.2		ug/L		104	80 - 120		
Barium	49		80.0	135		ug/L		107	80 - 120		
Iron	2700		800	4200	LM	ug/L		184	80 - 120		
Nickel	4.6		80.0	85.1		ug/L		101	80 - 120		
Vanadium	7.6		80.0	90.3		ug/L		103	80 - 120		
Arsenic	1.1		80.0	80.0		ug/L		99	80 - 120		
Zinc	19	J,DX	80.0	98.6		ug/L		100	80 - 120		
Manganese	92		80.0	190	LM	ug/L		122	80 - 120		
Chromium	4.2		80.0	86.1		ug/L		102	80 - 120		
Beryllium	ND		80.0	86.3		ug/L		108	80 - 120		
Cobalt	1.6		80.0	84.0		ug/L		103	80 - 120		

**Lab Sample ID: 570-122995-B-7-C MSD**  
**Matrix: Water**  
**Analysis Batch: 295467**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295281**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.56	J,DX	80.0	75.9		ug/L		94	80 - 120	1	20
Cadmium	ND		80.0	84.0		ug/L		105	80 - 120	1	20
Copper	7.2	MB	80.0	86.2		ug/L		99	80 - 120	2	20

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-122995-B-7-C MSD**  
**Matrix: Water**  
**Analysis Batch: 295467**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295281**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	5.5	MB	80.0	85.5		ug/L		100	80 - 120	1	20
Selenium	ND		80.0	77.8		ug/L		97	80 - 120	1	20
Silver	ND		80.0	81.2		ug/L		102	80 - 120	0	20
Thallium	ND		80.0	81.6		ug/L		102	80 - 120	2	20
Barium	49		80.0	133		ug/L		105	80 - 120	1	20
Iron	2700		800	4130	LM	ug/L		175	80 - 120	2	20
Nickel	4.6		80.0	83.8		ug/L		99	80 - 120	2	20
Vanadium	7.6		80.0	88.4		ug/L		101	80 - 120	2	20
Arsenic	1.1		80.0	79.3		ug/L		98	80 - 120	1	20
Zinc	19	J,DX	80.0	101		ug/L		103	80 - 120	2	20
Manganese	92		80.0	185		ug/L		116	80 - 120	3	20
Chromium	4.2		80.0	84.7		ug/L		101	80 - 120	2	20
Beryllium	ND		80.0	84.8		ug/L		106	80 - 120	2	20
Cobalt	1.6		80.0	82.0		ug/L		100	80 - 120	2	20

**Lab Sample ID: MB 570-294776/1-A**  
**Matrix: Water**  
**Analysis Batch: 294822**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.36	ug/L			01/10/23 12:07	1
Cadmium	ND		1.0	0.13	ug/L			01/10/23 12:07	1
Copper	ND		2.0	0.32	ug/L			01/10/23 12:07	1
Lead	ND		1.0	0.12	ug/L			01/10/23 12:07	1
Selenium	ND		2.0	0.52	ug/L			01/10/23 12:07	1
Silver	ND		1.0	0.23	ug/L			01/10/23 12:07	1
Thallium	ND		1.0	0.11	ug/L			01/10/23 12:07	1
Barium	ND		1.0	0.17	ug/L			01/10/23 12:07	1
Iron	ND		20	3.7	ug/L			01/10/23 12:07	1
Nickel	ND		2.0	0.17	ug/L			01/10/23 12:07	1
Vanadium	ND		2.0	0.17	ug/L			01/10/23 12:07	1
Arsenic	ND		1.0	0.16	ug/L			01/10/23 12:07	1
Zinc	ND		20	2.8	ug/L			01/10/23 12:07	1
Manganese	ND		1.0	0.41	ug/L			01/10/23 12:07	1
Chromium	ND		2.0	0.14	ug/L			01/10/23 12:07	1
Beryllium	ND		0.50	0.26	ug/L			01/10/23 12:07	1
Cobalt	ND		1.0	0.14	ug/L			01/10/23 12:07	1

**Lab Sample ID: LCS 570-294776/2-A**  
**Matrix: Water**  
**Analysis Batch: 294822**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	80.0	76.9		ug/L		96	85 - 115
Cadmium	80.0	75.9		ug/L		95	85 - 115
Copper	80.0	76.3		ug/L		95	85 - 115
Lead	80.0	76.7		ug/L		96	85 - 115
Selenium	80.0	75.9		ug/L		95	85 - 115
Silver	80.0	76.2		ug/L		95	85 - 115

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 570-294776/2-A**  
**Matrix: Water**  
**Analysis Batch: 294822**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thallium	80.0	75.2		ug/L		94	85 - 115
Barium	80.0	75.7		ug/L		95	85 - 115
Iron	800	786		ug/L		98	85 - 115
Nickel	80.0	75.6		ug/L		95	85 - 115
Vanadium	80.0	76.0		ug/L		95	85 - 115
Arsenic	80.0	74.1		ug/L		93	85 - 115
Zinc	80.0	75.0		ug/L		94	85 - 115
Manganese	80.0	76.3		ug/L		95	85 - 115
Chromium	80.0	76.3		ug/L		95	85 - 115
Beryllium	80.0	81.7		ug/L		102	85 - 115
Cobalt	80.0	75.9		ug/L		95	85 - 115

**Lab Sample ID: LCSD 570-294776/3-A**  
**Matrix: Water**  
**Analysis Batch: 294822**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	80.0	76.1		ug/L		95	85 - 115	1	20
Cadmium	80.0	75.0		ug/L		94	85 - 115	1	20
Copper	80.0	76.7		ug/L		96	85 - 115	0	20
Lead	80.0	75.5		ug/L		94	85 - 115	2	20
Selenium	80.0	72.7		ug/L		91	85 - 115	4	20
Silver	80.0	76.2		ug/L		95	85 - 115	0	20
Thallium	80.0	75.0		ug/L		94	85 - 115	0	20
Barium	80.0	74.8		ug/L		94	85 - 115	1	20
Iron	800	787		ug/L		98	85 - 115	0	20
Nickel	80.0	76.3		ug/L		95	85 - 115	1	20
Vanadium	80.0	76.5		ug/L		96	85 - 115	1	20
Arsenic	80.0	72.9		ug/L		91	85 - 115	2	20
Zinc	80.0	73.2		ug/L		91	85 - 115	2	20
Manganese	80.0	75.7		ug/L		95	85 - 115	1	20
Chromium	80.0	76.3		ug/L		95	85 - 115	0	20
Beryllium	80.0	80.0		ug/L		100	85 - 115	2	20
Cobalt	80.0	76.2		ug/L		95	85 - 115	0	20

**Lab Sample ID: 570-122945-H-2-B MS**  
**Matrix: Water**  
**Analysis Batch: 294823**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.6	J,DX	80.0	74.6		ug/L		91	80 - 120
Cadmium	ND		80.0	72.4		ug/L		90	80 - 120
Copper	2.1		80.0	73.7		ug/L		89	80 - 120
Lead	0.14	J,DX	80.0	70.2		ug/L		88	80 - 120
Selenium	ND		80.0	70.8		ug/L		89	80 - 120
Silver	0.27	J,DX	80.0	72.4		ug/L		90	80 - 120
Thallium	0.11	J,DX	80.0	72.0		ug/L		90	80 - 120
Barium	13		80.0	86.8		ug/L		92	80 - 120
Iron	77		800	801		ug/L		90	80 - 120

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-122945-H-2-B MS**  
**Matrix: Water**  
**Analysis Batch: 294823**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nickel	1.4	J,DX	80.0	72.7		ug/L		89	80 - 120
Vanadium	1.3	J,DX	80.0	73.8		ug/L		91	80 - 120
Arsenic	1.0		80.0	73.4		ug/L		90	80 - 120
Zinc	3.9	J,DX	80.0	73.6		ug/L		87	80 - 120
Manganese	2.3		80.0	74.6		ug/L		90	80 - 120
Chromium	0.34	J,DX	80.0	69.8		ug/L		87	80 - 120
Beryllium	ND		80.0	73.7		ug/L		92	80 - 120
Cobalt	0.22	J,DX	80.0	73.1		ug/L		91	80 - 120

**Lab Sample ID: 570-122945-H-2-C MSD**  
**Matrix: Water**  
**Analysis Batch: 294823**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	1.6	J,DX	80.0	77.2		ug/L		95	80 - 120	3	20
Cadmium	ND		80.0	73.8		ug/L		92	80 - 120	2	20
Copper	2.1		80.0	74.5		ug/L		90	80 - 120	1	20
Lead	0.14	J,DX	80.0	72.0		ug/L		90	80 - 120	3	20
Selenium	ND		80.0	71.5		ug/L		89	80 - 120	1	20
Silver	0.27	J,DX	80.0	74.1		ug/L		92	80 - 120	2	20
Thallium	0.11	J,DX	80.0	73.7		ug/L		92	80 - 120	2	20
Barium	13		80.0	88.9		ug/L		95	80 - 120	2	20
Iron	77		800	814		ug/L		92	80 - 120	2	20
Nickel	1.4	J,DX	80.0	74.4		ug/L		91	80 - 120	2	20
Vanadium	1.3	J,DX	80.0	74.5		ug/L		92	80 - 120	1	20
Arsenic	1.0		80.0	74.3		ug/L		92	80 - 120	1	20
Zinc	3.9	J,DX	80.0	74.4		ug/L		88	80 - 120	1	20
Manganese	2.3		80.0	76.4		ug/L		93	80 - 120	2	20
Chromium	0.34	J,DX	80.0	70.6		ug/L		88	80 - 120	1	20
Beryllium	ND		80.0	73.3		ug/L		92	80 - 120	0	20
Cobalt	0.22	J,DX	80.0	73.6		ug/L		92	80 - 120	1	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-294903/1-A**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 294903**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/10/23 17:07	01/12/23 15:05	1

**Lab Sample ID: LCS 570-294903/2-A**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 294903**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.61		ug/L		95	85 - 115

Eurolins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCSD 570-294903/3-A**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 294903**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.83		ug/L		98	85 - 115	3	10

**Lab Sample ID: 570-122945-K-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 294903**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.16	J,DX	8.00	7.80		ug/L		95	85 - 115

**Lab Sample ID: 570-122945-K-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 294903**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.16	J,DX	8.00	8.08		ug/L		99	85 - 115	4	10

**Lab Sample ID: MB 570-294905/1-B**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 294909**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/10/23 17:32	01/12/23 15:29	1

**Lab Sample ID: LCS 570-294905/2-B**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 294909**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.41		ug/L		93	85 - 115

**Lab Sample ID: LCSD 570-294905/3-B**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 294909**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.63		ug/L		95	85 - 115	3	10

**Lab Sample ID: 570-122945-D-2-E MS**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**  
**Prep Batch: 294909**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.42		ug/L		93	85 - 115

**Lab Sample ID: 570-122945-D-2-F MSD**  
**Matrix: Water**  
**Analysis Batch: 295531**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**  
**Prep Batch: 294909**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	7.76		ug/L		97	85 - 115	4	10

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 570-296847/5-A**  
**Matrix: Water**  
**Analysis Batch: 296851**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 296847**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		01/18/23 13:02	01/18/23 14:38	1

**Lab Sample ID: LCS 570-296847/6-A**  
**Matrix: Water**  
**Analysis Batch: 296851**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 296847**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.471		mg/L		94	90 - 110

**Lab Sample ID: LCSD 570-296847/7-A**  
**Matrix: Water**  
**Analysis Batch: 296851**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296847**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.462		mg/L		92	90 - 110	2	20

**Lab Sample ID: 380-33496-A-1-D MS**  
**Matrix: Water**  
**Analysis Batch: 296851**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 296847**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.036	J,DX	0.500	0.498		mg/L		92	90 - 110

**Lab Sample ID: 380-33496-A-1-E MSD**  
**Matrix: Water**  
**Analysis Batch: 296851**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 296847**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.036	J,DX	0.500	0.499		mg/L		93	90 - 110	0	25

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

**Lab Sample ID: MB 570-295446/11**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			01/11/23 14:55	1

**Lab Sample ID: LCS 570-295446/12**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	255		ug/L		102	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

**Lab Sample ID: LCSD 570-295446/18**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	233		ug/L		93	90 - 110	9	20

**Lab Sample ID: MRL 570-295446/10**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	5.00	4.11	J,DX	ug/L		82	50 - 150		

**Lab Sample ID: 570-122475-D-1 MS**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	8.7		250	226		ug/L		87	70 - 130		

**Lab Sample ID: 570-122475-D-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 295446**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	8.7		250	266		ug/L		103	70 - 130	16	30

## Method: SM 2130B - Turbidity

**Lab Sample ID: LCSSRM 570-294338/1**  
**Matrix: Water**  
**Analysis Batch: 294338**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	1000	1000		NTU		100.1	99.0 - 101.0		

**Lab Sample ID: LCSSRM 570-294338/2**  
**Matrix: Water**  
**Analysis Batch: 294338**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0		

**Lab Sample ID: LCSSRM 570-294338/3**  
**Matrix: Water**  
**Analysis Batch: 294338**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0		

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SM 2130B - Turbidity (Continued)

Lab Sample ID: 570-123038-O-2 DU  
 Matrix: Water  
 Analysis Batch: 294338

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	0.55		0.50		NTU		6	25

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-294886/1  
 Matrix: Water  
 Analysis Batch: 294886

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			01/10/23 16:16	1

Lab Sample ID: LCS 570-294886/2  
 Matrix: Water  
 Analysis Batch: 294886

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	990		mg/L		99	84 - 108

Lab Sample ID: LCSD 570-294886/3  
 Matrix: Water  
 Analysis Batch: 294886

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	84 - 108	2	10

Lab Sample ID: 570-122597-A-1 DU  
 Matrix: Water  
 Analysis Batch: 294886

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1900		1850		mg/L		0	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-295134/1  
 Matrix: Water  
 Analysis Batch: 295134

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			01/11/23 13:19	1

Lab Sample ID: LCS 570-295134/2  
 Matrix: Water  
 Analysis Batch: 295134

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	81.0		mg/L		81	77 - 116

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

**Lab Sample ID: LCSD 570-295134/3**  
**Matrix: Water**  
**Analysis Batch: 295134**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	80.0		mg/L		80	77 - 116	1	10

**Lab Sample ID: 570-123016-1 DU**  
**Matrix: Water**  
**Analysis Batch: 295134**

**Client Sample ID: Outfall001\_20230106\_Comp**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	20		20.2		mg/L		0	10

## Method: SM 5310D - Organic Carbon, Total (TOC)

**Lab Sample ID: MB 570-295499/3**  
**Matrix: Water**  
**Analysis Batch: 295499**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon, Total Organic	ND		0.50	0.26	mg/L			01/12/23 08:36	1

**Lab Sample ID: LCS 570-295499/4**  
**Matrix: Water**  
**Analysis Batch: 295499**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon, Total Organic	5.03	5.08		mg/L		101	85 - 115

**Lab Sample ID: LCSD 570-295499/5**  
**Matrix: Water**  
**Analysis Batch: 295499**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon, Total Organic	5.03	5.10		mg/L		101	85 - 115	0	20

**Lab Sample ID: 570-122490-G-1 MS**  
**Matrix: Water**  
**Analysis Batch: 295499**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon, Total Organic	13		5.03	16.5		mg/L		63	31 - 145

**Lab Sample ID: 570-122490-G-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 295499**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon, Total Organic	13		5.03	16.8		mg/L		68	31 - 145	2	20

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-294327/5-A  
 Matrix: Water  
 Analysis Batch: 294326

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 294327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.054	mg/L		01/07/23 09:00	01/07/23 10:29	1

Lab Sample ID: LCS 570-294327/6-A  
 Matrix: Water  
 Analysis Batch: 294326

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 294327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	1.00	1.08		mg/L		108	85 - 111

Lab Sample ID: LCSD 570-294327/7-A  
 Matrix: Water  
 Analysis Batch: 294326

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 294327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	1.00	1.06		mg/L		106	85 - 111	2	7

Lab Sample ID: 570-123041-K-1-C MS  
 Matrix: Water  
 Analysis Batch: 294326

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 294327

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.056	J,DX	1.00	1.20		mg/L		114	75 - 125

Lab Sample ID: 570-123041-K-1-D MSD  
 Matrix: Water  
 Analysis Batch: 294326

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 294327

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.056	J,DX	1.00	1.21		mg/L		115	75 - 125	1	12

## Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 570-295469/2  
 Matrix: Water  
 Analysis Batch: 295469

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			01/07/23 11:30	1

Lab Sample ID: LCS 570-295469/4  
 Matrix: Water  
 Analysis Batch: 295469

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	189		mg/L		95	84.6 - 115.4

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: 570-122916-A-1 DU  
 Matrix: Water  
 Analysis Batch: 295469

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	2300		2280		mg/L		2	25

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## GC/MS VOA

### Analysis Batch: 294255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	8260B SIM	
MB 570-294255/15	Method Blank	Total/NA	Water	8260B SIM	
LCS 570-294255/1012	Lab Control Sample	Total/NA	Water	8260B SIM	
LCSD 570-294255/13	Lab Control Sample Dup	Total/NA	Water	8260B SIM	

## GC/MS Semi VOA

### Analysis Batch: 295532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	625.1 SIM	295604
MB 570-295604/1-A	Method Blank	Total/NA	Water	625.1 SIM	295604

### Prep Batch: 295604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	625	
MB 570-295604/1-A	Method Blank	Total/NA	Water	625	
LCS 570-295604/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-295604/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 296124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-295604/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	295604
LCSD 570-295604/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	295604

## GC Semi VOA

### Prep Batch: 294695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	608	
MB 570-294695/1-A	Method Blank	Total/NA	Water	608	
LCS 570-294695/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-294695/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-294695/3-A	Lab Control Sample Dup	Total/NA	Water	608	
LCSD 570-294695/5-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 294966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	608.3	294695
MB 570-294695/1-A	Method Blank	Total/NA	Water	608.3	294695
LCS 570-294695/2-A	Lab Control Sample	Total/NA	Water	608.3	294695
LCSD 570-294695/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	294695

### Analysis Batch: 295061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	608.3	294695
MB 570-294695/1-A	Method Blank	Total/NA	Water	608.3	294695
LCS 570-294695/4-A	Lab Control Sample	Total/NA	Water	608.3	294695
LCSD 570-294695/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	294695



# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## HPLC/IC

### Analysis Batch: 294334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	300.0	
MB 570-294334/5	Method Blank	Total/NA	Water	300.0	
LCS 570-294334/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-294334/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-123038-J-2 MS	Matrix Spike	Total/NA	Water	300.0	
570-123038-J-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 294335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	300.0	
MB 570-294335/5	Method Blank	Total/NA	Water	300.0	
LCS 570-294335/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-294335/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-123038-J-2 MS	Matrix Spike	Total/NA	Water	300.0	
570-123038-J-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 294364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	218.6	
MB 570-294364/4	Method Blank	Total/NA	Water	218.6	
LCS 570-294364/5	Lab Control Sample	Total/NA	Water	218.6	
LCSD 570-294364/6	Lab Control Sample Dup	Total/NA	Water	218.6	
570-123038-J-2 MS	Matrix Spike	Total/NA	Water	218.6	
570-123038-J-2 MSD	Matrix Spike Duplicate	Total/NA	Water	218.6	

### Analysis Batch: 294424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	314.0	
MB 570-294424/7	Method Blank	Total/NA	Water	314.0	
LCS 570-294424/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-294424/9	Lab Control Sample Dup	Total/NA	Water	314.0	
570-122945-B-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-122945-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

### Analysis Batch: 295714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Analysis Batch: 294360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total Recoverable	Water	SM 2340B	
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	SM 2340B	

### Filtration Batch: 294776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	Filtration	
MB 570-294776/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-294776/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-294776/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Metals (Continued)

### Filtration Batch: 294776 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-122945-H-2-B MS	Matrix Spike	Dissolved	Water	Filtration	
570-122945-H-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

### Filtration Batch: 294801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	Filtration	
MB 570-294801/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-294801/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-294801/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-122945-H-2-E MS	Matrix Spike	Dissolved	Water	Filtration	
570-122945-H-2-F MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

### Analysis Batch: 294822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-294776/1-A	Method Blank	Dissolved	Water	200.8	294776
LCS 570-294776/2-A	Lab Control Sample	Dissolved	Water	200.8	294776
LCSD 570-294776/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	294776

### Analysis Batch: 294823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	200.8	294776
570-122945-H-2-B MS	Matrix Spike	Dissolved	Water	200.8	294776
570-122945-H-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	294776

### Prep Batch: 294903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	245.1	
MB 570-294903/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-294903/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-294903/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-122945-K-1-B MS	Matrix Spike	Total/NA	Water	245.1	
570-122945-K-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

### Filtration Batch: 294905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	Filtration	
MB 570-294905/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-294905/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-294905/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-122945-D-2-E MS	Matrix Spike	Dissolved	Water	Filtration	
570-122945-D-2-F MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

### Prep Batch: 294909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	245.1	294905
MB 570-294905/1-B	Method Blank	Dissolved	Water	245.1	294905
LCS 570-294905/2-B	Lab Control Sample	Dissolved	Water	245.1	294905
LCSD 570-294905/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	294905
570-122945-D-2-E MS	Matrix Spike	Dissolved	Water	245.1	294905
570-122945-D-2-F MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	294905

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Metals

### Analysis Batch: 295098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	200.7 Rev 4.4	294801
MB 570-294801/1-A	Method Blank	Dissolved	Water	200.7 Rev 4.4	294801
LCS 570-294801/2-A	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	294801
LCSD 570-294801/3-A	Lab Control Sample Dup	Dissolved	Water	200.7 Rev 4.4	294801
570-122945-H-2-E MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	294801
570-122945-H-2-F MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	294801

### Prep Batch: 295271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total Recoverable	Water	200.7	
MB 570-295271/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-295271/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-295271/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
570-123346-A-1-C MS	Matrix Spike	Total Recoverable	Water	200.7	
570-123346-A-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

### Prep Batch: 295281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total Recoverable	Water	200.8	
MB 570-295281/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-295281/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-295281/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-122995-B-7-B MS	Matrix Spike	Total Recoverable	Water	200.8	
570-122995-B-7-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 295467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total Recoverable	Water	200.8	295281
MB 570-295281/1-A	Method Blank	Total Recoverable	Water	200.8	295281
LCS 570-295281/2-A	Lab Control Sample	Total Recoverable	Water	200.8	295281
LCSD 570-295281/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	295281
570-122995-B-7-B MS	Matrix Spike	Total Recoverable	Water	200.8	295281
570-122995-B-7-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	295281

### Analysis Batch: 295531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	245.1	294903
570-123016-3	Outfall001_20230106_Comp_F	Dissolved	Water	245.1	294909
MB 570-294903/1-A	Method Blank	Total/NA	Water	245.1	294903
MB 570-294905/1-B	Method Blank	Dissolved	Water	245.1	294909
LCS 570-294903/2-A	Lab Control Sample	Total/NA	Water	245.1	294903
LCS 570-294905/2-B	Lab Control Sample	Dissolved	Water	245.1	294909
LCSD 570-294903/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	294903
LCSD 570-294905/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	294909
570-122945-D-2-E MS	Matrix Spike	Dissolved	Water	245.1	294909
570-122945-D-2-F MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	294909
570-122945-K-1-B MS	Matrix Spike	Total/NA	Water	245.1	294903
570-122945-K-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	294903

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Metals

### Analysis Batch: 296497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total Recoverable	Water	200.7 Rev 4.4	295271
MB 570-295271/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	295271
LCS 570-295271/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	295271
LCSD 570-295271/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	295271
570-123346-A-1-C MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	295271
570-123346-A-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	295271

## General Chemistry

### Analysis Batch: 294326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM 5540C	294327
MB 570-294327/5-A	Method Blank	Total/NA	Water	SM 5540C	294327
LCS 570-294327/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	294327
LCSD 570-294327/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	294327
570-123041-K-1-C MS	Matrix Spike	Total/NA	Water	SM 5540C	294327
570-123041-K-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	294327

### Prep Batch: 294327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM 5540C	
MB 570-294327/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-294327/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-294327/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-123041-K-1-C MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-123041-K-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

### Analysis Batch: 294338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-294338/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-294338/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-294338/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-123038-O-2 DU	Duplicate	Total/NA	Water	SM 2130B	

### Analysis Batch: 294886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM 2540C	
MB 570-294886/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-294886/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-294886/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-122597-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 295134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM 2540D	
MB 570-295134/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-295134/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-295134/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-123016-1 DU	Outfall001_20230106_Comp	Total/NA	Water	SM 2540D	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## General Chemistry

### Analysis Batch: 295446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	Kelada 01	
MB 570-295446/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-295446/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-295446/18	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-295446/10	Lab Control Sample	Total/NA	Water	Kelada 01	
570-122475-D-1 MS	Matrix Spike	Total/NA	Water	Kelada 01	
570-122475-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	Kelada 01	

### Analysis Batch: 295469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM5210B	
USB 570-295469/2	Method Blank	Total/NA	Water	SM5210B	
LCS 570-295469/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-122916-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

### Analysis Batch: 295499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	SM 5310D	
MB 570-295499/3	Method Blank	Total/NA	Water	SM 5310D	
LCS 570-295499/4	Lab Control Sample	Total/NA	Water	SM 5310D	
LCSD 570-295499/5	Lab Control Sample Dup	Total/NA	Water	SM 5310D	
570-122490-G-1 MS	Matrix Spike	Total/NA	Water	SM 5310D	
570-122490-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310D	

### Analysis Batch: 296119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	218.6 CR3	

### Prep Batch: 296847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-296847/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-296847/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-296847/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
380-33496-A-1-D MS	Matrix Spike	Total/NA	Water	Distill/Ammonia	
380-33496-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 296851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	350.1	296847
MB 570-296847/5-A	Method Blank	Total/NA	Water	350.1	296847
LCS 570-296847/6-A	Lab Control Sample	Total/NA	Water	350.1	296847
LCSD 570-296847/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	296847
380-33496-A-1-D MS	Matrix Spike	Total/NA	Water	350.1	296847
380-33496-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	296847

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM Instrument ID: GCMSR		1	25 mL	25 mL	294255	01/07/23 02:02	UJHB	EET CAL 4
Total/NA	Prep	625			1045.6 mL	2 mL	295604	01/13/23 05:33	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM Instrument ID: GCMSJJ		1	1 mL	1 mL	295532	01/13/23 19:49	ULLI	EET CAL 4
Total/NA	Prep	608			1500 mL	1 mL	294695	01/10/23 08:13	OAJ3	EET CAL 4
Total/NA	Analysis	608.3 Instrument ID: GC52A		1	1 mL	1 mL	294966	01/11/23 13:24	N5Y3	EET CAL 4
Total/NA	Prep	608			1500 mL	1 mL	294695	01/10/23 08:13	OAJ3	EET CAL 4
Total/NA	Analysis	608.3 Instrument ID: GC66		1	1 mL	1 mL	295061	01/11/23 17:57	UJ3K	EET CAL 4
Total/NA	Analysis	218.6 Instrument ID: IC33		1	4 mL	4 mL	294364	01/09/23 04:41	YO8L	EET CAL 4
Total/NA	Analysis	300.0 Instrument ID: IC9		5	4 mL	4 mL	294334	01/07/23 19:29	PS	EET CAL 4
Total/NA	Analysis	300.0 Instrument ID: IC9		5	4 mL	4 mL	294335	01/07/23 19:29	PS	EET CAL 4
Total/NA	Analysis	314.0 Instrument ID: IC13		1	4 mL	4 mL	294424	01/09/23 18:52	PS	EET CAL 4
Total/NA	Analysis	NO2NO3 Calc Instrument ID: NOEQUIP		1			295714	01/13/23 11:53	WH6J	EET CAL 4
Total Recoverable	Prep	200.7			50 mL	50 mL	295271	01/12/23 06:20	JP8N	EET CAL 4
Total Recoverable	Analysis	200.7 Rev 4.4 Instrument ID: ICP11		1			296497	01/17/23 13:40	P1R	EET CAL 4
Total Recoverable	Prep	200.8			50 mL	50 mL	295281	01/12/23 00:28	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8 Instrument ID: ICPMS09		1			295467	01/12/23 13:00	Y2WS	EET CAL 4
Total/NA	Prep	245.1			25 mL	50 mL	294903	01/10/23 17:07	CS5Z	EET CAL 4
Total/NA	Analysis	245.1 Instrument ID: HG8		1			295531	01/12/23 15:22	C0YH	EET CAL 4
Total Recoverable	Analysis	SM 2340B Instrument ID: NOEQUIP		1			294360	01/13/23 16:31	P1R	EET CAL 4
Total/NA	Analysis	218.6 CR3 Instrument ID: NOEQUIP		1			296119	01/16/23 11:45	WH6J	EET CAL 4
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	296847	01/18/23 13:02	UXCH	EET CAL 4
Total/NA	Analysis	350.1 Instrument ID: ACA2		1	5 mL	5 mL	296851	01/18/23 14:53	UXCH	EET CAL 4
Total/NA	Analysis	Kelada 01 Instrument ID: NOEQUIP		1	8 mL	8 mL	295446	01/11/23 14:55	GG0B	EET CAL 4
Total/NA	Analysis	SM 2130B Instrument ID: TUR4		1			294338	01/07/23 14:03	ZVB7	EET CAL 4
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	1000 mL	294886	01/10/23 16:16	ZL7L	EET CAL 4

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	295134	01/11/23 13:19	UWCT	EET CAL 4
Total/NA	Analysis	SM 5310D Instrument ID: TOC12		4	40 mL	40 mL	295499	01/12/23 16:53	UAPD	EET CAL 4
Total/NA	Prep	SM 5540C			100 mL	100 mL	294327	01/07/23 09:00	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C Instrument ID: UV9		1	100 mL	100 mL	294326	01/07/23 10:43	ZVB7	EET CAL 4
Total/NA	Analysis	SM5210B Instrument ID: BOD3		1			295469	01/07/23 13:25	U7UR	EET CAL 4

**Client Sample ID: Outfall001\_20230106\_Comp\_F**

**Lab Sample ID: 570-123016-3**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	294801	01/10/23 11:45	ECX6	EET CAL 4
Dissolved	Analysis	200.7 Rev 4.4 Instrument ID: ICP11		1			295098	01/11/23 09:34	K1UV	EET CAL 4
Dissolved	Filtration	Filtration			50 mL	50 mL	294776	01/10/23 11:06	ECX6	EET CAL 4
Dissolved	Analysis	200.8 Instrument ID: ICPMS09		1			294823	01/10/23 12:15	Y2WS	EET CAL 4
Dissolved	Filtration	Filtration			25 mL	25 mL	294905	01/10/23 17:12	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	294909	01/10/23 17:32	CS5Z	EET CAL 4
Dissolved	Analysis	245.1 Instrument ID: HG8		1			295531	01/12/23 15:03	C0YH	EET CAL 4
Dissolved	Analysis	SM 2340B Instrument ID: NOEQUIP		1			294360	01/12/23 16:31	P1R	EET CAL 4

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

Method	Method Description	Protocol	Laboratory
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	EET CAL 4
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
608.3	Polychlorinated Biphenyls (PCBs) (GC)	EPA	EET CAL 4
218.6	Chromium, Hexavalent (Ion Chromatography)	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	EET CAL 4
218.6 CR3	Chromium, Trivalent (Calculation)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5310D	Organic Carbon, Total (TOC)	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
SM5210B	BOD, 5 Day	SM	EET CAL 4
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

#### Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123016-1	Outfall001_20230106_Comp	Water	01/06/23 07:20	01/06/23 18:15
570-123016-3	Outfall001_20230106_Comp_F	Water	01/06/23 07:20	01/06/23 18:15

1

2

3

4

5

6

7

8

9

10

11

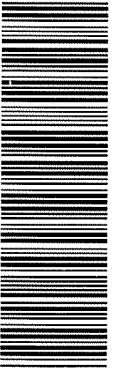
12

13

14

15

CHAIN OF CUSTODY FORM



570-123016 Chain of Custody

Eurofins Calscience Irvine

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Christian Bondoc
17461 Derfan Ave Suite #100
Irvine CA 92614
Tel: 949-260-3218

Project:
Boeing-SSFL NPDES
Permit 2023
Annual Outfall 001, 002, 011, 018]
Outfall 001
Comp

Project Manager: Katherine Miller
520.289.8606, 520.904.6944 (cell)
Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

Main data table with columns: Sample Description, Sample I.D., Sampling Date/Time, Sample Matrix, Container Type, # of Cont., Preservative, Bottles #, USANSD, and various analytical parameters (Total Recoverable Metals, Priority Pollutants, Ammonia-N, etc.).

Legend A=Annual, R=Routine

Relinquished By: [Signature] Date/Time: 1-6-2023/1300
Relinquished By: [Signature] Date/Time: 1/6/23 1815
Relinquished By: [Signature] Date/Time: 1/6/23 1815

Received By: [Signature] Date/Time: 1/6/23 1300 EC
Received By: [Signature] Date/Time: 1/6/23 1815
Received By: [Signature] Date/Time: 1/6/23 1815

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

R/A R R R A A A A R QRSW

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>				<p>Project: Boeing-SSFL NPDES Permit 2023 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp</p>				<p>ANALYSIS REQUIRED</p>																																																																																																																																																																																																																																																																							
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel: 949-260-3218</p>				<p>Project Manager: Katherine Miller 520.289.8606; 520.904.8944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>				<table border="1"> <tr> <th>Sample Description</th> <th>Sample I.D.</th> <th>Sampling Date/Time</th> <th>Sample Matrix</th> <th>Container Type</th> <th># of Cont.</th> <th>Preservative</th> <th>Bottle #</th> <th>MS/MSD</th> <th>Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.7); Ag, Cd, Cu, Pb, Sb, Se, Ti (E200.8); Ar, CS-137 (E901.0 or E901.1), K-40, CS-137 (E901.0 or E901.1), Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1), Total Tritium (H-3) (E906.0), Sr-90 (E903.1) &amp; Combined Radium 226 (E903.0 or E903.1)</th> <th>Chronic Toxicity - Selenestrum (E200.9)</th> <th>1,4-Dioxane (E624 (SW6260M_SIM))</th> <th>Total Organic Carbon (415.2 (SM 5310B))</th> <th>Monomethyl hydrazine (SW8315M/DV-WC-0077)</th> <th>Cr (VI), Total (E218.6)</th> <th>Total Dissolved Metals Mercury (E245.1)</th> <th>Chlorpyrifos, Diazinon (E55.2)</th> <th>Comments</th> </tr> <tr> <td>Outfall 001</td> <td>Outfall001_20230106_Comp_F</td> <td>1/6/2023 6:20</td> <td>WM</td> <td>1 L Poly</td> <td>1</td> <td>None</td> <td>190</td> <td>No</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Filter and preservative w/in 24hrs of receipt at lab.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>borosilicate vials</td> <td>1</td> <td>None</td> <td>320</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>500 mL Poly</td> <td>1</td> <td>NaOH</td> <td>220</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Unfiltered and unpreserved analysis. Separate RAQ onto another workorder. Analyze duplicate, not MS/MSD.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>2.5 Gal Cube</td> <td>1</td> <td>None</td> <td>225</td> <td>No</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Only test if first or second rain events of the year.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>1 L Glass Amber</td> <td>1</td> <td>None</td> <td>230</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>1 Gal Cube</td> <td>6</td> <td>None</td> <td>235</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>40 mL VOA</td> <td>3</td> <td>HCl</td> <td>240</td> <td>No</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>1 L Glass Amber</td> <td>1</td> <td>HCl</td> <td>245</td> <td>No</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>1 L Glass Amber</td> <td>1</td> <td>None</td> <td>255</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>600 mL Poly</td> <td>1</td> <td>None</td> <td>260</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>1 L Glass Amber</td> <td>2</td> <td>None</td> <td>275</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>40 mL VOA</td> <td>3</td> <td>HCl</td> <td>240</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>WM</td> <td>1 L Glass Amber</td> <td>1</td> <td>None</td> <td>255</td> <td>No</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>												Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.7); Ag, Cd, Cu, Pb, Sb, Se, Ti (E200.8); Ar, CS-137 (E901.0 or E901.1), K-40, CS-137 (E901.0 or E901.1), Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1), Total Tritium (H-3) (E906.0), Sr-90 (E903.1) & Combined Radium 226 (E903.0 or E903.1)	Chronic Toxicity - Selenestrum (E200.9)	1,4-Dioxane (E624 (SW6260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E55.2)	Comments	Outfall 001	Outfall001_20230106_Comp_F	1/6/2023 6:20	WM	1 L Poly	1	None	190	No	X								Filter and preservative w/in 24hrs of receipt at lab.				WM	borosilicate vials	1	None	320	No							X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.				WM	500 mL Poly	1	NaOH	220	No									Unfiltered and unpreserved analysis. Separate RAQ onto another workorder. Analyze duplicate, not MS/MSD.				WM	2.5 Gal Cube	1	None	225	No	X								Only test if first or second rain events of the year.				WM	1 L Glass Amber	1	None	230	No													WM	1 Gal Cube	6	None	235	No													WM	40 mL VOA	3	HCl	240	No				X									WM	1 L Glass Amber	1	HCl	245	No				X									WM	1 L Glass Amber	1	None	255	No					X								WM	600 mL Poly	1	None	260	No						X							WM	1 L Glass Amber	2	None	275	No													WM	40 mL VOA	3	HCl	240	No													WM	1 L Glass Amber	1	None	255	No									
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.7); Ag, Cd, Cu, Pb, Sb, Se, Ti (E200.8); Ar, CS-137 (E901.0 or E901.1), K-40, CS-137 (E901.0 or E901.1), Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1), Total Tritium (H-3) (E906.0), Sr-90 (E903.1) & Combined Radium 226 (E903.0 or E903.1)	Chronic Toxicity - Selenestrum (E200.9)	1,4-Dioxane (E624 (SW6260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethyl hydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E218.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E55.2)	Comments																																																																																																																																																																																																																																																														
Outfall 001	Outfall001_20230106_Comp_F	1/6/2023 6:20	WM	1 L Poly	1	None	190	No	X								Filter and preservative w/in 24hrs of receipt at lab.																																																																																																																																																																																																																																																														
			WM	borosilicate vials	1	None	320	No							X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.																																																																																																																																																																																																																																																														
			WM	500 mL Poly	1	NaOH	220	No									Unfiltered and unpreserved analysis. Separate RAQ onto another workorder. Analyze duplicate, not MS/MSD.																																																																																																																																																																																																																																																														
			WM	2.5 Gal Cube	1	None	225	No	X								Only test if first or second rain events of the year.																																																																																																																																																																																																																																																														
			WM	1 L Glass Amber	1	None	230	No																																																																																																																																																																																																																																																																							
			WM	1 Gal Cube	6	None	235	No																																																																																																																																																																																																																																																																							
			WM	40 mL VOA	3	HCl	240	No				X																																																																																																																																																																																																																																																																			
			WM	1 L Glass Amber	1	HCl	245	No				X																																																																																																																																																																																																																																																																			
			WM	1 L Glass Amber	1	None	255	No					X																																																																																																																																																																																																																																																																		
			WM	600 mL Poly	1	None	260	No						X																																																																																																																																																																																																																																																																	
			WM	1 L Glass Amber	2	None	275	No																																																																																																																																																																																																																																																																							
			WM	40 mL VOA	3	HCl	240	No																																																																																																																																																																																																																																																																							
			WM	1 L Glass Amber	1	None	255	No																																																																																																																																																																																																																																																																							

Relinquished By: [Signature] Date/Time: 1-6-2023/1301 Company: CHA

Relinquished By: [Signature] Date/Time: 1/6/23 1815 Company: EC

Relinquished By: [Signature] Date/Time: 1/6/23 1815 Company: EC

Received By: [Signature] Date/Time: 1/6/23 1308 Company: EC

Received By: [Signature] Date/Time: 1/6/23 1815 Company: EC

Received By: [Signature] Date/Time: 1/6/23 1815 Company: EC

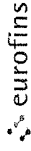
Turn-around time: (Check)  
24 Hour \_\_\_ 72 Hour \_\_\_ 10 Day \_\_\_ X \_\_\_  
48 Hour \_\_\_ 5 Day \_\_\_ Normal \_\_\_

Sample Integrity (Check)  
Intact \_\_\_ On Ice \_\_\_  
Spore samples for 6 months. Data Requirements. (Check)  
No Level IV \_\_\_ All Level IV \_\_\_ X \_\_\_

Hand-delivered to ABC labs with copy of COC



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel Virendra	Lab PM: Virendra	Carrier Tracking No(s): 570-203543 1
Shipping/Receiving		Phone: Virendra.Patel@eurofins.com	E-Mail: Virendra.Patel@eurofins.com	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		
Address: 13715 Rider Trail North		State of Origin: California		
City: Earth City		Job #: 570-123016-4		
State, Zip: MO, 63045		Preservation Codes: M - Hexane N - None O - Ash/NaO2 P - Na2O4S Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other: _____		
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		Job #: 570-123016-4		
Email: _____		Job #: 570-123016-4		
Project Name: Boeing SSFL NPDES - Outfall 001 COMP		Job #: 570-123016-4		
Site: _____		Job #: 570-123016-4		
Due Date Requested: 2/8/2023		Job #: 570-123016-4		
TAT Requested (days):		Job #: 570-123016-4		
PO #:		Job #: 570-123016-4		
WO #:		Job #: 570-123016-4		
Project #: 44024446		Job #: 570-123016-4		
SSOW#:		Job #: 570-123016-4		
Sample Date: 1/6/23		Job #: 570-123016-4		
Sample Time: 07:20 Pacific		Job #: 570-123016-4		
Sample Type (C=Comp, G=grab):		Job #: 570-123016-4		
Sample Preservation Code: Water		Job #: 570-123016-4		
Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air):		Job #: 570-123016-4		
Field Filtered Sample (Yes or No):		Job #: 570-123016-4		
Perform MS/MSD (Yes or No):		Job #: 570-123016-4		
900 0/Evaporation Gross Alpha/Beta		Job #: 570-123016-4		
906 0/LSC Dist. Susp Tritium		Job #: 570-123016-4		
905 5/r90/Presep_7 Strontium-90		Job #: 570-123016-4		
903 0/P/Presep_21 Radium-226		Job #: 570-123016-4		
904 0/P/Presep_0 Radium-228		Job #: 570-123016-4		
A01R_U/ExChrom_ActIn Total Uranium		Job #: 570-123016-4		
901 1_Cs/Fill_Geo_0 K-40 and Cesium-137		Job #: 570-123016-4		
Total Number of Containers: 2		Job #: 570-123016-4		
Special Instructions/Note: Boeing SSFL DO NOT FILTER use prep date from preservation		Job #: 570-123016-4		

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: *[Signature]* Date: 1/9/23 1413  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_ Custody Seal No: \_\_\_\_\_  
 Δ Yes Δ No

Special Instructions/QC Requirements: \_\_\_\_\_  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Method of Shipment: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>	Sampler	Lab PM	Carrier Tracking No(s)	IOC No			
Client Contact: Shipping/Receiving	Patel Virendra	Patel Virendra	570-203680 1	Page: Page 1 of 1			
Company: Eurofins Environment Testing Northern Ca	E-Mail: Virendra.Patel@et-eurofins.com	State of Origin California	Job #: 570-123016-2	Preservation Codes M - Hexane N - None O - Ash/NaOH P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)			
Address: 880 Riverside Parkway City: West Sacramento State/Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email:	Due Date Requested: 1/24/2023 TAT Requested (days)	Accreditations Required (See note): State Program - California					
Project Name: Boeing SSFL NPDES - Outfall 001 COMP Site:	PO #: WO #: Project #: 44024446 SSOW#:	Analysis Requested					
<b>Sample Identification - Client ID (Lab ID)</b>  Outfall001_20230106_Comp (570-123016-1) Outfall001_20230106_Comp_Extra (570-123016-2)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	(Hold) 1613B/1613B_Box_Sep_P Standard List w/ Totals	Total Number of Containers	Special Instructions/Note:  See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware. See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware		
	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:			
	1/6/23	07 20 Pacific	Water				
	1/6/23	07 20 Pacific	Water	X		X	
<p>Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>							
<b>Possible Hazard Identification</b> <input type="checkbox"/> Unconfirmed <input type="checkbox"/> Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month ) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)			Special Instructions/QC Requirements				
Empty Kit Relinquished by:		Time:					
Relinquished by:		Date: 1/9/23 1552					
Relinquished by:		Date/Time:					
Relinquished by:		Date/Time:					
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:					



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-1

**Login Number: 123016**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/6/2023 12:11:44 PM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Outfall 001 COMP

**JOB NUMBER**

570-123016-2



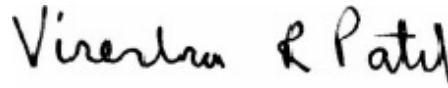
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/6/2023 12:11:44 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	10
Isotope Dilution Summary . . . . .	11
QC Sample Results . . . . .	13
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	18
Certification Summary . . . . .	19
Method Summary . . . . .	20
Sample Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	27

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

---

**Job ID: 570-123016-2**

---

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-123016-2**

## Comments

No additional comments.

## Receipt

The samples were received on 1/6/2023 6:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.3° C, 1.5° C, 1.9° C and 2.4° C.

## Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall001\_20230106\_Comp (570-123016-1), (CCV 320-651542/2) and (MB 320-646691/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000039	J,DX q MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
1,2,3,7,8-PeCDF	0.0000013	J,DX MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
2,3,4,7,8-PeCDF	0.0000039	J,DX MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000023	J,DX MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000087	J,DX q MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.0000088	J,DX q MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000071	J,DX q MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000066	J,DX q MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000025	J,DX MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000043	J,DX MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000022	J,DX MB	0.000048	0.000010	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000077	J,DX MB	0.000048	0.000003	ug/L	1		1613B	Total/NA
1,2,3,4,7,8,9-HpCDF	0.0000083	J,DX MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
OCDD	0.00017	MB	0.000095	0.000012	ug/L	1		1613B	Total/NA
OCDF	0.000014	J,DX MB	0.000095	0.000004	ug/L	1		1613B	Total/NA
Total TCDD	0.0000040	J,DX q	0.000095	0.000002	ug/L	1		1613B	Total/NA
Total TCDF	0.0000084	J,DX MB	0.000095	0.000000	ug/L	1		1613B	Total/NA
Total PeCDD	0.0000039	J,DX q MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000017	J,DX MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000068	J,DX q MB	0.000048	0.000002	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000065	J,DX q MB	0.000048	0.000001	ug/L	1		1613B	Total/NA
Total HpCDD	0.000042	J,DX MB	0.000048	0.000010	ug/L	1		1613B	Total/NA
Total HpCDF	0.000017	J,DX MB	0.000048	0.000002	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall001\_20230106\_Comp

Lab Sample ID: 570-123016-1

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,7,8-PeCDD	0.00000039	J,DX q MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,7,8-PeCDF	0.00000013	J,DX MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
2,3,4,7,8-PeCDF	0.00000039	J,DX MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,4,7,8-HxCDD	0.00000023	J,DX MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,6,7,8-HxCDD	0.00000087	J,DX q MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,7,8,9-HxCDD	0.00000088	J,DX q MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,4,7,8-HxCDF	0.00000071	J,DX q MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,6,7,8-HxCDF	0.00000066	J,DX q MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,7,8,9-HxCDF	0.00000025	J,DX MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
2,3,4,6,7,8-HxCDF	0.00000043	J,DX MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,4,6,7,8-HpCDD	0.00000022	J,DX MB	0.000048	0.0000010	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,4,6,7,8-HpCDF	0.00000077	J,DX MB	0.000048	0.0000003	ug/L		01/13/23 05:53	01/28/23 07:44	1
1,2,3,4,7,8,9-HpCDF	0.00000083	J,DX MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
OCDD	0.000017	MB	0.000095	0.0000012	ug/L		01/13/23 05:53	01/28/23 07:44	1
OCDF	0.000014	J,DX MB	0.000095	0.0000004	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total TCDD	0.00000040	J,DX q	0.0000095	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total TCDF	0.00000084	J,DX MB	0.0000095	0.0000000	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total PeCDD	0.00000039	J,DX q MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total PeCDF	0.00000017	J,DX MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total HxCDD	0.00000068	J,DX q MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total HxCDF	0.00000065	J,DX q MB	0.000048	0.0000001	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total HpCDD	0.00000042	J,DX MB	0.000048	0.0000010	ug/L		01/13/23 05:53	01/28/23 07:44	1
Total HpCDF	0.00000017	J,DX MB	0.000048	0.0000002	ug/L		01/13/23 05:53	01/28/23 07:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	79		25 - 164	01/13/23 05:53	01/28/23 07:44	1
13C-2,3,7,8-TCDF	82		24 - 169	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,7,8-PeCDD	67		25 - 181	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,7,8-PeCDF	73		24 - 185	01/13/23 05:53	01/28/23 07:44	1
13C-2,3,4,7,8-PeCDF	65		21 - 178	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,4,7,8-HxCDD	53		32 - 141	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,6,7,8-HxCDD	65		28 - 130	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,4,7,8-HxCDF	47		26 - 152	01/13/23 05:53	01/28/23 07:44	1

Eurolins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230106\_Comp**  
**Date Collected: 01/06/23 07:20**  
**Date Received: 01/06/23 18:15**

**Lab Sample ID: 570-123016-1**  
**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,6,7,8-HxCDF	57		26 - 123	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,7,8,9-HxCDF	82		29 - 147	01/13/23 05:53	01/28/23 07:44	1
13C-2,3,4,6,7,8-HxCDF	80		28 - 136	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,4,6,7,8-HpCDD	71		23 - 140	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,4,6,7,8-HpCDF	60		28 - 143	01/13/23 05:53	01/28/23 07:44	1
13C-1,2,3,4,7,8,9-HpCDF	78		26 - 138	01/13/23 05:53	01/28/23 07:44	1
13C-OCDD	91		17 - 157	01/13/23 05:53	01/28/23 07:44	1
13C-OCDF	85		17 - 157	01/13/23 05:53	01/28/23 07:44	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
37Cl4-2,3,7,8-TCDD	93		35 - 197	01/13/23 05:53	01/28/23 07:44	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) - RA

Client Sample ID: Outfall001\_20230106\_Comp

Lab Sample ID: 570-123016-1

Date Collected: 01/06/23 07:20

Matrix: Water

Date Received: 01/06/23 18:15

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000095	0.0000004	ug/L		01/13/23 05:53	02/03/23 12:05	1
				9					
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	76		24 - 169				01/13/23 05:53	02/03/23 12:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	112		35 - 197				01/13/23 05:53	02/03/23 12:05	1



# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-123016-1	Outfall001_20230106_Comp	93
570-123016-1 - RA	Outfall001_20230106_Comp	112
MB 320-646691/1-A	Method Blank	90
MB 320-646691/1-A - RA	Method Blank	109

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-646691/2-A	Lab Control Sample	91
LCSD 320-646691/3-A	Lab Control Sample Dup	93

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-123016-1	Outfall001_20230106_Comp	79	82	67	73	65	53	65	47
570-123016-1 - RA	Outfall001_20230106_Comp		76						
MB 320-646691/1-A	Method Blank	74	76	56	61	52	41	51	35
MB 320-646691/1-A - RA	Method Blank		69						

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	<sup>13</sup> CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-123016-1	Outfall001_20230106_Comp	57	82	80	71	60	78	91	85
570-123016-1 - RA	Outfall001_20230106_Comp								
MB 320-646691/1-A	Method Blank	45	78	72	65	46	72	85	77
MB 320-646691/1-A - RA	Method Blank								

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- <sup>13</sup>CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-646691/2-A	Lab Control Sample	75	78	61	65	56	45	56	41
LCSD 320-646691/3-A	Lab Control Sample Dup	79	82	65	68	61	51	60	44

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	<sup>13</sup> CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-646691/2-A	Lab Control Sample	48	80	75	69	52	75	90	83
LCSD 320-646691/3-A	Lab Control Sample Dup	53	85	81	73	56	79	96	87

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF

Eurofins Calscience

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-123016-2

Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

HxCDD = 13C-1,2,3,4,7,8-HxCDD

HxDD = 13C-1,2,3,6,7,8-HxCDD

HxCDF = 13C-1,2,3,4,7,8-HxCDF

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-646691/1-A**  
**Matrix: Water**  
**Analysis Batch: 650041**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,7,8-PeCDD	0.00000109	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,7,8-PeCDF	0.00000239	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
2,3,4,7,8-PeCDF	0.00000133	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,4,7,8-HxCDD	0.00000338	J,DX	0.000050	0.0000005	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,6,7,8-HxCDD	0.00000160	J,DX	0.000050	0.0000004	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,7,8,9-HxCDD	0.00000210	J,DX	0.000050	0.0000004	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,4,7,8-HxCDF	0.00000258	J,DX	0.000050	0.0000003	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,6,7,8-HxCDF	0.00000147	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,7,8,9-HxCDF	0.00000327	J,DX	0.000050	0.0000001	ug/L		01/13/23 05:53	01/28/23 03:52	1
2,3,4,6,7,8-HxCDF	0.000000951	J,DX	0.000050	0.0000001	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,4,6,7,8-HpCDD	0.00000236	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,4,6,7,8-HpCDF	0.00000235	J,DX q	0.000050	0.0000003	ug/L		01/13/23 05:53	01/28/23 03:52	1
1,2,3,4,7,8,9-HpCDF	0.00000153	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
OCDD	0.00000763	J,DX	0.00010	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
OCDF	0.00000335	J,DX	0.00010	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total TCDD	ND		0.000010	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total TCDF	0.00000123	J,DX q	0.000010	0.0000001	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total PeCDD	0.00000109	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total PeCDF	0.00000405	J,DX q	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total HxCDD	0.00000708	J,DX	0.000050	0.0000004	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total HxCDF	0.00000931	J,DX	0.000050	0.0000001	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total HpCDD	0.00000448	J,DX	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1
Total HpCDF	0.00000388	J,DX q	0.000050	0.0000002	ug/L		01/13/23 05:53	01/28/23 03:52	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD	74		25 - 164	01/13/23 05:53	01/28/23 03:52	1
13C-2,3,7,8-TCDF	76		24 - 169	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,7,8-PeCDD	56		25 - 181	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,7,8-PeCDF	61		24 - 185	01/13/23 05:53	01/28/23 03:52	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-646691/1-A**  
**Matrix: Water**  
**Analysis Batch: 650041**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,4,7,8-PeCDF	52		21 - 178	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,4,7,8-HxCDD	41		32 - 141	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,6,7,8-HxCDD	51		28 - 130	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,4,7,8-HxCDF	35		26 - 152	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,6,7,8-HxCDF	45		26 - 123	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,7,8,9-HxCDF	78		29 - 147	01/13/23 05:53	01/28/23 03:52	1
13C-2,3,4,6,7,8-HxCDF	72		28 - 136	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,4,6,7,8-HpCDD	65		23 - 140	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,4,6,7,8-HpCDF	46		28 - 143	01/13/23 05:53	01/28/23 03:52	1
13C-1,2,3,4,7,8,9-HpCDF	72		26 - 138	01/13/23 05:53	01/28/23 03:52	1
13C-OCDD	85		17 - 157	01/13/23 05:53	01/28/23 03:52	1
13C-OCDF	77		17 - 157	01/13/23 05:53	01/28/23 03:52	1
Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	90		35 - 197	01/13/23 05:53	01/28/23 03:52	1

**Lab Sample ID: LCS 320-646691/2-A**  
**Matrix: Water**  
**Analysis Batch: 650041**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDD	0.000200	0.000214		ug/L		107	67 - 158
2,3,7,8-TCDF	0.000200	0.000217	MB	ug/L		109	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00111	MB	ug/L		111	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00111	MB	ug/L		111	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00114	MB	ug/L		114	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.00107	MB	ug/L		107	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00104	MB	ug/L		104	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00153	MB	ug/L		153	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.00109	MB	ug/L		109	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00111	MB	ug/L		111	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00108	MB	ug/L		108	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00109	MB	ug/L		109	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00109	MB	ug/L		109	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00105	MB	ug/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00111	MB	ug/L		111	78 - 138
OCDD	0.00200	0.00201	MB	ug/L		100	78 - 144
OCDF	0.00200	0.00225	MB	ug/L		113	63 - 170

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C-2,3,7,8-TCDD	75		20 - 175
13C-2,3,7,8-TCDF	78		22 - 152
13C-1,2,3,7,8-PeCDD	61		21 - 227
13C-1,2,3,7,8-PeCDF	65		21 - 192
13C-2,3,4,7,8-PeCDF	56		13 - 328
13C-1,2,3,4,7,8-HxCDD	45		21 - 193
13C-1,2,3,6,7,8-HxCDD	56		25 - 163
13C-1,2,3,4,7,8-HxCDF	41		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-646691/2-A**  
**Matrix: Water**  
**Analysis Batch: 650041**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,6,7,8-HxCDF	48		21 - 159
13C-1,2,3,7,8,9-HxCDF	80		17 - 205
13C-2,3,4,6,7,8-HxCDF	75		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	69		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	52		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	75		20 - 186
13C-OCDD	90		13 - 199
13C-OCDF	83		13 - 199

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	91		31 - 191

**Lab Sample ID: LCSD 320-646691/3-A**  
**Matrix: Water**  
**Analysis Batch: 650041**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000211		ug/L		105	67 - 158	1	50	
2,3,7,8-TCDF	0.000200	0.000216	MB	ug/L		108	75 - 158	1	50	
1,2,3,7,8-PeCDD	0.00100	0.00109	MB	ug/L		109	70 - 142	1	50	
1,2,3,7,8-PeCDF	0.00100	0.00110	MB	ug/L		110	80 - 134	1	50	
2,3,4,7,8-PeCDF	0.00100	0.00112	MB	ug/L		112	68 - 160	2	50	
1,2,3,4,7,8-HxCDD	0.00100	0.00105	MB	ug/L		105	70 - 164	1	50	
1,2,3,6,7,8-HxCDD	0.00100	0.00103	MB	ug/L		103	76 - 134	2	50	
1,2,3,7,8,9-HxCDD	0.00100	0.00145	MB	ug/L		145	64 - 162	5	50	
1,2,3,4,7,8-HxCDF	0.00100	0.00108	MB	ug/L		108	72 - 134	1	50	
1,2,3,6,7,8-HxCDF	0.00100	0.00110	MB	ug/L		110	84 - 130	1	50	
1,2,3,7,8,9-HxCDF	0.00100	0.00107	MB	ug/L		107	78 - 130	1	50	
2,3,4,6,7,8-HxCDF	0.00100	0.00108	MB	ug/L		108	70 - 156	1	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.00107	MB	ug/L		107	70 - 140	2	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.00104	MB	ug/L		104	82 - 122	0	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.00109	MB	ug/L		109	78 - 138	2	50	
OCDD	0.00200	0.00196	MB	ug/L		98	78 - 144	2	50	
OCDF	0.00200	0.00222	MB	ug/L		111	63 - 170	1	50	

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	79		20 - 175
13C-2,3,7,8-TCDF	82		22 - 152
13C-1,2,3,7,8-PeCDD	65		21 - 227
13C-1,2,3,7,8-PeCDF	68		21 - 192
13C-2,3,4,7,8-PeCDF	61		13 - 328
13C-1,2,3,4,7,8-HxCDD	51		21 - 193
13C-1,2,3,6,7,8-HxCDD	60		25 - 163
13C-1,2,3,4,7,8-HxCDF	44		19 - 202
13C-1,2,3,6,7,8-HxCDF	53		21 - 159
13C-1,2,3,7,8,9-HxCDF	85		17 - 205
13C-2,3,4,6,7,8-HxCDF	81		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	73		26 - 166

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCSD 320-646691/3-A**  
**Matrix: Water**  
**Analysis Batch: 650041**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,4,6,7,8-HpCDF	56		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	79		20 - 186
13C-OCDD	96		13 - 199
13C-OCDF	87		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	93		31 - 191

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) - RA

**Lab Sample ID: MB 320-646691/1-A**  
**Matrix: Water**  
**Analysis Batch: 651542**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 646691**

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>EDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,3,7,8-TCDF - RA	ND		0.000010	0.0000004	ug/L		01/13/23 05:53	02/03/23 08:59	1

<i>Isotope Dilution</i>	<i>MB MB</i>		<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
13C-2,3,7,8-TCDF - RA	69		24 - 169	01/13/23 05:53	02/03/23 08:59	1

<i>Surrogate</i>	<i>MB MB</i>		<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
37Cl4-2,3,7,8-TCDD - RA	109		35 - 197	01/13/23 05:53	02/03/23 08:59	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Specialty Organics

### Prep Batch: 646691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1 - RA	Outfall001_20230106_Comp	Total/NA	Water	1613B	
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	1613B	
MB 320-646691/1-A - RA	Method Blank	Total/NA	Water	1613B	
MB 320-646691/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-646691/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-646691/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 650041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	1613B	646691
MB 320-646691/1-A	Method Blank	Total/NA	Water	1613B	646691
LCS 320-646691/2-A	Lab Control Sample	Total/NA	Water	1613B	646691
LCSD 320-646691/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	646691

### Analysis Batch: 651542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1 - RA	Outfall001_20230106_Comp	Total/NA	Water	1613B	646691
MB 320-646691/1-A - RA	Method Blank	Total/NA	Water	1613B	646691



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1051.3 mL	20.0 uL	646691	01/13/23 05:53	FC	EET SAC
Total/NA	Analysis	1613B	RA	1	1 uL	1 uL	651542	02/03/23 12:05	DB	EET SAC
Instrument ID: 11D2										
Total/NA	Prep	1613B			1051.3 mL	20.0 uL	646691	01/13/23 05:53	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	650041	01/28/23 07:44	GRB	EET SAC
Instrument ID: 12D5										

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-23 *
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
Utah	NELAP	CA000442021-12	02-28-23
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

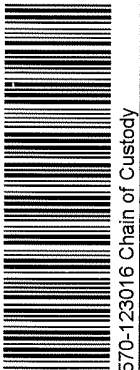
Job ID: 570-123016-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123016-1	Outfall001_20230106_Comp	Water	01/06/23 07:20	01/06/23 18:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

CHAIN OF CUSTODY FORM



570-123016 Chain of Custody

Eurofins CalScience Irvine

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED																			
									R/A	R	R	R	R/A	R	R	R	R	R	A	A	R							
			-WM	500 mL Poly	1	HNO <sub>3</sub>	80	No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	1 L Glass Amber	2	None	110	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	-1 L Poly	1	None	115	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	500 mL Poly	2	None	120	No	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Outfall001_20230106_Comp	1/6/2023 16:20	-WM	500 mL Poly	2	None	125	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	500 mL Poly	1	None	150	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48 hour Holding Time NO <sub>2</sub> & NO <sub>x</sub>
			-WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	180	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48 hour holding time for turbidity
			-WM	1 L Glass Amber	2	None	250	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	1 L Glass Amber	2	None	175	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	1 L Poly	1	None	185	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	1 L Glass Amber	2	None	110	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	500 mL Poly	2	None	120	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Outfall001_20230106_Comp_Extra	1/6/2023 16:20	-WM	500 mL Poly	2	None	125	No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	1 L Glass Amber	2	None	250	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			-WM	1 L Glass Amber	2	None	175	No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Client Name/Address: Haley & Aldrich, 5333 Mission Center Rd Suite 300, San Diego, CA 92108

Eurofins CalScience Irvine Contact: Christian Bondoc, 17461 Derfan Ave Suite #100, Irvine CA 92614, Tel: 949-260-3218

Project: Boeing-SSFL NPDES Permit 2023 Annual Outfall 001, 002, 011, 018 Outfall 001 Comp

Project Manager: Katherine Miller, 520.289.8606, 520.904.6944 (cell)

Field Manager: Mark Domnick, 978.234.5033, 818.599.0702 (cell)

Legend A=Annual, R=Routine

Relinquished By: *Mark Domnick* Date/Time: 1-6-2023/1300 H: A Company: *EC*

Received By: *Sam* Date/Time: 1/6/23 1300 EC Company: *EC*

Relinquished By: *Sam* Date/Time: 1/6/23 1815 EC Company: *EC*

Received By: *Mark Domnick* Date/Time: 1/6/23 1815 Company: *EC*

Turn-around time (Check): 24 Hour \_\_\_ 72 Hour \_\_\_ 10 Day \_\_\_ X \_\_\_  
 48 Hour \_\_\_ 5 Day: \_\_\_ Normal: \_\_\_

Sample integrity (Check): Intact: \_\_\_ On Ice: \_\_\_  
 Store samples for 6 months: Data Requirements: (Check) No Level IV \_\_\_ All Level IV \_\_\_ X \_\_\_

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p><b>Client Name/Address:</b>                  Haley &amp; Aldrich                  5333 Mission Center Rd Suite 300                  San Diego, CA 92108</p>		<p><b>Project:</b>                  Boeing-SSFL NPDES                  Permit 2023                  Annual Outfall [001, 002, 011, 018]                  Outfall 001                  Comp</p>		<p><b>ANALYSIS REQUIRED</b></p>		<p><b>Comments</b></p>	
<p><b>Eurofins Calscience Irvine Contact:</b> Christian Bondoc                  Irvine CA 92614                  Tel: 949-260-3218</p>		<p><b>Project Manager:</b> Katherine Miller                  520.289.8606; 520.904.8944 (cell)  <b>Field Manager:</b> Mark Dominick                  978.234.5033, 818.599.0702 (cell)</p>		<p>Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.7); Ag, Cd, Cu, Pb, Sb, Se, Ti (E200.8); Arsenic (E200.9)</p>		<p>Filter and preserve w/in 24hrs of receipt at lab.</p>	
<p><b>Sample Description:</b>                  Outfall001_20230106_Comp_F</p>		<p><b>Sample Matrix:</b>                  WM</p>		<p><b>Preservative:</b>                  None</p>		<p><b>Bottle #</b>                  190</p>	
<p><b>Sampling Date/Time:</b>                  1/6/2023                  6:20</p>		<p><b>Container Type:</b>                  1 L Poly</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  borosilicate vials</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  500 mL Poly</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  2.5 Gal Cube</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  1 L Glass Amber</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  1 Gal Cube</p>		<p><b># of Cont:</b>                  6</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  40 mL VOA</p>		<p><b># of Cont:</b>                  3</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  1 L Glass Amber</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  1 L Glass Amber</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  600 mL Poly</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  1 L Glass Amber</p>		<p><b># of Cont:</b>                  2</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  40 mL VOA</p>		<p><b># of Cont:</b>                  3</p>		<p><b>MS/MSD</b>                  No</p>	
<p><b>Sample I.D.:</b>                  Outfall001_20230106_Comp</p>		<p><b>Container Type:</b>                  1 L Glass Amber</p>		<p><b># of Cont:</b>                  1</p>		<p><b>MS/MSD</b>                  No</p>	

**Relinquished By:** *[Signature]* **Date/Time:** 1-6-2023 / 1301  
**Company:** CHA

**Relinquished By:** *[Signature]* **Date/Time:** 1/6/23 1815  
**Company:** EC

**Relinquished By:** *[Signature]* **Date/Time:** 1/6/23 1815  
**Company:** EC

**Received By:** *[Signature]* **Date/Time:** 1/6/23 1300 EC

**Received By:** *[Signature]* **Date/Time:** 1/6/23 1815

**Received By:** *[Signature]* **Date/Time:** 1/6/23 1815

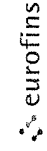
**Legend:** A=Annual, R=Routine, QRSW=Quarterly Receiving Water

**Turn-around time: (Check)**  
 24 Hour  72 Hour  10 Day   
 48 Hour  5 Day  Normal

**Sample Integrity (Check)**  
 Intact  On Ice   
 Store samples for 6 months   
 Data Requirements (Check)  
 No Level IV  All Level IV

\* Hand-delivered to ABC labs with copy of COC

**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b>	Lab PM: Patel, Virendra	Carrier Tracking No(s): 570-203543 1	COC No: 570-203543 1
Shipping/Receiving	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.	Accreditations Required (See note): State Program - California		Job #: 570-123016-4
Address: 13715 Rider Trail North	Due Date Requested: 2/8/2023		
City: Earth City	TAT Requested (days):		
State, Zip: MO, 63045	PO #:		
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:		
Email:	Project #: 44024446		
Project Name: Boeing SSFL NPDES - Outfall 001 COMP	SSOW#:		
Site:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analysis Requested										Total Number of Containers	Special Instructions/Note:
								900 O/Evaporation Gross Alpha/Beta	906 O/LSC Dist. Susp Tritium	905 Sr-90/Presep_7 Strontium-90	903 O/Presep_21 Radium-226	904 O/Presep_0 Radium-228	A01R_U/Exchrom_Actin Total Uranium	901 T-Cs/Fill_Geo_0 K-40 and Cesium-137					
Outfall001_20230106_Comp (570-123016-1)	1/6/23	07:20 Pacific	Water			X	X	X	X	X	X	X	X	X	X	2	Being SSFL DO NOT FILTER use prep date from preservation		

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements: Special Instructions/QC Requirements.

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by	Date/Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	1/9/23 1413	Company
Relinquished by:		Company
Relinquished by:		Company

Custody Seals Intact:  Yes  No  Custody Seal No  
 Cooler Temperature(s) °C and Other Remarks:



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM	Carrier Tracking No(s)	IOC No
Client Contact: 880 Riverside Parkway		Patel Virendra	Patel Virendra	570-203580 1	570-203580 1
Shipping/Receiving		Phone:	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #:	570-123016-2
Address: 880 Riverside Parkway		Due Date Requested: 1/24/2023		Preservation Codes	
City: West Sacramento		TAT Requested (days)		A - HCl M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)	
PO #: 916-373-5600(Tel) 916-372-1059(Fax)		WO #:		Other	
Project #: 44024446		Project #:		Special Instructions/Note:	
Email: Boeing SSFL NPDES - Outfall 001 COMP		SSOW#:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware. See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.	
Site:		Sample Date		Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Sample Time		2	
Outfall001_20230106_Comp (570-123016-1)		07 20 Pacific		2	
Outfall001_20230106_Comp_Extra (570-123016-2)		07 20 Pacific			
Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Preservation Code:			
Sample Type (C=Comp, G=grab)		Water			
Perform MS/MSD (Yes or No)		X			
Field Filtered Sample (Yes or No)		X			
1613B/1613B_Box_Sep_P Standard List w/ Totals		X			
1613B/1613B_Box_Sep_P Standard List w/ Totals (Hold)		X			
Analysis Requested					
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.					
<b>Possible Hazard Identification</b>					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2		Special Instructions/QC Requirements	
Empty Kit Relinquished by:		Date		Method of Shipment:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	





**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record



eurofins

Environmental Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Phone:	Patel, Virendra	State of Origin: California	570-203580.1
Company: Eurofins Environment Testing Northern Ca		E-Mail: Virendra.Patel@et.eurofins.com		Page: Page 1 of 1	Job #: 570-123016-2
Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email:		Accreditations Required (See note): State Program - California		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Due Date Requested: 1/24/2023 TAT Requested (days):		Analysis Requested			
PO #:	WO #:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals (Hold)
Project #: 44024446 SSOW#:	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)	Preservation Code:
Boeing SSFL NPDES - Outfall 001 COMP	1/6/23	07:20 Pacific		Water	Water
Site:	1/6/23	07:20 Pacific		Water	Water
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Special Instructions/Note:</b>			
Outfall001_20230106_Comp (570-123016-1)	See OAS, Boeing, w/u to zero, ug/L; Use Boeing glassware.				
Outfall001_20230106_Comp_Extra (570-123016-2)	See OAS, Boeing, w/u to zero, ug/L; Use Boeing glassware.				
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>					
<b>Possible Hazard Identification</b>					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:					
Relinquished by:		Date/Time:		Method of Shipment:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-2

**Login Number: 123016**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Patel, Virendra**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-2

**Login Number: 123016**

**List Number: 3**

**Creator: Guzman, Juan**

**List Source: Eurofins Sacramento**

**List Creation: 01/10/23 04:14 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4c 1.7c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/2/2023 2:01:56 PM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Outfall 001 COMP

**JOB NUMBER**

570-123016-3

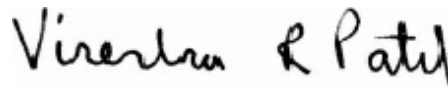
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
3/2/2023 2:01:56 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	14
Receipt Checklists . . . . .	18

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-3

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-3

---

**Job ID: 570-123016-3**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-123016-3**

## Comments

No additional comments.

## Receipt

The samples were received on 1/6/2023 6:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.3° C, 1.5° C, 1.9° C and 2.4° C.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Methods Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units), Weck-Hydrazine: These methods were subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certifications are different from that of the facility issuing the final report.





# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-3

Method	Method Description	Protocol	Laboratory
Subcontract	Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units)	None	Weck Lab
Subcontract	Weck-Hydrazine	None	Weck Lab

**Protocol References:**

None = None

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 E. Clark Avenue, City of Industry, CA 91745



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123016-1	Outfall001_20230106_Comp	Water	01/06/23 07:20	01/06/23 18:15

1

2

3

4

5

6

7

8

9

**Work Orders:** 3A06117

**Project:** 570-123016-3

**Attn:** Virendra Patel

**Client:** Eurofins Calscience - Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

**Report Date:** 2/24/2023

**Received Date:** 1/6/2023

**Turnaround Time:** Normal

**Phones:** (949) 261-1022

**Fax:** (949) 260-3297

**P.O. #:**

**Billing Code:**

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 1/06/23 with the Chain-of-Custody document. The samples were received in good condition, at 1.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

## Sample Results

Sample: Outfall001\_20230106\_Comp (570-123016-1) Sampled: 01/06/23 7:20 by Client  
3A06117-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 525.2M				<b>Instr:</b> GCMS13			
<b>Batch ID:</b> W3A0956	<b>Preparation:</b> EPA 525.2/SPE		<b>Prepared:</b> 01/12/23 08:56		<b>Analyst:</b> EFC		
Chlorpyrifos	ND	1.3	10	ng/l	1	01/14/23	
Diazinon	ND	1.0	10	ng/l	1	01/14/23	
<i>Surrogate(s)</i>							
1,3-Dimethyl-2-nitrobenzene	60%		50-141	Conc: 300		01/14/23	
Triphenyl phosphate	115%		63-200	Conc: 574		01/14/23	
<b>Method:</b> EPA 8315M				<b>Instr:</b> LCMS03			
<b>Batch ID:</b> W3A1773	<b>Preparation:</b> Microextraction		<b>Prepared:</b> 01/20/23 16:29		<b>Analyst:</b> pjs		
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l	1	01/20/23	

## Quality Control Results

### Hydrazine by LCMS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Blank (W3A1773-BLK1)</b> Prepared & Analyzed: 01/20/23											
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							
<b>Blank (W3A1773-BLK2)</b> Prepared: 01/20/23 Analyzed: 01/23/23											
Monomethylhydrazine (MMH)	ND	0.31	2.0	ug/l							QC-2
<b>LCS (W3A1773-BS1)</b> Prepared & Analyzed: 01/20/23											
Monomethylhydrazine (MMH)	20.7	0.31	2.0	ug/l	20.0		103	50-150			
<b>LCS (W3A1773-BS2)</b> Prepared: 01/20/23 Analyzed: 01/23/23											
Monomethylhydrazine (MMH)	27.6	0.31	2.0	ug/l	20.0		138	50-150			QC-2
<b>Matrix Spike (W3A1773-MS1)</b> Source: 3A06106-03 Prepared & Analyzed: 01/20/23											
Monomethylhydrazine (MMH)	15.5	0.31	2.0	ug/l	20.0	ND	77	50-150			
<b>Matrix Spike Dup (W3A1773-MSD1)</b> Source: 3A06106-03 Prepared & Analyzed: 01/20/23											
Monomethylhydrazine (MMH)	14.2	0.31	2.0	ug/l	20.0	ND	71	50-150	9	30	

### Semivolatle Organics - Low Level by Tandem GC/MS/MS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
<b>Blank (W3A0956-BLK1)</b> Prepared: 01/12/23 Analyzed: 01/14/23											
Chlorpyrifos	ND	1.3	10	ng/l							
Diazinon	ND	1.0	10	ng/l							
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	328			ng/l	500		66	50-141			
Triphenyl phosphate	522			ng/l	500		104	63-200			
<b>LCS (W3A0956-BS1)</b> Prepared: 01/12/23 Analyzed: 01/14/23											
Chlorpyrifos	36.3	1.3	10	ng/l	50.0		73	63-145			
Diazinon	25.1	1.0	10	ng/l	50.0		50	25-180			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	328			ng/l	500		66	50-141			
Triphenyl phosphate	543			ng/l	500		109	63-200			
<b>Matrix Spike (W3A0956-MS1)</b> Source: 3A09030-01 Prepared: 01/12/23 Analyzed: 01/14/23											
Chlorpyrifos	42.8	1.3	10	ng/l	50.0	ND	86	37-168			
Diazinon	34.5	1.0	10	ng/l	50.0	ND	69	36-153			
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	327			ng/l	500		65	50-141			
Triphenyl phosphate	581			ng/l	500		116	63-200			
<b>Matrix Spike Dup (W3A0956-MSD1)</b> Source: 3A09030-01 Prepared: 01/12/23 Analyzed: 01/14/23											
Chlorpyrifos	48.2	1.3	10	ng/l	50.0	ND	96	37-168	12	30	
Diazinon	40.1	1.0	10	ng/l	50.0	ND	80	36-153	15	30	
<i>Surrogate(s)</i>											
1,3-Dimethyl-2-nitrobenzene	385			ng/l	500		77	50-141			
Triphenyl phosphate	590			ng/l	500		118	63-200			

## Notes and Definitions

Item	Definition
J	Estimated conc. detected <MRL and >MDL.
QC-2	This QC sample was reanalyzed to complement samples that require re-analysis on different date. See analysis date.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

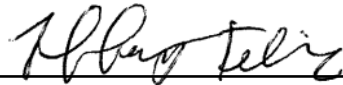
All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

## Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
<b>EPA 8315M in Water</b> Monomethylhydrazine (MMH)	60-34-4	✓	

Reviewed by:



Tiffany T. Felix For Rahul R. Nair  
Project Manager



DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*



### Chain of Custody Record

2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

3A01

<b>Client Information (Sub Contract Lab)</b>	Lab PM: Patel, Virendra
Client Contact: Shipping/Receiving	E-Mail: Virendra.Patel@et.eurofinsus.com
Company: Weck Laboratories, Inc.	State of Origin: California
Address: 14859 E. Clark Avenue, City: State, Zip: CA, 91745	Carrier Tracking No(s):
Phone: Email:	
Project Name: Boeing SSFL NPDES - Outfall 001 COMP	State Program - California
Site: SSOW#:	

Due Date Requested: 1/20/2023	Analysis Requested
TAT Requested (days):	
PO #:	
WO #:	

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Seawater, Opresolol, BT-Triolol, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Weck-525.2 - Diazinon and Chlorpyrifos (ug/L))	SUB (Weck-Hydrazine)/ Weck-Hydrazine (units)
Outfall001_20230106_Comp (570-123016-1)	1/6/23	07:20 Pacific	Water	Water	X	X	X	X
Outfall001_20230106_Comp_Extra (570-123016-2)	1/6/23	07:20 Pacific	Water	Water			H	

Note: Since laboratory accreditations are subject to change, Eurofins CalScience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain of custody to the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins CalScience laboratory or other instructions will be provided. Any changes to accreditation immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins CalScience.

**Possible Hazard Identification**  
 Unconfirmed  Return To Client  Disposal By Lab

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: Date: Time:

Special Instructions/QC Requirements:

**ICOC No:**  
570-203422

**Containers**

**Count** 3      **Container Type** Amber Glass 1 liter - unpreserved      **Preservative** None

**Subcontract Method Instructions**

<b>Sample IDs</b>	<b>Method</b>	<b>Method Description</b>	<b>Method Comments</b>
1	SUBCONTRACT	SUB (Weck- 525.2 - Diazinon and Chlorpyrifos (ug/L units))	525.2- 24 hour extraction for Diazinon and Chlorpyrifos needed
1	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine	Level IV needed
2	SUBCONTRACT	SUB (Weck-Hydrazine)/ Weck-Hydrazine - HOLD	Level IV needed



Week WKO: 3A06117  
 Logged by: Jerico Bolotano  
 Checked by: Jerico Bolotano

Date/Time Received: 01/06/22 @ 16:45  
 # of Samples: 02  
 Delivered by: Client

# Sample Receipt Checklist

Ask	Yes	No	N/A	Comments
QC present at receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QC properly completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QC matches sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Project Manager notified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample Temperature	1.1°C	<input type="checkbox"/>	<input type="checkbox"/>	
Samples received on ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Type (Blue/Wet)	Wet	<input type="checkbox"/>	<input type="checkbox"/>	
Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sufficient sample volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Project Manager notified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sample labels checked for correct preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QC Headspaces: (No) none, if Yes (See comment)	4.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	<input type="checkbox"/>	<input type="checkbox"/>	
Verified upon receipt?	Details <2; H2SO4 pres tests <2; 522<4; TOC <2; 525.2<2; 103<2; 608.3 5-9	<input type="checkbox"/>	<input type="checkbox"/>	
Iodine Tested <0.1		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ICG pH <2 verified?		<input type="checkbox"/>	<input type="checkbox"/>	
Adjusted for O&G		<input type="checkbox"/>	<input type="checkbox"/>	
Project Manager notified?		<input type="checkbox"/>	<input type="checkbox"/>	
Amt added:		<input type="checkbox"/>	<input type="checkbox"/>	
pH paper Lot#		<input type="checkbox"/>	<input type="checkbox"/>	
pH Reading:		<input type="checkbox"/>	<input type="checkbox"/>	
Acid Lot#		<input type="checkbox"/>	<input type="checkbox"/>	
CI Test Strip Lot# 061221E		<input type="checkbox"/>	<input type="checkbox"/>	
pH paper Lot# 2071882		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<6mm/Pea size?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	



CHAIN OF CUSTODY FORM



570-123016 Chain of Custody

Eurofins Calscience Irvine

**Client Name/Address:**  
Haley & Aldrich  
5333 Mission Center Rd Suite 300  
San Diego, CA 92108

**Eurofins Calscience Irvine Contact:** Christian Bondoc  
17461 Derfan Ave Suite #100  
Irvine CA 92614  
Tel: 949-260-3218

**Project:**  
Boeing-SSFL NPDES  
Permit 2023  
Annual Outfall 001, 002, 011, 018  
Outfall 001  
Comp

**Project Manager:** Katherine Miller  
520.289.8606, 520.904.6944 (cell)

**Field Manager:** Mark Dominick  
978.234.5033, 818.599.0702 (cell)

**Resubmitter's services under this CoC shall be performed in accordance with the TCOs within Blanket Service Agreements 2016-22, resubmitted by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.**

**Sampler:** Adrian Mobeka

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD
Outfall 001	Outfall001_20230106_Comp	1/6/2023 / 16720	WM	500 mL Poly	1	HNO <sub>3</sub>	80	No
			WM	1 L Glass Amber	2	None	110	No
			WM	1 L Poly	1	None	115	No
			WM	500 mL Poly	2	None	120	No
			WM	500 mL Poly	2	None	125	No
			WM	500 mL Poly	1	None	150	No
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	180	No
			WM	1 L Glass Amber	2	None	250	No
			WM	1 L Glass Amber	2	None	175	No
			WM	1 L Poly	1	None	185	No
Outfall001_20230106_Comp_Extra	Outfall001_20230106_Comp_Extra	1/6/2023 / 16720	WM	1 L Glass Amber	2	None	110	No
			WM	500 mL Poly	2	None	120	No
			WM	500 mL Poly	2	None	125	No
			WM	1 L Glass Amber	2	None	250	No
			WM	1 L Glass Amber	2	None	175	No
			WM	1 L Poly	1	None	185	No

**ANALYSIS REQUIRED**

Parameter	Result
Total Recoverable Metals: (E200.7), As, Ba, B, Be, Bi, Br, Cd, Cr, Fe, Mn, Ni, V, Zn (E200.8), Ag, Cu, Pb, Sb, Se, Ti	X
TCPD (and all congeners) (E1613B)	X
BOD <sub>5</sub> (20 degrees C) (E405.1) (SM2108_BODCalc)	X
Surfactants (MBS) (SM5540C/E425.1)	X
Cl <sup>-</sup> , SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate (E300)	X
Turbidity TDS (SM2540C/E180.1)	X
TSS (160.2 (SM2540D))	X
Ammonia-N (E350.2)	X
Priority Pollutants+Pesticides+PCBs (E608)	X
Priority Pollutants-SVOCs (E825)	X
Total Recoverable Metals: Mercury (E245.1)	X

**Comments:**  
48 hour Holding Time NO<sub>3</sub> & NO<sub>2</sub>  
48 hour holding time for turbidity

**Legend:** A=Annual, R=Routine

**Relinquished By:** *Mark Dominick* Date/Time: 1-6-2023/1300 H: A Company: *Boeing*

**Received By:** *Christian Bondoc* Date/Time: 1/6/23 1300 EC

**Relinquished By:** *Mark Dominick* Date/Time: 1/6/23 1815 EC Company: *Boeing*

**Received By:** *Christian Bondoc* Date/Time: 1/6/23 1815

**Relinquished By:** *Mark Dominick* Date/Time: 1/3/1.3 2.4/2.4 1.5/1.5 1.9/1.9 sc11 Company: *Boeing*

**Turn-around time (Check):** 24 Hour  72 Hour  10 Day  48 Hour  5 Day  Normal:

**Sample Integrity (Check):** Intact  On Ice  Store samples for 6 months:  Data Requirements: (Check) No Level IV  All Level IV



CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108			Project: Boeing-SSFL NPDES Permit 2023 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp			R/A R R R A A A R QRSW			ANALYSIS REQUIRED			Comments				
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel: 949-260-3218			Project Manager: Katherine Miller 520.289.8606; 520.904.8944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)			Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Ti			Chronic Toxicity - Selenium (E200.9): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.10): Ag, Cd, Cu, Pb, Sb, Se, Ti				Filter and preservative w/in 24hrs of receipt at lab.			
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Gross Alpha (E900.0) Gross Beta (E900.0) Tritium (H-3) (E906.0) Sr-90 (E903.1) & Radium 228 (E904.0) Uranium (E908.0), K- 40, Cs-137 (E901.0 or E901.1)	1,4-Dioxane (E624 (SW6260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethylhydrazine (SW8315M/DV-WC-0077)		Cr (VI), Total (E216.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E552.2)
Outfall 001	Outfall001_20230106_Comp_F	1/6/2023 6:20	WM	1 L Poly	1	None	190	No	X					X		
			WM	borellate vials	1	None	320	No								
			WM	500 mL Poly	1	NaOH	220	No								
			WM	2.5 Gal Cube	1	None	225	No								
			WM	1 L Glass Amber	1	None	230	No								
			WM	1 Gal Cube	6	None	235	No								
			WM	40 mL VOA	3	HCl	240	No		X						
			WM	1 L Glass Amber	1	HCl	245	No			X					
			WM	1 L Glass Amber	1	None	255	No					X			
			WM	600 mL Poly	1	None	260	No						X		
			WM	1 L Glass Amber	2	None	275	No								
			WM	40 mL VOA	3	HCl	240	No								
			WM	1 L Glass Amber	1	None	255	No								

Relinquished By: *Monte...* Date/Time: 1-6-2023 13:01 Company: CHA

Relinquished By: *...* Date/Time: 1/6/23 18:15 Company: EC

Relinquished By: *...* Date/Time: 1/6/23 18:15 Company: EC

Received By: *Sam...* Date/Time: 1/6/23 13:00 EC

Received By: *...* Date/Time: 1/6/23 18:15

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

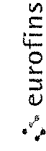
Turn-around time: (Check)  
 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal \_\_\_\_\_

Sample Integrity (Check)  
 Intact: \_\_\_\_\_ On Ice: \_\_\_\_\_  
 Store samples for 6 months.  
 Data Requirements: (Check)  
 No Level IV: \_\_\_\_\_ All Level IV: \_\_\_\_\_ X

\* Hand-delivered to ABC labs with copy of COC



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel Virendra	Lab PM: Virendra Patel	Carrier Tracking No(s): 570-203543 1	COC No: 570-203543 1
Shipping/Receiving		Phone: Virendra.Patel@et.eurofins.com	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-123016-4	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:
Address: 13715 Rider Trail North		Due Date Requested: 2/8/2023		Analysis Requested	
City: Earth City		TAT Requested (days):		900 0/Evaporation Gross Alpha/Beta	
State, Zip: MO, 63045		PO #:		906 0/LSC_Dist_Susp Tritium	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WO #:		905_Sr90/PreSep_7 Strontium-90	
Email:		Project #: 44024446		904_0/P/PreSep_21 Radium-226	
Project Name: Boeing SSFL NPDES - Outfall 001 COMP		SSOW#:		A01R_U/ExChrom_ActIn Total Uranium	
Site:		Sample Date: 1/6/23		901_1_Cs/Fill_Geo_0 K-40 and Cesium-137	
Sample Identification - Client ID (Lab ID)		Sample Time: 07:20 Pacific		Total Number of Containers: 2	
Outfall001_20230106_Comp (570-123016-1)		Sample Type (C=Comp, G=grab):		Special Instructions/Note: Boeing SSFL DO NOT FILTER use prep date from preservation	
		Preservation Code: Water			
		Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)			
		Field Filtered Sample (Yes or No)			
		Perform MS/MSD (Yes or No)			

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by:	Date/Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	1/9/23 1413	Company
Relinquished by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company

Custody Seals Intact:  Yes  No  Custody Seal No  
 Cooler Temperature(s) °C and Other Remarks:



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM	Carrier Tracking No(s)	IOC No
Eurofins Environment Testing Northern Ca		Patel Virendra	Patel Virendra	570-203580 1	570-203580 1
Address: 880 Riverside Parkway		E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1	Job #: 570-123016-2
City: West Sacramento		<b>Analysis Requested</b>			
State: CA, 95605		1613B/1613B_Box_Sep_P Standard List w/ Totals			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		1613B/1613B_Box_Sep_P Standard List w/ Totals			
Email:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>			
Project #: 44024446		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>			
Site: Boeing SSFL NPDES - Outfall 001 COMP		Total Number of Containers			
Due Date Requested: 1/24/2023		Special Instructions/Note:			
TAT Requested (days)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
PO #:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
WO #:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Sample Date		Special Instructions/Note:			
Sample Time		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Sample Type (C=Comp, G=grab)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Preservation Code:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
1/6/23		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
07 20 Pacific		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
1/6/23		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
07 20 Pacific		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Outfall001_20230106_Comp (570-123016-1)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Outfall001_20230106_Comp_Extra (570-123016-2)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Sample Identification - Client ID (Lab ID)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
<b>Possible Hazard Identification</b>		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Unconfirmed		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Deliverable Requested: I, II, III, IV, Other (specify)		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Primary Deliverable Rank: 2		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Empty Kit Relinquished by:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Relinquished by:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Relinquished by:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Relinquished by:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Custody Seal No.		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Cooler Temperature(s) °C and Other Remarks:		See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-3

**Login Number: 123016**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/7/2023 3:45:10 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 COMP

## JOB NUMBER

570-123016-4

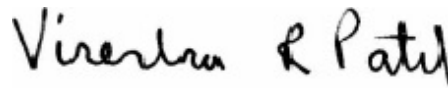
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
2/7/2023 3:45:10 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	22
Lab Chronicle . . . . .	23
Certification Summary . . . . .	24
Method Summary . . . . .	25
Sample Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	32



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Qualifiers

### Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Job ID: 570-123016-4

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-123016-4

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/6/2023 6:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.3° C, 1.5° C, 1.9° C and 2.4° C.

#### Receipt Exceptions

The reference method requires samples to be preserved to a pH of <2 SU. The following samples were received with insufficient preservation at a pH of >2 SU: Outfall001\_20230106\_Comp (570-123016-1), Outfall001\_20230106\_Comp\_Extra (570-123016-2) and Outfall001\_20230106\_Comp\_F (570-123016-3). 570-123016-Z-1. The sample was preserved to the appropriate pH in the laboratory.

#### RAD

Method 900.0: Gross Alpha Beta prep batch 160-597281:

The matrix spike (MS) recoveries for gross alpha were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits. (570-123038-A-2-E MS)

Method 900.0: Gross Alpha Beta prep batch 160-597281:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230106\_Comp (570-123016-1), (LCS 160-597281/2-A), (LCSB 160-597281/3-A), (MB 160-597281/1-A), (570-123038-A-2-D), (570-123038-A-2-G DU), (570-123038-A-2-E MS) and (570-123038-A-2-F MSBT)

Method 901.1: Gamma Prep Batch 160-596761

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Job ID: 570-123016-4 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230106\_Comp (570-123016-1), (570-122687-U-1-D) and (570-122687-U-1-J DU)

Methods 903.0, 9315: Radium-226 batch 596421

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230106\_Comp (570-123016-1), (LCS 160-596421/2-A), (LCSD 160-596421/3-A) and (MB 160-596421/1-A)

Methods 904.0, 9320: Radium-228 prep batch 160-596471:

The Ra-228 laboratory control sample (LCS) associated with the following samples recovered at 128%: (LCS 160-596471/2-A). The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS is within criteria and no further action is required.

Method 904.0: Radium-228 prep batch 160-596471:

The following sample(s) did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interference. During preparation the analyst visually noted matrix effects. The data have been reported with this narrative.

Outfall001\_20230106\_Comp (570-123016-1)

Methods 904.0, 9320: Radium-228 prep batch 160-596471:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230106\_Comp (570-123016-1), (LCS 160-596471/2-A), (LCSD 160-596471/3-A) and (MB 160-596471/1-A)

Method 905: Strontium-90 prep batch 160-596746:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230106\_Comp (570-123016-1), (LCS 160-596746/2-A), (LCSD 160-596746/3-A), (MB 160-596746/1-A) and (570-122687-U-1-C)

Method 906.0: Tritium 597488

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230106\_Comp (570-123016-1), (LCS 160-597488/2-A), (MB 160-597488/1-A), (570-123038-U-2-B), (570-123038-U-2-C DU), (570-123414-Q-1-B) and (570-123414-Q-1-C MS)

Method A-01-R: Isotopic Uranium batch 597259

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230106\_Comp (570-123016-1), (LCS 160-597259/2-A), (MB 160-597259/1-A), (570-123038-A-2-B) and (570-123038-A-2-C)

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

---

## Job ID: 570-123016-4 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

DU)

Method ExtChrom: Uranium Prep Batch 160-597259

The following sample was prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001\_20230106\_Comp (570-123016-1).

Method PrecSep\_0: Radium-228 Prep Batch 160-596471

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230106\_Comp (570-123016-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-596421

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230106\_Comp (570-123016-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium 90 Prep Batch 160-596746

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230106\_Comp (570-123016-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230106\_Comp  
Date Collected: 01/06/23 07:20  
Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	1.64		0.924	0.943	3.00	1.24	pCi/L	01/18/23 10:03	02/02/23 18:51	1
Gross Beta	2.60		0.732	0.777	4.00	0.888	pCi/L	01/18/23 10:03	02/02/23 18:51	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230106\_Comp  
Date Collected: 01/06/23 07:20  
Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-3.37	U	10.9	10.9	20.0	13.3	pCi/L	01/12/23 14:42	02/02/23 20:49	1
Potassium-40	44.2	U	79.3	79.5		91.6	pCi/L	01/12/23 14:42	02/02/23 20:49	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall001\_20230106\_Comp  
 Date Collected: 01/06/23 07:20  
 Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0561	U	0.118	0.118	1.00	0.212	pCi/L	01/11/23 09:34	02/02/23 09:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	52.2		40 - 110					01/11/23 09:34	02/02/23 09:48	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall001\_20230106\_Comp  
 Date Collected: 01/06/23 07:20  
 Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.851	U G	0.592	0.597	1.00	1.41	pCi/L	01/11/23 10:20	01/20/23 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	52.2		40 - 110					01/11/23 10:20	01/20/23 12:15	1
Y Carrier	72.1		40 - 110					01/11/23 10:20	01/20/23 12:15	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230106\_Comp**  
**Date Collected: 01/06/23 07:20**  
**Date Received: 01/06/23 18:15**

**Lab Sample ID: 570-123016-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.123	U	0.332	0.332	3.00	0.577	pCi/L	01/12/23 11:13	01/27/23 18:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	87.9		40 - 110					01/12/23 11:13	01/27/23 18:51	1
Y Carrier	86.0		40 - 110					01/12/23 11:13	01/27/23 18:51	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230106\_Comp  
Date Collected: 01/06/23 07:20  
Date Received: 01/06/23 18:15

Lab Sample ID: 570-123016-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-50.9	U	158	158	500	299	pCi/L	01/19/23 12:02	01/20/23 22:22	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230106\_Comp**  
**Date Collected: 01/06/23 07:20**  
**Date Received: 01/06/23 18:15**

**Lab Sample ID: 570-123016-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Total Uranium</b>	<b>0.542</b>		0.361	0.361	1.00	0.342	pCi/L	01/17/23 16:09	01/25/23 14:42	1
Tracer	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Uranium-232	79.1		30 - 110					01/17/23 16:09	01/25/23 14:42	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
570-123016-1	Outfall001_20230106_Comp	52.2	
LCS 160-596421/2-A	Lab Control Sample	91.6	
LCSD 160-596421/3-A	Lab Control Sample Dup	99.4	
MB 160-596421/1-A	Method Blank	97.5	
<b>Tracer/Carrier Legend</b>			
Ba = Ba Carrier			

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
570-123016-1	Outfall001_20230106_Comp	52.2	72.1
LCS 160-596471/2-A	Lab Control Sample	91.6	77.0
LCSD 160-596471/3-A	Lab Control Sample Dup	99.4	84.1
MB 160-596471/1-A	Method Blank	97.5	82.6
<b>Tracer/Carrier Legend</b>			
Ba = Ba Carrier			
Y = Y Carrier			

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (40-110)	Y (40-110)
570-123016-1	Outfall001_20230106_Comp	87.9	86.0
LCS 160-596746/2-A	Lab Control Sample	88.4	89.0
LCSD 160-596746/3-A	Lab Control Sample Dup	85.9	91.6
MB 160-596746/1-A	Method Blank	87.7	74.4
<b>Tracer/Carrier Legend</b>			
Sr = Sr Carrier			
Y = Y Carrier			

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	U-232 (30-110)	
570-123016-1	Outfall001_20230106_Comp	79.1	
570-123038-A-2-C DU	Duplicate	86.2	
LCS 160-597259/2-A	Lab Control Sample	87.1	
MB 160-597259/1-A	Method Blank	85.3	
<b>Tracer/Carrier Legend</b>			
U-232 = Uranium-232			

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-597281/1-A**  
**Matrix: Water**  
**Analysis Batch: 598871**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597281**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Gross Alpha	0.3178	U	0.498	0.499	3.00	0.856	pCi/L	01/18/23 10:03	02/01/23 19:04	1
Gross Beta	-0.4920	U	0.450	0.452	4.00	0.892	pCi/L	01/18/23 10:03	02/01/23 19:04	1

**Lab Sample ID: LCS 160-597281/2-A**  
**Matrix: Water**  
**Analysis Batch: 598871**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597281**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Gross Alpha	50.5	47.50		7.10	3.00	2.60	pCi/L	94	75 - 125

**Lab Sample ID: LCSB 160-597281/3-A**  
**Matrix: Water**  
**Analysis Batch: 598871**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597281**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Gross Beta	73.7	65.09		7.04	4.00	0.936	pCi/L	88	75 - 125

**Lab Sample ID: 570-123038-A-2-E MS**  
**Matrix: Water**  
**Analysis Batch: 599058**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 597281**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total	RL	MDC	Unit	%Rec	%Rec
						Uncert. (2σ+/-)					Limits
Gross Alpha	1.45	U	50.5	20.83	F1	3.86	3.00	1.88	pCi/L	38	60 - 140

**Lab Sample ID: 570-123038-A-2-F MSBT**  
**Matrix: Water**  
**Analysis Batch: 599058**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 597281**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total	RL	MDC	Unit	%Rec	%Rec
						Uncert. (2σ+/-)					Limits
Gross Beta	2.09		73.7	68.81		7.42	4.00	0.924	pCi/L	91	60 - 140

**Lab Sample ID: 570-123038-A-2-G DU**  
**Matrix: Water**  
**Analysis Batch: 599058**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597281**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total	RL	MDC	Unit	RER	RER
					Uncert. (2σ+/-)					Limit
Gross Alpha	1.45	U	1.117	U	1.34	3.00	2.19	pCi/L	0.12	1
Gross Beta	2.09		2.039		0.737	4.00	0.937	pCi/L	0.03	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-596761/1-A**  
**Matrix: Water**  
**Analysis Batch: 598464**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 596761**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Cesium-137	0.3405	U	6.22	6.22	20.0	7.49	pCi/L	01/12/23 14:04	01/27/23 09:19	1
Potassium-40	-26.73	U	74.0	74.1		112	pCi/L	01/12/23 14:04	01/27/23 09:19	1

**Lab Sample ID: LCS 160-596761/2-A**  
**Matrix: Water**  
**Analysis Batch: 598468**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 596761**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Americium-241	135000	135600		15900		323	pCi/L	100	75 - 125
Cesium-137	41000	41980		4940	20.0	82.6	pCi/L	102	75 - 125
Cobalt-60	18200	18860		2220		68.1	pCi/L	104	75 - 125

**Lab Sample ID: 570-122687-U-1-J DU**  
**Matrix: Water**  
**Analysis Batch: 598468**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 596761**

Analyte	Sample Sample		DU DU		Total	RL	MDC	Unit	RER	RER
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					Limit
Cesium-137	2.96	U	4.522	U	4.76	20.0	5.51	pCi/L		0.15
Potassium-40	-80.4	U	23.29	U	81.8		108	pCi/L		0.54

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-596421/1-A**  
**Matrix: Water**  
**Analysis Batch: 599059**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 596421**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.02900	U	0.0421	0.0422	1.00	0.0719	pCi/L	01/11/23 09:34	02/02/23 09:40	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Ba Carrier	97.5		40 - 110				01/11/23 09:34	02/02/23 09:40	1	

**Lab Sample ID: LCS 160-596421/2-A**  
**Matrix: Water**  
**Analysis Batch: 599059**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 596421**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Radium-226	11.3	10.48		1.08	1.00	0.0823	pCi/L	92	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	91.6		40 - 110						

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: 903.0 - Radium-226 (GFPC) (Continued)

**Lab Sample ID: LCSD 160-596421/3-A**  
**Matrix: Water**  
**Analysis Batch: 599059**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 596421**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-226	11.3	10.98		1.12	1.00	0.0883	pCi/L	97	75 - 125	0.23		1
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	99.4		40 - 110									

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-596471/1-A**  
**Matrix: Water**  
**Analysis Batch: 597712**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 596471**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Carrier</b>		<b>MB</b>	<b>MB</b>							
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	97.5		40 - 110					01/11/23 10:20	01/20/23 12:06	1
Y Carrier	82.6		40 - 110					01/11/23 10:20	01/20/23 12:06	1

**Lab Sample ID: LCS 160-596471/2-A**  
**Matrix: Water**  
**Analysis Batch: 597712**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 596471**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec	
									Limits	RER
Radium-228	8.26	10.58		1.44	1.00	0.643	pCi/L	128	75 - 125	
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>							
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	91.6		40 - 110							
Y Carrier	77.0		40 - 110							

**Lab Sample ID: LCSD 160-596471/3-A**  
**Matrix: Water**  
**Analysis Batch: 597712**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 596471**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-228	8.26	9.293		1.25	1.00	0.462	pCi/L	112	75 - 125	0.48		1
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	99.4		40 - 110									
Y Carrier	84.1		40 - 110									



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-596746/1-A**  
**Matrix: Water**  
**Analysis Batch: 598557**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 596746**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Strontium-90	-0.1133	U	0.196	0.196	3.00	0.373	pCi/L	01/12/23 11:13	01/27/23 18:47	1
Carrier	MB MB		Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier		Prepared	Analyzed					
Sr Carrier	87.7		40 - 110			01/12/23 11:13	01/27/23 18:47	1		
Y Carrier	74.4		40 - 110			01/12/23 11:13	01/27/23 18:47	1		

**Lab Sample ID: LCS 160-596746/2-A**  
**Matrix: Water**  
**Analysis Batch: 598557**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 596746**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Strontium-90	7.38	7.183		0.793	3.00	0.290	pCi/L	97	75 - 125
Carrier	LCS LCS		Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier		Prepared	Analyzed				
Sr Carrier	88.4		40 - 110						
Y Carrier	89.0		40 - 110						

**Lab Sample ID: LCSD 160-596746/3-A**  
**Matrix: Water**  
**Analysis Batch: 598557**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 596746**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Strontium-90	7.38	6.876		0.769	3.00	0.301	pCi/L	93	75 - 125	0.20	1
Carrier	LCSD LCSD		Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier		Prepared	Analyzed						
Sr Carrier	85.9		40 - 110								
Y Carrier	91.6		40 - 110								

## Method: 906.0 - Tritium, Total (LSC)

**Lab Sample ID: MB 160-597488/1-A**  
**Matrix: Water**  
**Analysis Batch: 597784**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597488**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	-84.68	U	164	165	500	326	pCi/L	01/19/23 12:02	01/20/23 20:22	1

**Lab Sample ID: LCS 160-597488/2-A**  
**Matrix: Water**  
**Analysis Batch: 597784**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597488**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Tritium	2120	1848		381	500	324	pCi/L	87	75 - 125

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Method: 906.0 - Tritium, Total (LSC) (Continued)

**Lab Sample ID: 570-123414-Q-1-C MS**  
**Matrix: Water**  
**Analysis Batch: 597784**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 597488**

Analyte	Sample	Sample	Spike Added	MS	MS	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual		Result	Qual						
Tritium	-26.1	U	2120	1947		376	500	297	pCi/L	92	60 - 140

**Lab Sample ID: 570-123038-U-2-C DU**  
**Matrix: Water**  
**Analysis Batch: 597784**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597488**

Analyte	Sample	Sample	DU	DU	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual		Result						
Tritium	-83.3	U	-97.75	U	162	500	324	pCi/L	0.05	1

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Lab Sample ID: MB 160-597259/1-A**  
**Matrix: Water**  
**Analysis Batch: 598217**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597259**

Analyte	MB	MB	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Total Uranium	0.05873	U	0.09433	0.09455	1.00	0.172	pCi/L	01/17/23 16:09	01/25/23 14:42	1
<b>Tracer</b>	<b>MB</b>	<b>MB</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Uranium-232	85.3		30 - 110					01/17/23 16:09	01/25/23 14:42	1

**Lab Sample ID: LCS 160-597259/2-A**  
**Matrix: Water**  
**Analysis Batch: 598218**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597259**

Analyte	Spike Added	LCS	LCS	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual						
Uranium-234	12.7	12.19		1.46	1.00	0.151	pCi/L	96	75 - 125
Uranium-238	13.0	13.33		1.56	1.00	0.135	pCi/L	102	75 - 125
<b>Tracer</b>	<b>LCS</b>	<b>LCS</b>	<b>Limits</b>						
Uranium-232	87.1		30 - 110						

**Lab Sample ID: 570-123038-A-2-C DU**  
**Matrix: Water**  
**Analysis Batch: 598230**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597259**

Analyte	Sample	Sample	DU	DU	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual		Result						
Total Uranium	0.128		0.07847	U	0.1118	1.00	0.163	pCi/L	0.22	1
<b>Tracer</b>	<b>DU</b>	<b>DU</b>	<b>Limits</b>							
Uranium-232	86.2		30 - 110							

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Rad

### Prep Batch: 596421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	PrecSep-21	
MB 160-596421/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-596421/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-596421/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 596471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	PrecSep_0	
MB 160-596471/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-596471/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-596471/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 596746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	PrecSep-7	
MB 160-596746/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-596746/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-596746/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

### Prep Batch: 596761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-596761/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-596761/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-122687-U-1-J DU	Duplicate	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 597259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	ExtChrom	
MB 160-597259/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-597259/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-123038-A-2-C DU	Duplicate	Total/NA	Water	ExtChrom	

### Prep Batch: 597281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	Evaporation	
MB 160-597281/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-597281/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-597281/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-123038-A-2-E MS	Matrix Spike	Total/NA	Water	Evaporation	
570-123038-A-2-F MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-123038-A-2-G DU	Duplicate	Total/NA	Water	Evaporation	

### Prep Batch: 597488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123016-1	Outfall001_20230106_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-597488/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-597488/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-123414-Q-1-C MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-123038-U-2-C DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

**Client Sample ID: Outfall001\_20230106\_Comp**

**Lab Sample ID: 570-123016-1**

**Date Collected: 01/06/23 07:20**

**Matrix: Water**

**Date Received: 01/06/23 18:15**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.00 mL	1.0 g	597281	01/18/23 10:03	MST	EET SL
Total/NA	Analysis	900.0		1			599058	02/02/23 18:51	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	596761	01/12/23 14:42	SAC	EET SL
Total/NA	Analysis	901.1		1			599048	02/02/23 20:49	EMH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			759.08 mL	1.0 g	596421	01/11/23 09:34	DJP	EET SL
Total/NA	Analysis	903.0		1			598940	02/02/23 09:48	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			759.08 mL	1.0 g	596471	01/11/23 10:20	DJP	EET SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	597614	01/20/23 12:15	SCB	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep-7			508.89 mL	1.0 g	596746	01/12/23 11:13	DJP	EET SL
Total/NA	Analysis	905		1			598557	01/27/23 18:51	SCB	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	LSC_Dist_Susp			100.31 mL	1.0 g	597488	01/19/23 12:02	ZR	EET SL
Total/NA	Analysis	906.0		1			597784	01/20/23 22:22	REV	EET SL
Instrument ID: LSCAQUA										
Total/NA	Prep	ExtChrom			250.88 mL	1.0 mL	597259	01/17/23 16:09	SAC	EET SL
Total/NA	Analysis	A-01-R		1			598227	01/25/23 14:42	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-4

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123016-1	Outfall001_20230106_Comp	Water	01/06/23 07:20	01/06/23 18:15

1

2

3

4

5

6

7

8

9

10

11

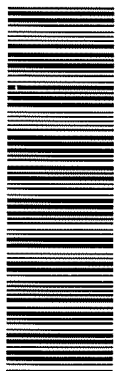
12

13

14

15

CHAIN OF CUSTODY FORM



570-123016 Chain of Custody

Eurofins Calscience Irvine

**Client Name/Address:**  
Haley & Aldrich  
5333 Mission Center Rd Suite 300  
San Diego, CA 92108

**Eurofins Calscience Irvine Contact:** Christian Bondoc  
17461 Derfan Ave Suite #100  
Irvine CA 92614  
Tel: 949-260-3218

**Project:**  
Boeing-SSFL NPDES  
Permit 2023  
Annual Outfall 001, 002, 011, 018  
Outfall 001  
Comp

**Project Manager:** Katherine Miller  
520.289.8606, 520.904.6944 (cell)

**Field Manager:** Mark Dominick  
978.234.5033, 818.599.0702 (cell)

**Resubmitter's services under this CoC shall be performed in accordance with the TCOs within Blanket Service Agreements 2016-22, resubmitted by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.**

**Sampler:** Adrian Mobeka

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD
Outfall 001	Outfall001_20230106_Comp	1/6/2023 / 16720	WM	500 mL Poly	1	HNO <sub>3</sub>	80	No
			WM	1 L Glass Amber	2	None	110	No
			WM	1 L Poly	1	None	115	No
			WM	500 mL Poly	2	None	120	No
			WM	500 mL Poly	2	None	125	No
			WM	500 mL Poly	1	None	150	No
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	180	No
			WM	1 L Glass Amber	2	None	250	No
			WM	1 L Glass Amber	2	None	175	No
			WM	1 L Poly	1	None	185	No
Outfall001_20230106_Comp_Extra	Outfall001_20230106_Comp_Extra	1/6/2023 / 16720	WM	1 L Glass Amber	2	None	110	No
			WM	500 mL Poly	2	None	120	No
			WM	500 mL Poly	2	None	125	No
			WM	1 L Glass Amber	2	None	250	No
			WM	1 L Glass Amber	2	None	175	No

**ANALYSIS REQUIRED**

Parameter	Result
Total Recoverable Metals: (E200.7), As, Ba, B, Be, Bi, Br, Cd, Cr, Fe, Mn, Ni, V, Zn (E200.8), Ag, Cu, Pb, Sb, Se, Ti	X
TCPD (and all congeners) (E1613B)	X
BOD <sub>5</sub> (20 degrees C) (E405.1) (SM510B, BODCalc)	X
Surfactants (MBS) (SM540C/E425.1)	X
Cl <sup>-</sup> , SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -N, NO <sub>2</sub> -N, Perchlorate (E300)	X
Turbidity TDS (SM2540C/E180.1)	X
TSS (160.2 (SM2540D))	X
Ammonia-N (E350.2)	X
Priority Pollutants+Pesticides+PCBs (E608)	X
Priority Pollutants-SVOCs (E825)	X
Total Recoverable Metals: Mercury (E245.1)	X

**Comments:**  
48 hours Holding Time NO<sub>3</sub> & NO<sub>2</sub>  
48 hour holding time for turbidity

**Legend:** A=Annual, R=Routine

**Relinquished By:** *Mark Dominick* Date/Time: 1-6-2023/1300 Company: *H&A*

**Received By:** *Sam* Date/Time: 1/6/23 1300 EC

**Relinquished By:** *Sam* Date/Time: 1/6/23 1815 Company: *EC*

**Received By:** *Mark Dominick* Date/Time: 1/6/23 1815

**Relinquished By:** *Sam* Date/Time: 1/3/1.3 2.4/2.4 1.5/1.5 1.9/1.9 sc11

**Turn-around time (Check):** 24 Hour  72 Hour  10 Day  48 Hour  5 Day  Normal:

**Sample Integrity (Check):** Intact  On Ice  Store samples for 6 months:  Data Requirements: (Check) No Level IV  All Level IV





CHAIN OF CUSTODY FORM

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel: 949-260-3218		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp		<b>Project Manager:</b> Katherine Miller 520.289.8606; 520.904.8944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)						
TestAmerica's services under this COC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22/TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories, Inc. <b>Sampler:</b> Adrian Mobeka		Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.8): Ag, Cd, Cu, Pb, Sb, Se, Ti (E200.9) Cyanide (SM4500-CN-E / E335.2) Gross Alpha (E900.0) Gross Beta (E900.0) Tritium (H-3) (E906.0) Sr-90 (E903.0) & Radium 228 (E904.0) Uranium (E908.0), K-40, Cs-137 (E901.0 or E901.1) Chronic Toxicity - Selenastrium (FA6 R 22.3 ABC Lab) 1,4-Dioxane (E624 (SW6260M_SIM)) Total Organic Carbon (415.2 (SM 5310B)) Monomethylhydrazine (SW8315M/DV-WC-0077) Cr (VI), Total (E216.6) Chlorpyrifos, Diazinon (E552.2)								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Filter and preservative w/in 24hrs of receipt at lab.	Comments
Outfall001_20230106_Comp_F		1/6/2023 6:20	WM	1 L Poly	1	None	190	No		
			WM	borosilicate vials	1	None	320	No	X	
			WM	500 mL Poly	1	NaOH	220	No		
			WM	2.5 Gal Cube	1	None	225	No		
			WM	1 L Glass Amber	1	None	230	No		
Outfall 001	Outfall001_20230106_Comp	1/6/2023 6:20	WM	1 Gal Cube	6	None	235	No	X	Unfiltered and unpreserved analysis. Separate RAQ onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year.
			WM	40 mL VOA	3	HCl	240	No		
			WM	1 L Glass Amber	1	HCl	245	No	X	
			WM	1 L Glass Amber	1	None	255	No	X	
			WM	600 mL Poly	1	None	260	No	X	
			WM	1 L Glass Amber	2	None	275	No	X	
			WM	40 mL VOA	3	HCl	240	No		
Outfall001_20230106_Comp_Extra		1/6/2023 6:20	WM	1 L Glass Amber	1	None	255	No		

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water

Relinquished By: <i>Monte...</i>	Date/Time: 1-6-2023 1301	Company: CHA	Received By: <i>Sam...</i>	Date/Time: 1/6/23 1300 EC	Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal _____
Relinquished By: <i>Sam...</i>	Date/Time: 1/6/23 1815	Company: EC	Received By: <i>Adrian...</i>	Date/Time: 1/6/23 1815	Sample Integrity (Check) Intact _____ On Ice _____ Store samples for 6 months. Data Requirements. (Check) No Level IV _____ All Level IV _____ X

\* Hand-delivered to ABC labs with copy of COC

**Eurofins Calscience**  
 2841 Dow Avenue Suite 100  
 Tustin CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record



eurofins

<b>Client Information (Sub Contract Lab)</b> Shipper: <b>Patel Virendra</b> E-Mail: <b>Virendra.Patel@et.eurofins.com</b> State of Origin: <b>California</b> Carrier Tracking No(s): <b>570-203543 1</b> Page: <b>1 of 1</b>		Lab PM: <b>Patel Virendra</b> E-Mail: <b>Virendra.Patel@et.eurofins.com</b> State of Origin: <b>California</b> Job #: <b>570-123016-4</b>																																																																							
Company: <b>TestAmerica Laboratories Inc.</b> Address: <b>13715 Rider Trail North</b> City: <b>Earth City</b> State, Zip: <b>MO, 63045</b> Phone: <b>314-298-8566(Tel) 314-298-8757(Fax)</b> Email:		Accreditations Required (See note): <b>State Program - California</b> Preservation Codes: M - Hexane N - None O - Ash/NaO2 P - Na2O4S Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:																																																																							
Due Date Requested: <b>2/8/2023</b> TAT Requested (days):		<b>Analysis Requested</b>																																																																							
PO #: <b>44024446</b> WO #: <b>44024446</b> Project #: <b>44024446</b> SSOW#:		<table border="1"> <thead> <tr> <th>Sample ID</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Sample Time</th> <th>Sample Date</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>900 O/Evaporation Gross Alpha/Beta</th> <th>906 O/LSC Dist. Susp Tritium</th> <th>905 S-rs/P/PreSep_7 Strontium-90</th> <th>903 O/P/PreSep_21 Radium-226</th> <th>904 O/P/PreSep_0 Radium-228</th> <th>A01R_U/ExChrom_ActIn Total Uranium</th> <th>901 T_Cs/Fill_Geo_0 K-40 and Cesium-137</th> <th>Total Number of Containers</th> </tr> </thead> <tbody> <tr> <td>Outfall001_20230106_Comp (570-123016-1)</td> <td></td> <td>07:20 Pacific</td> <td>1/6/23</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Sample ID	Sample Type (C=Comp, G=grab)	Sample Time	Sample Date	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 O/Evaporation Gross Alpha/Beta	906 O/LSC Dist. Susp Tritium	905 S-rs/P/PreSep_7 Strontium-90	903 O/P/PreSep_21 Radium-226	904 O/P/PreSep_0 Radium-228	A01R_U/ExChrom_ActIn Total Uranium	901 T_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of Containers	Outfall001_20230106_Comp (570-123016-1)		07:20 Pacific	1/6/23	X	X	X	X	X	X	X	X	X	2																																										
Sample ID	Sample Type (C=Comp, G=grab)	Sample Time	Sample Date	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900 O/Evaporation Gross Alpha/Beta	906 O/LSC Dist. Susp Tritium	905 S-rs/P/PreSep_7 Strontium-90	903 O/P/PreSep_21 Radium-226	904 O/P/PreSep_0 Radium-228	A01R_U/ExChrom_ActIn Total Uranium	901 T_Cs/Fill_Geo_0 K-40 and Cesium-137	Total Number of Containers																																																												
Outfall001_20230106_Comp (570-123016-1)		07:20 Pacific	1/6/23	X	X	X	X	X	X	X	X	X	2																																																												
Sample Identification - Client ID (Lab ID) Outfall001_20230106_Comp (570-123016-1)		Matrix: (W=Water, S=solid, O=wastewater, BT=Tissue, A=Air) Preservation Code: <b>Water</b>																																																																							
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.																																																																									
<b>Possible Hazard Identification</b> Unconfirmed		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																																																																							
Deliverable Requested: I, II, III, IV, Other (specify) <b>Primary Deliverable Rank. 2</b>		Special Instructions/QC Requirements:																																																																							
Empty Kit Relinquished by: <i>[Signature]</i> Date/Time: <b>1/9/23 1413</b>		Method of Shipment:																																																																							
Relinquished by: <i>[Signature]</i> Date/Time:		Received by: <b>Company</b> Date/Time:																																																																							
Relinquished by: <i>[Signature]</i> Date/Time:		Received by: <b>Company</b> Date/Time:																																																																							
Relinquished by: <i>[Signature]</i> Date/Time:		Received by: <b>Company</b> Date/Time:																																																																							
Custody Seals Intact: <b>Custody Seal No</b> Yes No		Cooler Temperature(s) °C and Other Remarks:																																																																							



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>			Lab PM		Carrier Tracking No(s)		IOC No																																																												
Company: Eurofins Environment Testing Northern Ca			Patel Virendra		State of Origin: California		570-203580 1																																																												
Address: 880 Riverside Parkway			E-Mail: Virendra.Patel@et.eurofins.com		Page: Page 1 of 1		Job #: 570-123016-2																																																												
City: West Sacramento			Phone: 916-373-5600(Tel) 916-372-1059(Fax)		Accreditations Required (See note): State Program - California		Preservation Codes: M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)																																																												
State/Zip: CA, 95605			PO #: _____		Analysis Requested		<table border="1"> <thead> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>1613B/1613B_Box_Sep_P Standard List w/ Totals</th> <th>1613B/1613B_Box_Sep_P Standard List w/ Totals (Hold)</th> <th>Total Number of containers</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>X</td> <td>X</td> <td>2</td> <td>See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>X</td> <td>X</td> <td>2</td> <td>See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.</td> </tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Box_Sep_P Standard List w/ Totals	1613B/1613B_Box_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	2	See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	2	See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>				
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Box_Sep_P Standard List w/ Totals	1613B/1613B_Box_Sep_P Standard List w/ Totals (Hold)	Total Number of containers	Special Instructions/Note:																																																														
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	2	See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.																																																														
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X	2	See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.																																																														
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
<input type="checkbox"/>	<input type="checkbox"/>																																																																		
Project #: Boeing SSFL NPDES - Outfall 001 COMP			WO #: _____		Sample Date		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)																																																												
Site: _____			SSOW#: _____		Sample Time		Preservation Code:																																																												
<b>Sample Identification - Client ID (Lab ID)</b>			Sample Date: 1/6/23		Sample Time: 07 20 Pacific		Water																																																												
Outfall001_20230106_Comp (570-123016-1)					Sample Date: 1/6/23		Water																																																												
Outfall001_20230106_Comp_Extra (570-123016-2)																																																																			
<p>Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>																																																																			
<p><b>Possible Hazard Identification</b>                  Unconfirmed <input type="checkbox"/> <b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>  <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p>																																																																			
<p>Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2</p>																																																																			
<p>Empty Kit Relinquished by _____ Date _____ Method of Shipment: _____                  Relinquished by _____ Date/Time: _____ Received by _____ Company _____                  Relinquished by _____ Date/Time: _____ Received by _____ Company _____                  Relinquished by _____ Date/Time: _____ Received by _____ Company _____</p>																																																																			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No			Custody Seal No. _____		Cooler Temperature(s) °C and Other Remarks: _____			Ver 06/08/2021																																																											

**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

**Chain of Custody Record**



eurofins

Environment Testing

<b>Client Information (Sub Contract Lab)</b>	Lab PW: Patel, Virendra	Carrier Tracking No(s): 570-203543.1	COC No: 570-203543.1
Client Contact Shipping/Receiving	Phone: E-Mail Virendra.Patel@eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.	Accreditations Required (See note): State Program - California	Job #: 570-123016-4	Preservation Codes: A - HCL M - Hexane N - None O - AshAD2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)

Due Date Requested: TAT Requested (days):	PO #:	WO #:	Project #: 44024446	SSOW#:	Analysis Requested		Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905.5/90/PreSep_7 Strontium-90	903.0/PreSep_21 Radium-226	904.0/PreSep_0 Radium-226	A01R_U/EtChrom_Radon Total Uranium	901.1_Cs/Fill_Geo_0 K-40 and Csium-137	Total Number of containers	Special Instructions/Note:
					Sample Date	Sample Time											
2/6/2023					1/6/23	07:20 Pacific			X	X	X	X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation
Outfall001_20230106_Comp (570-123016-1)																	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
 Primary Deliverable Rank: 2  
 Date: \_\_\_\_\_  
 Relinquished by: *[Signature]* Date/Time: 1/9/23 1413 Company: \_\_\_\_\_  
 Relinquished by: FED-EX Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: *[Signature]* Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact: \_\_\_\_\_  
 Δ Yes Δ No  
 Special Instructions/QC Requirements: \_\_\_\_\_  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_  
 Months \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Received by: *[Signature]* Date/Time: JAN 10 2023 0646 Company: *[Signature]*  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-4

**Login Number: 123016**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Patel, Virendra**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-4

**Login Number: 123016**

**List Number: 2**

**Creator: Bohlmann, Jessica M**

**List Source: Eurofins St. Louis**

**List Creation: 01/10/23 12:51 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	False	570-123016-Z-1 was received with a pH >2 SU.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/3/2023 11:50:29 AM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Outfall 001 COMP

**JOB NUMBER**

570-123016-5

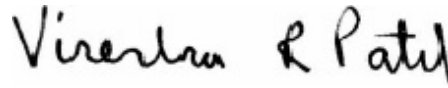
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/3/2023 11:50:29 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	26

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-5

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-5

---

**Job ID: 570-123016-5**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-123016-5**

## Comments

No additional comments.

## Receipt

The samples were received on 1/6/2023 6:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.3° C, 1.5° C, 1.9° C and 2.4° C.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-5

Method	Method Description	Protocol	Laboratory
EPA	Bioassay	EPA	Aquatic

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-5

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123016-1	Outfall001_20230106_Comp	Water	01/06/23 07:20	01/06/23 18:15

1

2

3

4

5

6

7

8

9



January 24, 2023

Mr. Virendra Patel  
Eurofins Calscience  
7440 Lincoln Way  
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013*. Results were as follows:

CLIENT: Eurofins Calscience  
SAMPLE I.D.: Outfall 001  
DATE RECEIVED: 6 Jan - 2023  
ABC LAB. NO.: CSE0123.032


**CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY**

IWC = 100.00 %

**TST RESULT**

GROWTH = PASS      % EFFECT = 3.05 %

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Jan-23 09:54 (p 1 of 1)  
 Test Code/ID: CSE0123.032 / 17-8314-7785

**Selenastrum Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 01-3842-1202	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 06 Jan-23 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 10 Jan-23 13:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 94h	<b>Taxon:</b> Chlorophyta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> 7d
<b>Sample ID:</b> 21-3158-9270	<b>Code:</b> CSE0123.032	<b>Project:</b> Boeing-SSFL NPDES
<b>Sample Date:</b> 06 Jan-23 07:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 06 Jan-23 14:35	<b>CAS (PC):</b>	<b>Station:</b> Outfall 001
<b>Sample Age:</b> 8h (0.3 °C)	<b>Client:</b> Eurofins Calscience	

**Single Comparison Summary**

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
19-9931-7821	Cell Density	TST-Welch's t Test	<1.0E-05	100% passed cell density	1

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
19-9931-7821	Cell Density	Control CV	0.05842	<<	0.2	Yes	Passes Criteria
19-9931-7821	Cell Density	Control Resp	1.11E+6	1.00E+6	<<	Yes	Passes Criteria

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.113E+6	1.059E+6	1.168E+6	1.031E+6	1.209E+6	2.299E+4	6.503E+4	5.84%	0.00%
100		8	1.079E+6	1.017E+6	1.142E+6	1.018E+6	1.230E+6	2.645E+4	7.481E+4	6.93%	3.05%

**Cell Density Detail**

MD5: 1584BEAB6BFFE5267E2F4A9EB7EE5A7F

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.088E+6	1.107E+6	1.033E+6	1.173E+6	1.166E+6	1.209E+6	1.031E+6	1.099E+6
100		1.046E+6	1.230E+6	1.018E+6	1.025E+6	1.050E+6	1.076E+6	1.034E+6	1.155E+6

# CETIS Analytical Report

Report Date: 20 Jan-23 09:54 (p 1 of 2)  
 Test Code/ID: CSE0123.032 / 17-8314-7785

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 19-9931-7821	Endpoint: Cell Density	CETIS Version: CETISv2.1.4	Analyzed: 20 Jan-23 9:53	Analysis: Parametric Bioequivalence-Two Sample	Status Level: 1
Edit Date: 20 Jan-23 9:53	MD5 Hash: 1584BEAB6BFFE5267E2F4A9EB7EE5A7F	Editor ID: 009-702-627-3	Batch ID: 01-3842-1202	Test Type: Cell Growth	Analyst:
Start Date: 06 Jan-23 15:30	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	Ending Date: 10 Jan-23 13:30	Species: Selenastrum capricornutum	Brine: Not Applicable
Test Length: 94h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO	Age: 7d	Sample ID: 21-3158-9270	Code: CSE0123.032
Sample Date: 06 Jan-23 07:20	Material: Sample Water	Project: Boeing-SSFL NPDES	Receipt Date: 06 Jan-23 14:35	CAS (PC):	Source: Bioassay Report
Sample Age: 8h (0.3 °C)	Client: Eurofins Calscience	Station: Outfall 001			

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

TST-Welch's t Test								
Control	vs	Conc-%	df	Test Stat	Critical	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	12	7.738	0.6955	CDF	<1.0E-05	Non-Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.05842	<<	0.2	Yes	Passes Criteria
Control Resp	1.11E+6	1.00E+6	<<	Yes	Passes Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.624E+09	4.624E+09	1	0.9412	0.3484	Non-Significant Effect
Error	6.878E+10	4.913E+09	14			
Total	7.341E+10		15			

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Levene Equality of Variance Test	0.05435	8.862	0.8190	Equal Variances	
	Mod Levene Equality of Variance Test	0.005861	8.862	0.9401	Equal Variances	
	Variance Ratio F Test	1.323	8.885	0.7210	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.6238	3.878	0.1050	Normal Distribution	
	D'Agostino Skewness Test	1.527	2.576	0.1268	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.2066	0.2471	0.0663	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9169	0.8408	0.1504	Normal Distribution	

Cell Density Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.113E+6	1.059E+6	1.168E+6	1.103E+6	1.031E+6	1.209E+6	2.299E+4	5.84%	0.00%
100		8	1.079E+6	1.017E+6	1.142E+6	1.048E+6	1.018E+6	1.230E+6	2.645E+4	6.93%	3.05%

Cell Density Detail										
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	
0	N	1.088E+6	1.107E+6	1.033E+6	1.173E+6	1.166E+6	1.209E+6	1.031E+6	1.099E+6	
100		1.046E+6	1.230E+6	1.018E+6	1.025E+6	1.050E+6	1.076E+6	1.034E+6	1.155E+6	



# CETIS Analytical Report

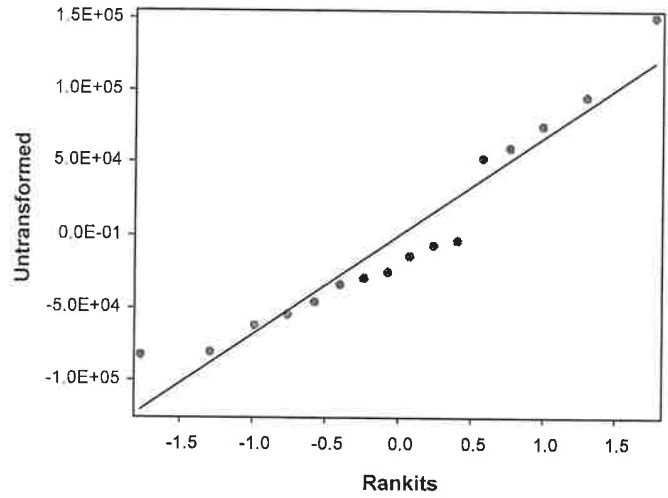
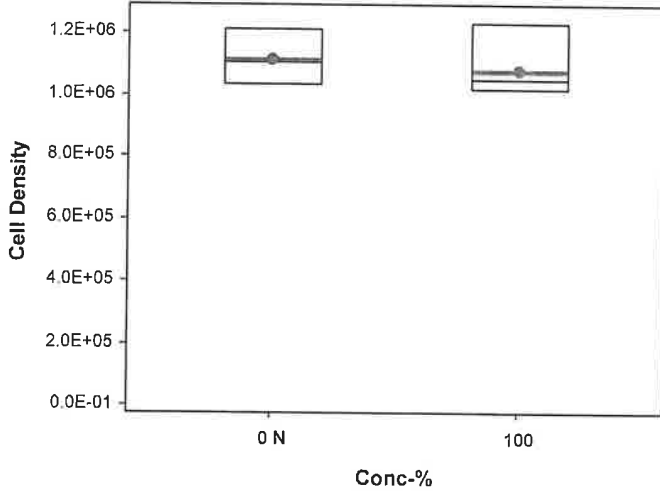
Report Date: 20 Jan-23 09:54 (p 2 of 2)  
Test Code/ID: CSE0123.032 / 17-8314-7785

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-9931-7821	Endpoint: Cell Density	CETIS Version: CETISv2.1.4
Analyzed: 20 Jan-23 9:53	Analysis: Parametric Bioequivalence-Two Sample	Status Level: 1
Edit Date: 20 Jan-23 9:53	MD5 Hash: 1584BEAB6BFFE5267E2F4A9EB7EE5A7F	Editor ID: 009-702-627-3

### Graphics



# CETIS Measurement Report

Report Date: 20 Jan-23 09:54 (p 1 of 1)  
 Test Code/ID: CSE0123.032 / 17-8314-7785

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 01-3842-1202	<b>Test Type:</b> Cell Growth	<b>Analyst:</b>
<b>Start Date:</b> 06 Jan-23 15:30	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 10 Jan-23 13:30	<b>Species:</b> Selenastrum capricornutum	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 94h	<b>Taxon:</b> Chlorophyta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> 7d
<b>Sample ID:</b> 21-3158-9270	<b>Code:</b> CSE0123.032	<b>Project:</b> Boeing-SSFL NPDES
<b>Sample Date:</b> 06 Jan-23 07:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 06 Jan-23 14:35	<b>CAS (PC):</b>	<b>Station:</b> Outfall 001
<b>Sample Age:</b> 8h (0.3 °C)	<b>Client:</b> Eurofins Calscience	

### Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	78	---	---	78	78	---	---	---	0
100		1	36	---	---	36	36	---	---	---	0
Overall		2	57	-209.8	323.8	36	78	21	29.7	52.10%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	463.8	453.1	474.5	452	475	1.723	8.614	1.86%	0
100		5	244.6	236.3	252.9	240	256	1.339	6.693	2.74%	0
Overall		10	354.2	271.4	437	240	475	36.61	115.8	32.68%	0 (0%)

### Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	415	---	---	415	415	---	---	---	0
100		1	66	---	---	66	66	---	---	---	0
Overall		2	240.5	-1977	2458	66	415	174.5	246.8	102.60%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.66	7.549	7.771	7.5	7.7	0.01789	0.08944	1.17%	0
100		5	7.56	7.288	7.832	7.2	7.8	0.04382	0.2191	2.90%	0
Overall		10	7.61	7.491	7.729	7.2	7.8	0.0526	0.1663	2.19%	0 (0%)

### Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.62	25.29	25.95	25.2	25.8	0.05366	0.2683	1.05%	0
100		5	25.62	25.29	25.95	25.2	25.8	0.05366	0.2683	1.05%	0
Overall		10	25.62	25.44	25.8	25.2	25.8	0.08	0.253	0.99%	0 (0%)

Analyst:  QA: 

Euromics CalScience Indine

CHAIN OF CUSTODY FORM

Temp. deg. C = 0.3<sup>l</sup>

Chlorine (mg/L) = 0.12

NH3 (mg/L) = 0.01

Client Name/Address:  
Haley & Addick  
5333 Mission Center Rd Suite 300  
San Diego, CA 92108

Project:  
Boaling-SSEI NPDES  
Permit 2023  
Annual Outfall 001, 002, 011, 018  
Outfall 001  
Camp

Euromics CalScience Indine Contact: Christian Bondoc  
17461 Delton Ave Suite #100  
Irvine CA 92614  
Tel: 949-260-3218

Project Manager: Katherine Miller  
520 269 8606, 520 904 6344 (cell)  
Field Manager: Mark Donnick  
976.234.5033, 818.589.0702 (cell)

Sample Description	Sample ID	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MSWSD	R/A	ANALYSIS REQUIRED	Comments
Outfall 001	Outfall_001_20230108_Comp_F	1/8/23 6:30	WMI	1 L Poly	1	None	180	No	X		Final and preserve with 2hrs of receipt at lab
	Outfall_001_20230108_Comp_E	1/8/23 6:30	WMI	500 mL Poly	1	NaOH	220	No			Sample receiving DO NOT OPEN BAG. Bag to be opened in laboratory using clean procedure
			WMI	2.5 Gal. Cube	1	None	225	No			
			WMI	1 L Glass Amber	1	None	230	No			
			WMI	1 Gal. Cube	8	None	235	No			Unfiltered and unpreserved analysis. Separate PAC and monitor water for analysis. Do not use MSWSD. Only use 1st or second run events of the year.
			WMI	40 mL VOA	3	HCl	240	No			
			WMI	1 L Glass Amber	1	None	245	No			
			WMI	300 mL Poly	1	None	260	No			
			WMI	1 L Glass Amber	2	None	275	No			
			WMI	40 mL VOA	3	HCl	240	No			
			WMI	1 L Glass Amber	1	None	290	No			

Requested by: [Signature] Date/Time: 1-6-2023/1435 (M) Company: Legend: Annual, ReRouting, CRST/Quarterly, Receiving Water

Requisitioned by: [Signature] Date/Time: [Blank] Company: [Blank]

Received by: [Signature] Date/Time: 1-6-23/1435

Sample Integrity (Check):  
 24 Hour: [Blank] 72 Hour: [Blank] 10 Day: [Blank]  
 48 Hour: [Blank] 5 Day: [Blank] Normal: [Blank]  
 Duplicate samples for 6 months: [Blank]  
 Data Requirements (Check):  
 No Lead IV: [Blank] All Lead IV: [Blank]

\* Hand-delivered to ABC labs with COP of COC



**CHRONIC SELENASTRUM GROWTH BIOASSAY**


DATE: 12 January - 2023

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 53.36 ug/l  
IC50 = 102.30 ug/l

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Jan-23 16:52 (p 1 of 1)  
 Test Code/ID: SEL011223 / 04-7405-9726

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-4179-0418	Test Type: Cell Growth	Analyst:
Start Date: 12 Jan-23 13:24	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 16 Jan-23 13:10	Species: Selenastrum capricornutum	Brine: Not Applicable
Test Length: 96h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO Age: 7d

Sample ID: 01-0315-3386	Code: SEL011223	Project: REF TOX
Sample Date: 12 Jan-23 13:24	Material: Cadmium chloride	Source: Reference Toxicant
Receipt Date:	CAS (PC):	Station: REF TOX
Sample Age: ---	Client: Internal Lab	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	S
02-3719-8182	Cell Density	Dunnett Multiple Comparison Test	20	40	28.28	4.66%	1

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	µg/L	95% LCL	95% UCL	S
05-1997-3179	Cell Density	Linear Interpolation (ICPIN)	IC15	34.55	31.57	37.91	1
			IC20	39.4	35.65	48.58	
			IC25	53.36	40.71	62.3	
			IC40	88.59	84.67	92.36	
			IC50	102.3	99.22	105.6	

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
02-3719-8182	Cell Density	Control CV	0.03087	<<	0.2	Yes	Passes Criteria
05-1997-3179	Cell Density	Control CV	0.03087	<<	0.2	Yes	Passes Criteria
02-3719-8182	Cell Density	Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria
05-1997-3179	Cell Density	Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria

## Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.057E+6	1.005E+6	1.109E+6	1.033E+6	1.105E+6	1.631E+4	3.262E+4	3.09%	0.00%
20		4	1.091E+6	1.026E+6	1.156E+6	1.040E+6	1.131E+6	2.040E+4	4.080E+4	3.74%	-3.26%
40		4	8.525E+5	8.034E+5	9.016E+5	8.250E+5	8.890E+5	1.541E+4	3.083E+4	3.62%	19.33%
80		4	7.118E+5	6.788E+5	7.447E+5	6.940E+5	7.330E+5	1.035E+4	2.069E+4	2.91%	32.65%
140		4	2.412E+5	1.995E+5	2.830E+5	2.190E+5	2.790E+5	1.312E+4	2.623E+4	10.87%	77.17%
180		4	1.472E+5	1.228E+5	1.717E+5	1.320E+5	1.610E+5	7.696E+3	1.539E+4	10.45%	86.07%

## Cell Density Detail

MD5: 8002C18F242E2CF77D044A91E3CE4461

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.045E+6	1.033E+6	1.044E+6	1.105E+6
20		1.131E+6	1.078E+6	1.116E+6	1.040E+6
40		8.670E+5	8.290E+5	8.250E+5	8.890E+5
80		6.940E+5	7.330E+5	6.940E+5	7.260E+5
140		2.190E+5	2.370E+5	2.300E+5	2.790E+5
180		1.360E+5	1.610E+5	1.600E+5	1.320E+5

# CETIS Analytical Report

Report Date: 20 Jan-23 16:52 (p 1 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

**Selenastrum Growth Test** Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-3719-8182	Endpoint: Cell Density	CETIS Version: CETISv2.1.4
Analyzed: 20 Jan-23 16:51	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 20 Jan-23 16:48	MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461	Editor ID: 009-702-627-3
Batch ID: 19-4179-0418	Test Type: Cell Growth	Analyst:
Start Date: 12 Jan-23 13:24	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 16 Jan-23 13:10	Species: Selenastrum capricornutum	Brine: Not Applicable
Test Length: 96h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO Age: 7d
Sample ID: 01-0315-3386	Code: SEL011223	Project: REF TOX
Sample Date: 12 Jan-23 13:24	Material: Cadmium chloride	Source: Reference Toxicant
Receipt Date:	CAS (PC):	Station: REF TOX
Sample Age: ---	Client: Internal Lab	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	49300	4.66%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		20	6	-1.685	2.407	49300	CDF	0.9976	Non-Significant Effect
		40*	6	9.973	2.407	49300	CDF	2.7E-05	Significant Effect
		80*	6	16.85	2.407	49300	CDF	2.7E-05	Significant Effect
		140*	6	39.82	2.407	49300	CDF	2.7E-05	Significant Effect
		180*	6	44.41	2.407	49300	CDF	2.7E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.03087	<<	0.2	Yes	Passes Criteria
Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.272E+12	6.545E+11	5	780.2	<1.0E-05	Significant Effect
Error	1.51E+10	838820000	18			
Total	3.287E+12		23			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.884	15.09	0.7178	Equal Variances
	Levene Equality of Variance Test	1.242	4.248	0.3306	Equal Variances
	Mod Levene Equality of Variance Test	0.6992	4.248	0.6311	Equal Variances
Distribution	Anderson-Darling A2 Test	0.7994	3.878	0.0381	Normal Distribution
	D'Agostino Kurtosis Test	0.7357	2.576	0.4619	Normal Distribution
	D'Agostino Skewness Test	0.6079	2.576	0.5433	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.9108	9.21	0.6342	Normal Distribution
	Kolmogorov-Smirnov D Test	0.2114	0.2056	0.0070	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.9401	0.884	0.1636	Normal Distribution

**Cell Density Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.057E+6	1.005E+6	1.109E+6	1.044E+6	1.033E+6	1.105E+6	1.631E+4	3.09%	0.00%
20		4	1.091E+6	1.026E+6	1.156E+6	1.097E+6	1.040E+6	1.131E+6	2.040E+4	3.74%	-3.26%
40		4	8.525E+5	8.034E+5	9.016E+5	8.480E+5	8.250E+5	8.890E+5	1.541E+4	3.62%	19.33%
80		4	7.118E+5	6.788E+5	7.447E+5	7.047E+5	6.940E+5	7.330E+5	1.035E+4	2.91%	32.65%
140		4	2.412E+5	1.995E+5	2.830E+5	2.335E+5	2.190E+5	2.790E+5	1.312E+4	10.87%	77.17%
180		4	1.472E+5	1.228E+5	1.717E+5	1.480E+5	1.320E+5	1.610E+5	7.696E+3	10.45%	86.07%

# CETIS Analytical Report

Report Date: 20 Jan-23 16:52 (p 2 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

## Selenastrum Growth Test

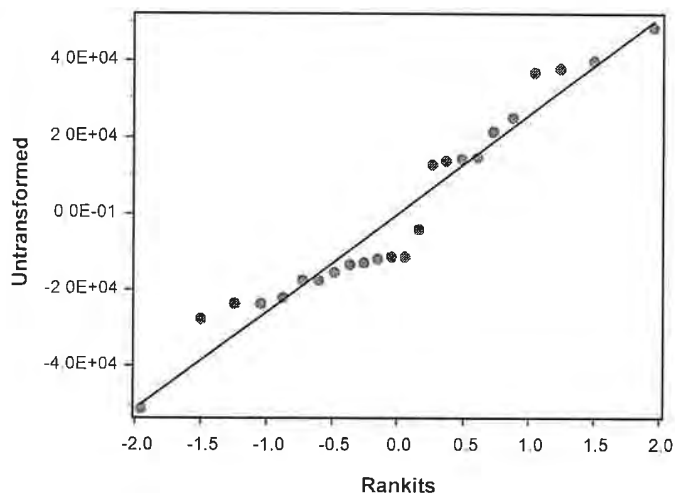
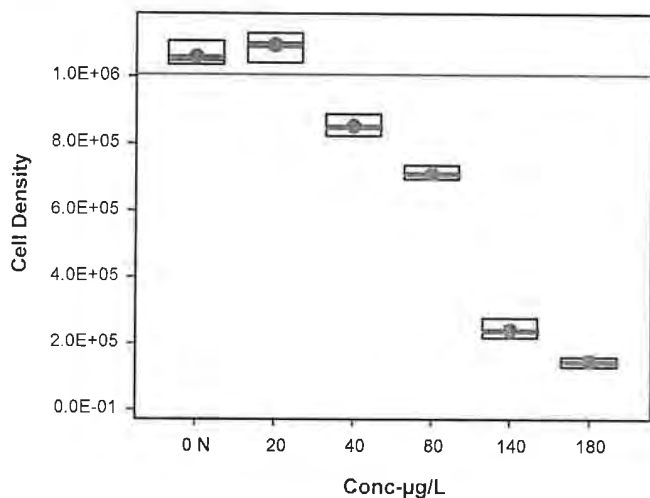
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-3719-8182      Endpoint: Cell Density      CETIS Version: CETISv2.1.4  
 Analyzed: 20 Jan-23 16:51      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Jan-23 16:48      MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461      Editor ID: 009-702-627-3

### Cell Density Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.045E+6	1.033E+6	1.044E+6	1.105E+6
20		1.131E+6	1.078E+6	1.116E+6	1.040E+6
40		8.670E+5	8.290E+5	8.250E+5	8.890E+5
80		6.940E+5	7.330E+5	6.940E+5	7.260E+5
140		2.190E+5	2.370E+5	2.300E+5	2.790E+5
180		1.360E+5	1.610E+5	1.600E+5	1.320E+5

### Graphics



**CETIS Analytical Report**

Report Date: 20 Jan-23 16:52 (p 1 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 05-1997-3179	Endpoint: Cell Density	CETIS Version: CETISv2.1.4			
Analyzed: 20 Jan-23 16:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 20 Jan-23 16:48	MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461	Editor ID: 009-702-627-3			
Batch ID: 19-4179-0418	Test Type: Cell Growth	Analyst:			
Start Date: 12 Jan-23 13:24	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 16 Jan-23 13:10	Species: Selenastrum capricornutum	Brine: Not Applicable			
Test Length: 96h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO Age: 7d			
Sample ID: 01-0315-3386	Code: SEL011223	Project: REF TOX			
Sample Date: 12 Jan-23 13:24	Material: Cadmium chloride	Source: Reference Toxicant			
Receipt Date:	CAS (PC):	Station: REF TOX			
Sample Age: ---	Client: Internal Lab				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control CV	0.03087	<<	0.2	Yes	Passes Criteria
Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria

Point Estimates			
Level	µg/L	95% LCL	95% UCL
IC15	34.55	31.57	37.91
IC20	39.4	35.65	48.58
IC25	53.36	40.71	62.3
IC40	88.59	84.67	92.36
IC50	102.3	99.22	105.6

Cell Density Summary			Calculated Variate						Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	1.057E+6	1.044E+6	1.033E+6	1.105E+6	3.09%	0.00%	1.074E+6	0.00%
20		4	1.091E+6	1.097E+6	1.040E+6	1.131E+6	3.74%	-3.26%	1.074E+6	0.00%
40		4	8.525E+5	8.480E+5	8.250E+5	8.890E+5	3.62%	19.33%	8.525E+5	20.62%
80		4	7.118E+5	7.047E+5	6.940E+5	7.330E+5	2.91%	32.65%	7.118E+5	33.72%
140		4	2.412E+5	2.335E+5	2.190E+5	2.790E+5	10.87%	77.17%	2.412E+5	77.54%
180		4	1.472E+5	1.480E+5	1.320E+5	1.610E+5	10.45%	86.07%	1.472E+5	86.29%

Cell Density Detail					
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.045E+6	1.033E+6	1.044E+6	1.105E+6
20		1.131E+6	1.078E+6	1.116E+6	1.040E+6
40		8.670E+5	8.290E+5	8.250E+5	8.890E+5
80		6.940E+5	7.330E+5	6.940E+5	7.260E+5
140		2.190E+5	2.370E+5	2.300E+5	2.790E+5
180		1.360E+5	1.610E+5	1.600E+5	1.320E+5



# CETIS Analytical Report

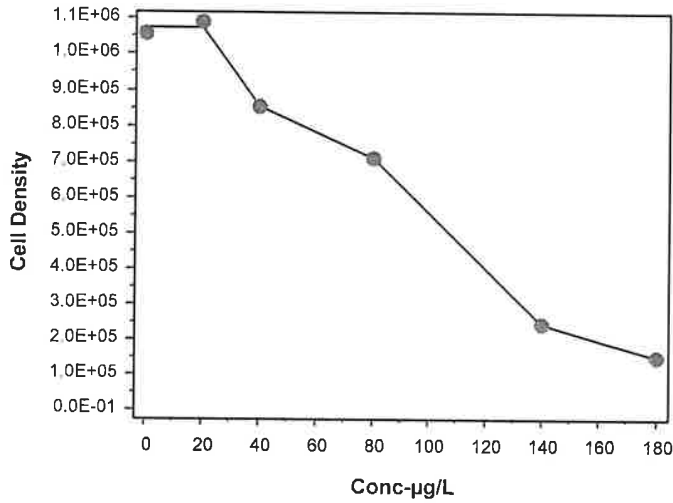
Report Date: 20 Jan-23 16:52 (p 2 of 2)  
Test Code/ID: SEL011223 / 04-7405-9726

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-1997-3179	Endpoint: Cell Density	CETIS Version: CETISv2.1.4
Analyzed: 20 Jan-23 16:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 20 Jan-23 16:48	MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461	Editor ID: 009-702-627-3

### Graphics



# CETIS Measurement Report

Report Date: 20 Jan-23 16:52 (p 1 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-4179-0418      Test Type: Cell Growth      Analyst:  
 Start Date: 12 Jan-23 13:24      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 16 Jan-23 13:10      Species: Selenastrum capricornutum      Brine: Not Applicable  
 Test Length: 96h      Taxon: Chlorophyta      Source: Aquatic Biosystems, CO      Age: 7d

Sample ID: 01-0315-3386      Code: SEL011223      Project: REF TOX  
 Sample Date: 12 Jan-23 13:24      Material: Cadmium chloride      Source: Reference Toxicant  
 Receipt Date:      CAS (PC):      Station: REF TOX  
 Sample Age: ---      Client: Internal Lab

## Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	77	---	---	77	77	---	---	---	0
20		1	80	---	---	80	80	---	---	---	0
40		1	77	---	---	77	77	---	---	---	0
80		1	68	---	---	68	68	---	---	---	0
140		1	66	---	---	66	66	---	---	---	0
180		1	65	---	---	65	65	---	---	---	0
Overall		6	72.17	65.29	79.05	65	80	2.676	6.555	9.08%	0 (0%)

## Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	497.6	487.7	507.5	489	510	1.591	7.956	1.60%	0
20		5	489.2	474.1	504.3	468	499	2.439	12.19	2.49%	0
40		5	453.6	434.3	472.9	445	481	3.104	15.52	3.42%	0
80		5	432.4	417.2	447.6	425	454	2.452	12.26	2.84%	0
140		5	407.8	390.9	424.7	400	432	2.722	13.61	3.34%	0
180		5	390.4	369.6	411.2	379	420	3.348	16.74	4.29%	0
Overall		30	445.2	429.5	460.8	379	510	7.646	41.88	9.41%	0 (0%)

## Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	118	---	---	118	118	---	---	---	0
20		1	110	---	---	110	110	---	---	---	0
40		1	125	---	---	125	125	---	---	---	0
80		1	95	---	---	95	95	---	---	---	0
140		1	98	---	---	98	98	---	---	---	0
180		1	93	---	---	93	93	---	---	---	0
Overall		6	106.5	92.63	120.4	93	125	5.396	13.22	12.41%	0 (0%)

## pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.96	7.849	8.071	7.8	8	0.01789	0.08944	1.12%	0
20		5	8	8	8	8	8	0	0	0.00%	0
40		5	8	8	8	8	8	0	0	0.00%	0
80		5	8	8	8	8	8	0	0	0.00%	0
140		5	7.98	7.924	8.036	7.9	8	0.008943	0.04472	0.56%	0
180		5	7.98	7.924	8.036	7.9	8	0.008943	0.04472	0.56%	0
Overall		30	7.987	7.97	8.003	7.8	8	0.007927	0.04342	0.54%	0 (0%)

## Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
20		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
40		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
80		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
140		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
180		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
Overall		30	25.28	25.21	25.35	25	25.5	0.03601	0.1972	0.78%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Jan-23 16:52 (p 2 of 2)  
Test Code/ID: SEL011223 / 04-7405-9726

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

CHAIN OF CUSTODY FORM



570-123016 Chain of Custody

Eurofins Calscience Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Annual Outfall #001, 002, 011, 018 Outfall 001 Comp		ANALYSIS REQUIRED R/A R R R R/A R R R A A R		Comments:	
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deftan Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.7), As, Ba, B, Be, Co, Cr, Fe, Mn, Ni, V, Zn (E200.8), Ag, Cd, Cu, Pb, Sb, Se, Ti Hardness as CaCO3		Total Recoverable Metals: Mercury (E245.1)	
Sample Description Outfall001_20230106_Comp	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 1	Preservative HNO3	Bottles # 80	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Glass Amber	# of Cont. 2	Preservative None	Bottles # 110	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 2	Preservative None	Bottles # 120	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 2	Preservative None	Bottles # 125	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 1	Preservative None	Bottles # 150	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 1	Preservative H2SO4	Bottles # 180	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Glass Amber	# of Cont. 2	Preservative None	Bottles # 250	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Glass Amber	# of Cont. 2	Preservative None	Bottles # 175	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Poly	# of Cont. 1	Preservative None	Bottles # 185	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Glass Amber	# of Cont. 2	Preservative None	Bottles # 110	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 2	Preservative None	Bottles # 120	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 500 mL Poly	# of Cont. 2	Preservative None	Bottles # 125	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Glass Amber	# of Cont. 2	Preservative None	Bottles # 250	IUS/MSD No
Sample Description Outfall001_20230106_Comp_Extra	Sampling Date/Time 1/6/2023 / 16720	Sample Matrix W/M	Container Type 1 L Glass Amber	# of Cont. 2	Preservative None	Bottles # 175	IUS/MSD No



CHAIN OF CUSTODY FORM

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED										Comments	
									(E200.7): As, Ba, Bi, Be, Br, Cd, Cr, Fe, Mn, Ni, V (E200.8): Ag, Cu, Pb, Sb, Se, Ti	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E903.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0) Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chronic Toxicity - Selenium (FA6 R223 ABC Lab)	1,4-Dioxane (E624 (SW6260M_SIM))	Total Organic Carbon (415.2 (SM 5310B))	Monomethylhydrazine (SW8315M/DV-WC-0077)	Cr (VI), Total (E216.6)	Total Dissolved Metals Mercury (E245.1)	Chlorpyrifos, Diazinon (E552.2)		
Outfall 001	Outfall001_20230106_Comp_F	1/6/2023 1670	WM	1 L Poly	1	None	190	No	X									Filter and preservative w/in 24hrs of receipt at lab.		
				borosilicate vials	1	None	320	No				X							Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.	
				500 mL Poly	1	NaOH	220	No												Unfiltered and unpreserved analysis. Separate RAQ onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year. Use sig. to ABC, RS, SPT, L, C.
Outfall 001	Outfall001_20230106_Comp	1/6/2023 670	WM	40 mL VOA	3	HCl	240	No												
				1 L Glass Amber	1	HCl	245	No				X								
				1 L Glass Amber	1	None	255	No												
				600 mL Poly	1	None	260	No												
Outfall 001	Outfall001_20230106_Comp_Extra	1/6/2023 1670	WM	1 L Glass Amber	2	None	275	No												
				40 mL VOA	3	HCl	240	No												
				1 L Glass Amber	1	None	255	No												

Relinquished By: *Ant Parrish* Date/Time: 1-6-2023 1301 Company: CHA  
 Relinquished By: *Sam* Date/Time: 1/6/23 1815 Company: EC  
 Relinquished By: *Sam* Date/Time: 1/6/23 1815 Company: EC

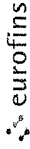
Received By: *Sam* Date/Time: 1/6/23 1300 EC  
 Received By: *Sam* Date/Time: 1/6/23 1815  
 Received By: *Sam* Date/Time: 1/6/23 1815

Legend: A=Annual, R=Routine, QRSW=Quarterly Receiving Water  
 Turn-around time: (Check) 24 Hour  72 Hour  10 Day   
 48 Hour  5 Day  Normal   
 Sample Integrity: (Check) In tact: \_\_\_\_\_ On Ice: \_\_\_\_\_  
 Store samples for 6 months. Data Requirements: (Check) No Level IV:  All Level IV:

\* Hand-delivered to ABC labs with copy of COC



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Shipper: Patel Virendra Lab PM: Virendra Carrier Tracking No(s): 570-203543 1 State of Origin: California Page: 1 of 1							
Company: TestAmerica Laboratories Inc. Address: 13715 Rider Trail North City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email: Project Name: Boeing SSFL NPDES - Outfall 001 COMP Site:	Sampler: Patel Virendra E-Mail: Virendra.Patel@et.eurofins.com State of Origin: California Job #: 570-123016-4 Accreditations Required (See note): State Program - California Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:						
Due Date Requested: 2/8/2023 TAT Requested (days):	Analysis Requested <table border="1"> <tr> <td>900 0/Evaporation Gross Alpha/Beta</td> <td>906 0/LSC_Dist_Susp Tritium</td> <td>905_Sr90/Presep_7 Strontium-90</td> <td>904_0/P/Presep_0 Radium-226</td> <td>A01R_U/Exchrom_ActIn Total Uranium</td> <td>901 1_Cs/Fill_Geo_0 K-40 and Cesium-137</td> </tr> </table>	900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/Presep_7 Strontium-90	904_0/P/Presep_0 Radium-226	A01R_U/Exchrom_ActIn Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137
900 0/Evaporation Gross Alpha/Beta	906 0/LSC_Dist_Susp Tritium	905_Sr90/Presep_7 Strontium-90	904_0/P/Presep_0 Radium-226	A01R_U/Exchrom_ActIn Total Uranium	901 1_Cs/Fill_Geo_0 K-40 and Cesium-137		
PO #: WO #: Project #: 44024446 SSOW#:	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Total Number of Containers: 2 Special Instructions/Note: Being SSFL DO NOT FILTER use prep date from preservation						
<b>Sample Identification - Client ID (Lab ID)</b> Outfall001_20230106_Comp (570-123016-1)	Sample Date: 1/6/23 Sample Time: 07:20 Pacific Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air): Water Preservation Code:						
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.							
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month ) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months							
Empty Kit Relinquished by:	Method of Shipment:						
Relinquished by:	Received by: Company Date/Time: 1/9/23 1413						
Relinquished by:	Received by: Company Date/Time:						
Relinquished by:	Received by: Company Date/Time:						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No	Cooler Temperature(s) °C and Other Remarks:						

# Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	ICC No
Eurofins Environment Testing Northern Ca		Patel Virendra	Patel Virendra	570-203580 1	570-203580 1
Address: 880 Riverside Parkway		Phone:	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
City: West Sacramento		Accreditation Required (See note): State Program - California			
State/Zip: CA, 95605		Job #: 570-123016-2			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		Preservation Codes: M - Hexane N - None O - Ash/NaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:			
Email:		Analysis Requested			
Project #: 44024446		Due Date Requested: 1/24/2023			
Site: Boeing SSFL NPDES - Outfall 001 COMP		TAT Requested (days):			
SSOW#:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>			
		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>			
		1613B/1613B_Box_Sep_P Standard List w/ Totals <input type="checkbox"/>			
		1613B/1613B_Box_Sep_P Standard List w/ Totals (Hold) <input type="checkbox"/>			
		Total Number of Containers: <input checked="" type="checkbox"/>			
		Special Instructions/Note: See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware. See OAS, Boeing_wiu to zero, ug/L, Use Boeing glassware.			
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:	Matrix (W=water, S=solid, O=waste/oil, BT= Tissue, A=Air)
Outfall001_20230106_Comp (570-123016-1)	1/6/23	07 20 Pacific		Water	Water
Outfall001_20230106_Comp_Extra (570-123016-2)	1/6/23	07 20 Pacific		Water	Water
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.					
<b>Possible Hazard Identification</b> Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months					
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2					
Empty Kit Relinquished by:		Time: Method of Shipment:			
Relinquished by: [Signature]		Date/Time: Company			
Relinquished by:		Date/Time: Company			
Relinquished by:		Date/Time: Company			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:			



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-5

**Login Number: 123016**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	







# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004  
Generated 3/11/2023 3:45:52 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 COMP

## JOB NUMBER

570-123016-6

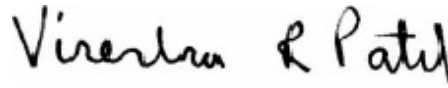
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

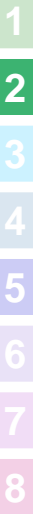
The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/11/2023 3:45:52 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Sample Summary . . . . .	6
Subcontract Data . . . . .	7
Chain of Custody . . . . .	13
Receipt Checklists . . . . .	15

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-6

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-6

---

**Job ID: 570-123016-6**

---

**Laboratory: Eurofins Calscience**

## Narrative

---

**Job Narrative**  
**570-123016-6**

## Comments

No additional comments.

## Receipt

The samples were received on 1/6/2023 6:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.3° C, 1.5° C, 1.9° C and 2.4° C.

## Lab Admin

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Subcontract Work

Method EPA 608.3 Low Level - Endrin Aldehyde only (ug/L units) - MDL(J): This method was subcontracted to Weck Laboratories, Inc.. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 COMP

Job ID: 570-123016-6

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123016-2	Outfall001_20230106_Comp_Extra	Water	01/06/23 07:20	01/06/23 18:15

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

**Work Orders:** 3B02109

**Project:** 570-123016-6

**Attn:** Virendra Patel

**Client:** Eurofins Calscience - Tustin  
2841 Dow Avenue, Suite 100  
Tustin, CA 92780

**Report Date:** 3/09/2023

**Received Date:** 2/2/2023

**Turnaround Time:** Normal

**Phones:** (949) 261-1022

**Fax:** (949) 260-3297

**P.O. #:**

**Billing Code:**

Dear Virendra Patel,

Enclosed are the results of analyses for samples received 2/02/23 with the Chain-of-Custody document. The samples were received in good condition, at 1.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

## Sample Results

Sample: Outfall001\_20230106\_Comp\_Extra (570-123016-2) Sampled: 01/06/23 7:20 by Client  
3B02109-01 (Water)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
<b>Method:</b> EPA 608.3			<b>Instr:</b> GC07				
<b>Batch ID:</b> W3B0658		<b>Preparation:</b> EPA 608/L-L SF			<b>Prepared:</b> 02/08/23 10:02		<b>Analyst:</b> RJG
Endrin aldehyde	ND	0.0019	0.0050	ug/l	1	03/02/23	O-09
<i>Surrogate(s)</i>							
Decachlorobiphenyl	46%		33-133	Conc: 0.0436		03/02/23	
Tetrachloro-meta-xylene	50%		32-130	Conc: 0.0475		03/02/23	

## Quality Control Results

### Chlorinated Pesticides and/or PCBs by GC/ECD

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limit	RPD	Limit	Qualifier
<b>Blank (W3B0658-BLK1)</b>					<b>Prepared: 02/08/23 Analyzed: 03/01/23</b>						
Endrin aldehyde	ND	0.0019	0.0050	ug/l							
<i>Surrogate(s)</i>											
Decachlorobiphenyl	0.0752			ug/l	0.100		75	33-133			
Tetrachloro-meta-xylene	0.0603			ug/l	0.100		60	32-130			
<b>LCS (W3B0658-BS1)</b>					<b>Prepared: 02/08/23 Analyzed: 03/01/23</b>						
Endrin aldehyde	0.0677	0.0019	0.0050	ug/l	0.100		68	18-130			
<i>Surrogate(s)</i>											
Decachlorobiphenyl	0.0759			ug/l	0.100		76	33-133			
Tetrachloro-meta-xylene	0.0589			ug/l	0.100		59	32-130			
<b>LCS Dup (W3B0658-BSD1)</b>					<b>Prepared: 02/08/23 Analyzed: 03/01/23</b>						
Endrin aldehyde	0.0582	0.0019	0.0050	ug/l	0.100		58	18-130	15	30	
<i>Surrogate(s)</i>											
Decachlorobiphenyl	0.0647			ug/l	0.100		65	33-133			
Tetrachloro-meta-xylene	0.0453			ug/l	0.100		45	32-130			



## Notes and Definitions

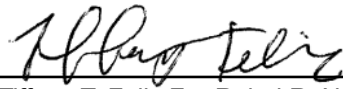
Item	Definition
O-09	This sample was received with the EPA recommended holding time expired.
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

**Reviewed by:**



Tiffany T. Felix For Rahul R. Nair  
Project Manager



DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • ISO17025 ANAB #L2457.01 • LACSD #10143

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494



## Chain of Custody Record

3802

Carrier Tracking No(s):  
 State of Origin: California

Lab PM: Patel, Virendra  
 E-Mail: Virendra.Patel@et.eurofinsus.com  
 State Program - California

Accreditations Required (See note):  
 State Program - California

Client Information (Sub Contract Lab)  
 Client Contact: Shipping/Receiving  
 Company: Weck Laboratories, Inc.  
 Address: 14859 East Clark Avenue,  
 City: City of Industry  
 State, Zip: CA, 917451396  
 Phone:  
 Email:

Sampler: Patel, Virendra  
 Phone: Virendra.Patel@et.eurofinsus.com  
 State Program - California

Due Date Requested: 2/22/2023  
 TAT Requested (days):  
 PO #:  
 WO #:  
 Project #: 44024446  
 SSON#:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=volatile, BT=Blank, As=Air)	Analysis Requested	
					Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)
Outfall001_20230106_Comp_Extra (570-123016-2)	1/6/23	07:20 Pacific	Water		X	X

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

Possible Hazard Identification  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: 2-7-23 11:15  
 Received by: \_\_\_\_\_ Company: EC

Method of Shipment:	
1	2
3	4
5	6
7	8

3802109

ICOC No:  
570-206007

**Containers**

**Count** 2      **Container Type** Amber Glass 1 liter - unpreserved      **Preservative** None

**Subcontract Method Instructions**

Sample IDs	Method	Method Description	Method Comments
2	SUBCONTRACT	SUB (EPA 608.3 Low Level - Endrin Aldehyde only (ug/L units) - MDL(J))	Level IV, EQUIS 5C, MDL reporting w/J flag. Pe ug/L



COC	COC matches sample labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Receipt Information	Sample Temperature	1.9°C		
	Samples received on ice?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Ice Type (Blue/Wet)	WET		
	All samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Samples in proper containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Sufficient sample volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Samples intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Preservation Verification?	Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Sample labels checked for correct preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	VOC Headspace: (No) none, If Yes (See comment) 524.2, 524.3, 624.1, 8260, 1666 P/T, LUFT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	pH verified upon receipt?			
	Metals <2; H2SO4 pres tests <2; 522<4; TOC <2; 525.2<2; 6710B<2; 608.3 5-9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Free Chlorine Tested <0.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	O&G pH <2 verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	pH adjusted for O&G	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Manager notified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

08

PM Comments

Sample Receipt Checklist Prepared by:

Signature: Lester Abad

Date: 02/02/23

QAF-006 V1.0 12/16/2021

F:\SC\ Resources\Forms\220509 Sample Receipt Checklist.docx[Type here]

CHAIN OF CUSTODY FORM



570-123016 Chain of Custody

Eurofins Calscience Irvine

**Client Name/Address:**  
Haley & Aldrich  
5333 Mission Center Rd Suite 300  
San Diego, CA 92108

**Eurofins Calscience Irvine Contact:** Christian Bondoc  
17461 Derfan Ave Suite #100  
Irvine CA 92614  
Tel: 949-260-3218

**Project:**  
Boeing-SSFL NPDES  
Permit 2023  
Annual Outfall 001, 002, 011, 018  
Outfall 001  
Comp

**Project Manager:** Katherine Miller  
520.289.8606, 520.904.6944 (cell)

**Field Manager:** Mark Dominick  
978.234.5033, 818.599.0702 (cell)

**Resubmitter's services under this CoC shall be performed in accordance with the TCOs within Blanket Service Agreements 2016-22, resubmitted by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and Eurofins Laboratories Inc.**

**Sampler:** Adrian Mobeka

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	USASND
Outfall 001	Outfall001_20230106_Comp	1/6/2023 / 16720	WM	500 mL Poly	1	HNO <sub>3</sub>	80	No
			WM	1 L Glass Amber	2	None	110	No
			WM	1 L Poly	1	None	115	No
			WM	500 mL Poly	2	None	120	No
			WM	500 mL Poly	2	None	125	No
			WM	500 mL Poly	1	None	150	No
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	180	No
			WM	1 L Glass Amber	2	None	250	No
			WM	1 L Glass Amber	2	None	175	No
			WM	1 L Poly	1	None	185	No
Outfall001_20230106_Comp_Extra	Outfall001_20230106_Comp_Extra	1/6/2023 / 16720	WM	1 L Glass Amber	2	None	110	No
			WM	500 mL Poly	2	None	120	No
			WM	500 mL Poly	2	None	125	No
			WM	1 L Glass Amber	2	None	250	No
			WM	1 L Glass Amber	2	None	175	No
			WM	1 L Poly	1	None	185	No

**ANALYSIS REQUIRED**

Parameter	Result
Total Recoverable Metals: (E200.7), As, Ba, B, Be, Bi, Br, Cd, Cr, Fe, Mn, Ni, V, Zn (E200.8), Ag, Cu, Pb, Sb, Se, Ti	X
TCD (and all congeners) (E1613B)	X
BOD <sub>5</sub> (20 degrees C) (E405.1) (SM210B, BODCal)	X
Surfactants (MBAs) (SM5540C/E425.1)	X
Cl <sup>-</sup> , SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate (E300)	X
Turbidity TDS (SM2540C/E180.1)	X
TSS (160.2 (SM2540D))	X
Ammonia-N (E350.2)	X
Priority Pollutants+Pesticides+PCBs (E608)	X
Priority Pollutants-SVOCs (E825)	X
Total Recoverable Metals: Mercury (E245.1)	X

**Comments:**  
48 hours Holding Time NO<sub>3</sub> & NO<sub>2</sub>  
48 hour holding time for turbidity

**Legend:** A=Annual, R=Routine

**Relinquished By:** *Mark Dominick* Date/Time: 1-6-2023 1300 EC  
Company: *H&A*

**Received By:** *Christian Bondoc* Date/Time: 1/6/23 1815  
Company: *EC*

**Relinquished By:** *Mark Dominick* Date/Time: 1-6-2023 1300 EC  
Company: *H&A*

**Received By:** *Christian Bondoc* Date/Time: 1/6/23 1815  
Company: *EC*

**Turn-around time (Check):** 24 Hour  72 Hour  10 Day   
48 Hour  5 Day  Normal:

**Sample Integrity (Check):** Intact  On Ice   
Store samples for 6 months:   
Data Requirements: (Check) No Level IV  All Level IV

1 3/1.3 2.4/2.4 1.5/1.5 1.9/1.9 sc11



CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p>Project: Boeing-SSFL NPDES Permit 2023 Annual Outfall [001, 002, 011, 018] Outfall 001 Comp</p>		<p>R/A R R R A A A A R QRSW</p>							
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel: 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606; 520.904.8944 (cell) Field Manager: Mark Dominick 978.234.5033; 818.599.0702 (cell)</p>		<p>ANALYSIS REQUIRED</p>							
<p>Sample Description</p>	<p>Sample I.D.</p>	<p>Sampling Date/Time</p>	<p>Sample Matrix</p>	<p>Container Type</p>	<p># of Cont.</p>	<p>Preservative</p>	<p>Bottle #</p>	<p>MS/MSD</p>	<p>Total Dissolved Metals (E200.7): As, Ba, Bi, Be, B, Co, Cr, Fe, Mn, Ni, V (E200.7); Ag, Cd, Cu, Pb, Sb, Se, Ti (E200.8); Ar, CS-137 (E901.0 or E901.1), K-40, Cs-137 (E901.0 or E901.1), K-Radium 228 (E904.0), Uranium (E908.0), K-Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0), Cyanide (SM4500-CN-E / E335.2)</p>	<p>Chronic Toxicity - Selenium (FA6 R 223 ABC Lab) <input checked="" type="checkbox"/>  Chronic Toxicity - Selenium (FA6 R 223 ABC Lab) <input checked="" type="checkbox"/>  1,4-Dioxane (E624 (SW6260M_SIM)) <input checked="" type="checkbox"/>  Total Organic Carbon (415.2 (SM 5310B)) <input checked="" type="checkbox"/>  Monomethylhydrazine (SW8315M/DV-WC-0077) <input checked="" type="checkbox"/>  Cr (VI), Total (E216.6) <input checked="" type="checkbox"/>  Total Dissolved Metals Mercury (E245.1) <input checked="" type="checkbox"/>  Chlorpyrifos, Diazinon (E552.2) <input checked="" type="checkbox"/></p>	<p>Filter and preservative w/in 24hrs of receipt at lab. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAQ onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year. Use sig. to ABC, AS, SP, L, Q, R.</p>
<p>Outfall 001</p>	<p>Outfall001_20230106_Comp_F</p>	<p>1/6/2023 6:20</p>	<p>WM</p>	<p>1 L Poly</p>	<p>1</p>	<p>None</p>	<p>190</p>	<p>No</p>	<p>X</p>	<p></p>	
				<p>borosilicate vials</p>	<p>1</p>	<p>None</p>	<p>320</p>	<p>No</p>	<p></p>	<p>X</p>	
				<p>500 mL Poly</p>	<p>1</p>	<p>NaOH</p>	<p>220</p>	<p>No</p>	<p></p>	<p></p>	
				<p>2.5 Gal Cube</p>	<p>1</p>	<p>None</p>	<p>225</p>	<p>No</p>	<p></p>	<p></p>	
				<p>1 L Glass Amber</p>	<p>1</p>	<p>None</p>	<p>230</p>	<p>No</p>	<p>X</p>	<p></p>	
				<p>1 Gal Cube</p>	<p>6</p>	<p>None</p>	<p>235</p>	<p>No</p>	<p>X</p>	<p></p>	
				<p>40 mL VOA</p>	<p>3</p>	<p>HCl</p>	<p>240</p>	<p>No</p>	<p>X</p>	<p></p>	
				<p>1 L Glass Amber</p>	<p>1</p>	<p>HCl</p>	<p>245</p>	<p>No</p>	<p>X</p>	<p></p>	
				<p>1 L Glass Amber</p>	<p>1</p>	<p>None</p>	<p>255</p>	<p>No</p>	<p></p>	<p></p>	
				<p>600 mL Poly</p>	<p>1</p>	<p>None</p>	<p>260</p>	<p>No</p>	<p>X</p>	<p></p>	
				<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>275</p>	<p>No</p>	<p></p>	<p></p>	
				<p>40 mL VOA</p>	<p>3</p>	<p>HCl</p>	<p>240</p>	<p>No</p>	<p></p>	<p></p>	
				<p>1 L Glass Amber</p>	<p>1</p>	<p>None</p>	<p>255</p>	<p>No</p>	<p>H</p>	<p></p>	

Relinquished By: *Monte Perini* Date/Time: 1-6-2023/1301 Company: CHA

Relinquished By: *Sam* Date/Time: 1/6/23 1815 Company: EC

Relinquished By: *Sam* Date/Time: 1/6/23 1815 Company: EC

Received By: *Sam* Date/Time: 1/6/23 1300 EC

Received By: *Jeffery* Date/Time: 1/6/23 1815

Turn-around time: (Check) 24 Hour \_\_\_ 72 Hour \_\_\_ 10 Day \_\_\_ X \_\_\_ 48 Hour \_\_\_ 5 Day \_\_\_ Normal \_\_\_

Sample Integrity (Check) Impact: \_\_\_ On Ice: \_\_\_ Store samples for 6 months. Data Requirements. (Check) No Level IV \_\_\_ All Level IV \_\_\_ X \_\_\_

\* Hand-delivered to ABC labs with copy of COC



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123016-6

**Login Number: 123016**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 1/23/2023 2:10:21 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 018 Grab

## JOB NUMBER

570-123265-1



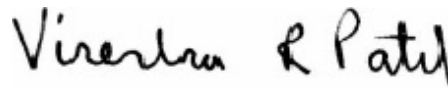
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
1/23/2023 2:10:21 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	13
Lab Chronicle . . . . .	14
Certification Summary . . . . .	15
Method Summary . . . . .	16
Sample Summary . . . . .	17
Chain of Custody . . . . .	18
Receipt Checklists . . . . .	19

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

**Job ID: 570-123265-1**

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-123265-1**

## Comments

No additional comments.

## Receipt

The samples were received on 1/9/2023 5:15 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

## GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-294547. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Organic Prep

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-295550.

Method: 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

**Client Sample ID: Outfall001\_20230109\_Grab**

**Lab Sample ID: 570-123265-1**

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	160		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230109**

**Lab Sample ID: 570-123265-3**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230109\_Grab**  
**Date Collected: 01/09/23 09:55**  
**Date Received: 01/09/23 17:00**

**Lab Sample ID: 570-123265-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/09/23 23:26	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/09/23 23:26	1
Trichloroethene	ND		0.50	0.17	ug/L			01/09/23 23:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					01/09/23 23:26	1
Toluene-d8 (Surr)	99		60 - 140					01/09/23 23:26	1

**Client Sample ID: TB-20230109**  
**Date Collected: 01/09/23 09:55**  
**Date Received: 01/09/23 17:00**

**Lab Sample ID: 570-123265-3**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/09/23 21:34	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/09/23 21:34	1
Trichloroethene	ND		0.50	0.17	ug/L			01/09/23 21:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		60 - 140					01/09/23 21:34	1
Toluene-d8 (Surr)	99		60 - 140					01/09/23 21:34	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## General Chemistry

**Client Sample ID: Outfall001\_20230109\_Grab**  
**Date Collected: 01/09/23 09:55**  
**Date Received: 01/09/23 17:00**

**Lab Sample ID: 570-123265-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.97	0.50	mg/L		01/12/23 18:34	01/13/23 16:10	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Specific Conductance (SM 2510B)</b>	<b>160</b>		1.0	1.0	umhos/cm			01/19/23 19:38	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			01/10/23 14:44	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL
		(60-140)	(60-140)
570-123265-1	Outfall001_20230109_Grab	97	99
570-123265-3	TB-20230109	98	99
LCS 570-294547/1003	Lab Control Sample	100	99
LCSD 570-294547/4	Lab Control Sample Dup	101	103
MB 570-294547/6	Method Blank	97	99

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-294547/6**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/09/23 16:40	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/09/23 16:40	1
Trichloroethene	ND		0.50	0.17	ug/L			01/09/23 16:40	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	97		60 - 140					01/09/23 16:40	1
Toluene-d8 (Surr)	99		60 - 140					01/09/23 16:40	1

**Lab Sample ID: LCS 570-294547/1003**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits	
		Result	Qualifier					
1,1-Dichloroethene	10.0	9.10		ug/L		91	50 - 150	
1,2-Dichloroethane	10.0	9.48		ug/L		95	70 - 130	
Trichloroethene	10.0	9.38		ug/L		94	65 - 135	
Surrogate	LCS	LCS	Limits			D	%Rec	Limits
	%Recovery	Qualifier						
4-Bromofluorobenzene (Surr)	100		60 - 140					
Toluene-d8 (Surr)	99		60 - 140					

**Lab Sample ID: LCSD 570-294547/4**  
**Matrix: Water**  
**Analysis Batch: 294547**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
1,1-Dichloroethene	10.0	9.16		ug/L		92	50 - 150	1	32
1,2-Dichloroethane	10.0	9.74		ug/L		97	70 - 130	3	49
Trichloroethene	10.0	9.90		ug/L		99	65 - 135	5	48
Surrogate	LCSD	LCSD	Limits			D	%Rec	Limits	RPD
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	101		60 - 140						
Toluene-d8 (Surr)	103		60 - 140						

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-295550/1-A**  
**Matrix: Water**  
**Analysis Batch: 295796**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295550**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		01/12/23 18:34	01/13/23 16:10	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Method: 1664A - HEM and SGT-HEM (Continued)

**Lab Sample ID: LCS 570-295550/2-A**  
**Matrix: Water**  
**Analysis Batch: 295796**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295550**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	37.6		mg/L		94	78 - 114

**Lab Sample ID: LCSD 570-295550/3-A**  
**Matrix: Water**  
**Analysis Batch: 295796**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295550**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	36.8		mg/L		92	78 - 114	2	18

**Lab Sample ID: MB 570-296047/1-A**  
**Matrix: Water**  
**Analysis Batch: 296473**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 296047**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		01/16/23 09:25	01/17/23 13:51	1

**Lab Sample ID: LCS 570-296047/2-A**  
**Matrix: Water**  
**Analysis Batch: 296473**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 296047**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	38.7		mg/L		97	78 - 114

**Lab Sample ID: LCSD 570-296047/3-A**  
**Matrix: Water**  
**Analysis Batch: 296473**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296047**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	38.1		mg/L		95	78 - 114	2	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-297351/10**  
**Matrix: Water**  
**Analysis Batch: 297351**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/19/23 19:00	1

**Lab Sample ID: 570-124593-F-2 DU**  
**Matrix: Water**  
**Analysis Batch: 297351**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	1300		1300		umhos/cm		0.5	25

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Method: SM 2540F - Solids, Settleable

Lab Sample ID: 570-123302-A-1 DU  
Matrix: Water  
Analysis Batch: 294859

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Settleable Solids	ND		ND		mL/L		NC	10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## GC/MS VOA

### Analysis Batch: 294547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123265-1	Outfall001_20230109_Grab	Total/NA	Water	624.1	
570-123265-3	TB-20230109	Total/NA	Water	624.1	
MB 570-294547/6	Method Blank	Total/NA	Water	624.1	
LCS 570-294547/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-294547/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 294859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123265-1	Outfall001_20230109_Grab	Total/NA	Water	SM 2540F	
570-123302-A-1 DU	Duplicate	Total/NA	Water	SM 2540F	

### Prep Batch: 295550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123265-1	Outfall001_20230109_Grab	Total/NA	Water	1664A	
MB 570-295550/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-295550/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-295550/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 295796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123265-1	Outfall001_20230109_Grab	Total/NA	Water	1664A	295550
MB 570-295550/1-A	Method Blank	Total/NA	Water	1664A	295550
LCS 570-295550/2-A	Lab Control Sample	Total/NA	Water	1664A	295550
LCSD 570-295550/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	295550

### Prep Batch: 296047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-296047/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-296047/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-296047/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 296473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-296047/1-A	Method Blank	Total/NA	Water	1664A	296047
LCS 570-296047/2-A	Lab Control Sample	Total/NA	Water	1664A	296047
LCSD 570-296047/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	296047

### Analysis Batch: 297351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123265-1	Outfall001_20230109_Grab	Total/NA	Water	SM 2510B	
MB 570-297351/10	Method Blank	Total/NA	Water	SM 2510B	
570-124593-F-2 DU	Duplicate	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

**Client Sample ID: Outfall001\_20230109\_Grab**

**Lab Sample ID: 570-123265-1**

**Date Collected: 01/09/23 09:55**

**Matrix: Water**

**Date Received: 01/09/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	294547	01/09/23 23:26	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			1029 mL	1000 mL	295550	01/12/23 18:34	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			295796	01/13/23 16:10	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			297351	01/19/23 19:38	UAPD	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	294859	01/10/23 14:44	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230109**

**Lab Sample ID: 570-123265-3**

**Date Collected: 01/09/23 09:55**

**Matrix: Water**

**Date Received: 01/09/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	294547	01/09/23 21:34	A1W	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-12-22 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

- 1664A = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 018 Grab

Job ID: 570-123265-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123265-1	Outfall001_20230109_Grab	Water	01/09/23 09:55	01/09/23 17:00
570-123265-3	TB-20230109	Water	01/09/23 09:55	01/09/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15




123265

Page 1 of 1

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

TRAEFT91B

Client Name/Address: Hailey & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Grab		Field Readings (Include units) Time of Readings: <u>0955</u> DO <u>12.88</u> mg/L pH <u>8.35</u> pH unit Temp <u>51.9</u> (°C/F)		Meter serial #							
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel: 949-260-3218		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		Field readings QC Checked by: <u>[Signature]</u> Date/Time: <u>1-9-2023/0955</u>		Comments							
TestAmerica's services under this CoC shall be performed in accordance with the TACs with Blanket Service Agreement# 2019-22-1 respectively by and between Hailey & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories, Inc.		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		ANALYSIS REQUIRED									
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1694-HEM)	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120.1)	
		1/9/2023	WM	1 L Glass Amber	2	H <sub>2</sub> SO <sub>4</sub>	15	No	X				
	Outfall001_20230109_Grab	1/9/2023 <u>1055</u>	WM	40 mL VOA	3	HCl	30	No		X			
			WM	1L Poly	1	None	70	No			X		
			WM	500 mL Poly	1	None	75	No				X	
			WM	1 L Glass Amber	2	H <sub>2</sub> SO <sub>4</sub>	15	No	H				
	Outfall001_20230109_Grab_Extra	1/9/2023 <u>1055</u>	WM	40 mL VOA	3	HCl	30	No		H			
			WM	500 mL Poly	1	None	75	No					
	Trip Blanks	1/9/2023 <u>1055</u>	WC	40 mL VOA	3	HCl	30	No		X			
 570-123265 Chain of Custody													
Relinquished By: <u>[Signature]</u>		Date/Time: <u>1-9-2023</u>	Company: <u>HA</u>	Legend: R=Routine				Received By: <u>[Signature]</u>	Date/Time: <u>1/9/23</u>	Turn-around time (Check)	24 Hour: <u>X</u>	72 Hour: <u>  </u>	10 Day: <u>  </u>
Relinquished By: <u>[Signature]</u>		Date/Time: <u>1-9-2023</u>	Company: <u>EC</u>					Received By: <u>[Signature]</u>	Date/Time: <u>1/9/23</u>	48 Hour: <u>  </u>	5 Day: <u>  </u>	Normal: <u>  </u>	
Relinquished By: <u>[Signature]</u>		Date/Time: <u>1/9/23</u>	Company: <u>EC</u>					Received By: <u>[Signature]</u>	Date/Time: <u>1/9/23</u>	Sample Integrity (Check)	Intact: <u>  </u>	On Ice: <u>  </u>	
Store samples for 6 months. Data Requirements: (Check) No Level IV: <u>  </u> All Level IV: <u>X</u>													

2-1/2021 SCL1



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123265-1

**Login Number: 123265**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/7/2023 1:29:00 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-123650-1

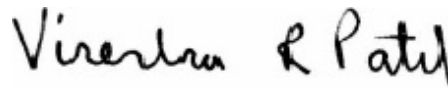
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/7/2023 1:29:00 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	32
Lab Chronicle . . . . .	37
Certification Summary . . . . .	39
Method Summary . . . . .	40
Sample Summary . . . . .	41
Chain of Custody . . . . .	42
Receipt Checklists . . . . .	47

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
EY	Result exceeds normal dynamic range; reported as a min. est.
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)

### Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

**Job ID: 570-123650-1**

**Laboratory: Eurofins Calscience**

## Narrative

### Job Narrative 570-123650-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/11/2023 7:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 2.1° C and 2.3° C.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### HPLC/IC

Method 314.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-296367 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Perchlorate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 314.0: Due to the high concentration of Perchlorate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-296367 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 200.7 Rev 4.4: The matrix spike (MS) recoveries of Iron for preparation batch 570-295991 and analytical batch 570-296174 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230111\_Comp\_F (570-123650-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230111\_Comp\_F (570-123650-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230111\_Comp\_F (570-123650-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-296435. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

---

## Job ID: 570-123650-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

batch.  
Method 608

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-296476. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method:625.1 Sim

Method 625: The emulsions were broken up using sodium sulfate  
Method:625 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Client Sample ID: Outfall001\_20230111\_Comp

## Lab Sample ID: 570-123650-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	35		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	1.4		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	11		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	1.4		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	5.5		2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	0.58	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Iron	160		20	3.7	ug/L	1		200.8	Total Recoverable
Zinc	8.9	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Manganese	24		1.0	0.41	ug/L	1		200.8	Total Recoverable
Ammonia	0.039	J,DX	0.075	0.032	mg/L	1		350.1	Total/NA
Turbidity	5.1		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	170		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.4		2.0	1.7	mg/L	1		SM 2540D	Total/NA
MBAS	0.14	J,DX	0.30	0.054	mg/L	1		SM 5540C	Total/NA

## Client Sample ID: Outfall001\_20230111\_Comp\_F

## Lab Sample ID: 570-123650-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	4.1	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	46	BU	20	3.7	ug/L	1		200.8	Dissolved
Zinc	3.4	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved
Manganese	6.9	BU	1.0	0.41	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Client Sample ID: Outfall001\_20230111\_Comp

Lab Sample ID: 570-123650-1

Date Collected: 01/11/23 07:30

Matrix: Water

Date Received: 01/11/23 19:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/17/23 13:55	01/27/23 15:37	1
2,4-Dinitrotoluene	ND		0.21	0.12	ug/L		01/17/23 13:55	01/27/23 15:37	1
Bis(2-ethylhexyl) phthalate	ND		5.2	3.7	ug/L		01/17/23 13:55	01/27/23 15:37	1
N-Nitrosodimethylamine	ND		0.21	0.19	ug/L		01/17/23 13:55	01/27/23 15:37	1
Pentachlorophenol	ND		1.0	0.87	ug/L		01/17/23 13:55	01/27/23 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	49		31 - 120	01/17/23 13:55	01/27/23 15:37	1
Phenol-d6 (Surr)	28		10 - 120	01/17/23 13:55	01/27/23 15:37	1
p-Terphenyl-d14 (Surr)	84		45 - 120	01/17/23 13:55	01/27/23 15:37	1
2,4,6-Tribromophenol	92		28 - 127	01/17/23 13:55	01/27/23 15:37	1
2-Fluorophenol	39		17 - 120	01/17/23 13:55	01/27/23 15:37	1
Nitrobenzene-d5	56		27 - 120	01/17/23 13:55	01/27/23 15:37	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 40CFR136A 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Outfall001\_20230111\_Comp**

**Date Collected: 01/11/23 07:30**

**Date Received: 01/11/23 19:10**

**Lab Sample ID: 570-123650-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		01/17/23 12:18	01/19/23 13:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	69		20 - 139				01/17/23 12:18	01/19/23 13:22	1
<i>DCB Decachlorobiphenyl (Surr)</i>	45		20 - 154				01/17/23 12:18	01/19/23 13:22	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230111\_Comp

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35		1.0	0.36	mg/L			01/12/23 07:44	1
Nitrite as N	ND		0.10	0.043	mg/L			01/12/23 07:44	1
Nitrate as N	1.4		0.10	0.020	mg/L			01/12/23 07:44	1
Sulfate	11		1.0	0.24	mg/L			01/12/23 07:44	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230111\_Comp

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/17/23 17:28	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230111\_Comp

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.4		0.10	0.020	mg/L			01/17/23 15:00	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230111\_Comp

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		01/16/23 07:29	01/16/23 12:09	1
<b>Copper</b>	<b>5.5</b>		2.0	0.32	ug/L		01/16/23 07:29	01/16/23 12:09	1
<b>Lead</b>	<b>0.58</b>	<b>J,DX</b>	1.0	0.12	ug/L		01/16/23 07:29	01/16/23 12:09	1
Selenium	ND		2.0	0.52	ug/L		01/16/23 07:29	01/16/23 12:09	1
<b>Iron</b>	<b>160</b>		20	3.7	ug/L		01/16/23 07:29	01/16/23 12:09	1
<b>Zinc</b>	<b>8.9</b>	<b>J,DX</b>	20	2.8	ug/L		01/16/23 07:29	01/16/23 12:09	1
<b>Manganese</b>	<b>24</b>		1.0	0.41	ug/L		01/16/23 07:29	01/16/23 12:09	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230111\_Comp\_F

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			01/18/23 09:19	1
<b>Copper</b>	<b>4.1</b>	<b>BU</b>	2.0	0.32	ug/L			01/18/23 09:19	1
Lead	ND	BU	1.0	0.12	ug/L			01/18/23 09:19	1
Selenium	ND	BU	2.0	0.52	ug/L			01/18/23 09:19	1
<b>Iron</b>	<b>46</b>	<b>BU</b>	20	3.7	ug/L			01/18/23 09:19	1
<b>Zinc</b>	<b>3.4</b>	<b>J,DX BU</b>	20	2.8	ug/L			01/18/23 09:19	1
<b>Manganese</b>	<b>6.9</b>	<b>BU</b>	1.0	0.41	ug/L			02/01/23 14:38	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230111\_Comp  
Date Collected: 01/11/23 07:30  
Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/13/23 16:10	01/16/23 19:34	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230111\_Comp\_F

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		01/13/23 18:30	01/16/23 20:15	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## General Chemistry

Client Sample ID: Outfall001\_20230111\_Comp

Lab Sample ID: 570-123650-1

Date Collected: 01/11/23 07:30

Matrix: Water

Date Received: 01/11/23 19:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Ammonia (EPA 350.1)</b>	<b>0.039</b>	<b>J,DX</b>	0.075	0.032	mg/L		01/20/23 12:20	01/20/23 14:48	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			01/13/23 17:06	1
<b>Turbidity (SM 2130B)</b>	<b>5.1</b>		0.05	0.05	NTU			01/12/23 19:07	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>170</b>		10	8.7	mg/L			01/17/23 13:25	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>7.4</b>		2.0	1.7	mg/L			01/16/23 19:52	1
<b>MBAS (SM 5540C)</b>	<b>0.14</b>	<b>J,DX</b>	0.30	0.054	mg/L		01/12/23 19:30	01/12/23 21:11	1
Biochemical Oxygen Demand (SM5210B)	ND		2.0	1.0	mg/L			01/12/23 18:02	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-123650-1	Outfall001_20230111_Comp	49	28	84	92	39	56
LCS 570-296476/2-A	Lab Control Sample	81	44	105	109	63	81
LCSD 570-296476/3-A	Lab Control Sample Dup	80	45	106	106	63	80
MB 570-296476/1-A	Method Blank	55	26	76	69	40	64

### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (20-139)	DCB2 (20-154)
570-123650-1	Outfall001_20230111_Comp	69	45

### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB2 (20-154)
LCS 570-296435/2-A	Lab Control Sample	85	88
LCSD 570-296435/3-A	Lab Control Sample Dup	85	88
MB 570-296435/1-A	Method Blank	90	89

### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-296476/1-A**  
**Matrix: Water**  
**Analysis Batch: 299094**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/17/23 13:55	01/27/23 11:45	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		01/17/23 13:55	01/27/23 11:45	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		01/17/23 13:55	01/27/23 11:45	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		01/17/23 13:55	01/27/23 11:45	1
Pentachlorophenol	ND		1.0	0.84	ug/L		01/17/23 13:55	01/27/23 11:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	55		31 - 120	01/17/23 13:55	01/27/23 11:45	1
Phenol-d6 (Surr)	26		10 - 120	01/17/23 13:55	01/27/23 11:45	1
p-Terphenyl-d14 (Surr)	76		45 - 120	01/17/23 13:55	01/27/23 11:45	1
2,4,6-Tribromophenol	69		28 - 127	01/17/23 13:55	01/27/23 11:45	1
2-Fluorophenol	40		17 - 120	01/17/23 13:55	01/27/23 11:45	1
Nitrobenzene-d5	64		27 - 120	01/17/23 13:55	01/27/23 11:45	1

**Lab Sample ID: LCS 570-296476/2-A**  
**Matrix: Water**  
**Analysis Batch: 298807**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	21.6		ug/L		108	52 - 129
2,4-Dinitrotoluene	20.0	24.7		ug/L		124	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	25.9		ug/L		130	29 - 137
N-Nitrosodimethylamine	20.0	12.3		ug/L		61	20 - 120
Pentachlorophenol	20.0	23.5		ug/L		118	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	81		31 - 120
Phenol-d6 (Surr)	44		10 - 120
p-Terphenyl-d14 (Surr)	105		45 - 120
2,4,6-Tribromophenol	109		28 - 127
2-Fluorophenol	63		17 - 120
Nitrobenzene-d5	81		27 - 120

**Lab Sample ID: LCSD 570-296476/3-A**  
**Matrix: Water**  
**Analysis Batch: 298807**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	21.2		ug/L		106	52 - 129	2	35
2,4-Dinitrotoluene	20.0	24.5		ug/L		122	48 - 127	1	25
Bis(2-ethylhexyl) phthalate	20.0	25.2		ug/L		126	29 - 137	3	50
N-Nitrosodimethylamine	20.0	12.4		ug/L		62	20 - 120	1	21
Pentachlorophenol	20.0	23.3		ug/L		116	38 - 152	1	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	80		31 - 120
Phenol-d6 (Surr)	45		10 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

Lab Sample ID: LCSD 570-296476/3-A  
 Matrix: Water  
 Analysis Batch: 298807

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 296476

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
p-Terphenyl-d14 (Surr)	106		45 - 120
2,4,6-Tribromophenol	106		28 - 127
2-Fluorophenol	63		17 - 120
Nitrobenzene-d5	80		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

Lab Sample ID: MB 570-296435/1-A  
 Matrix: Water  
 Analysis Batch: 296586

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 296435

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		01/17/23 12:18	01/18/23 20:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		20 - 139	01/17/23 12:18	01/18/23 20:08	1
DCB Decachlorobiphenyl (Surr)	89		20 - 154	01/17/23 12:18	01/18/23 20:08	1

Lab Sample ID: LCS 570-296435/2-A  
 Matrix: Water  
 Analysis Batch: 296586

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 296435

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0278		ug/L		83	37 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	85		20 - 139
DCB Decachlorobiphenyl (Surr)	88		20 - 154

Lab Sample ID: LCSD 570-296435/3-A  
 Matrix: Water  
 Analysis Batch: 296586

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 296435

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	0.0333	0.0280		ug/L		84	37 - 140	1	36

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	85		20 - 139
DCB Decachlorobiphenyl (Surr)	88		20 - 154

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 570-295296/5  
 Matrix: Water  
 Analysis Batch: 295296

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			01/12/23 06:53	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 570-295296/5**  
**Matrix: Water**  
**Analysis Batch: 295296**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.020	mg/L			01/12/23 06:53	1

**Lab Sample ID: LCS 570-295296/6**  
**Matrix: Water**  
**Analysis Batch: 295296**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.64		mg/L		106	90 - 110
Nitrate as N	5.00	4.97		mg/L		99	90 - 110

**Lab Sample ID: LCSD 570-295296/7**  
**Matrix: Water**  
**Analysis Batch: 295296**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.65		mg/L		106	90 - 110	0	15
Nitrate as N	5.00	4.97		mg/L		99	90 - 110	0	15

**Lab Sample ID: 570-123650-1 MS**  
**Matrix: Water**  
**Analysis Batch: 295296**

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	ND		2.50	2.75		mg/L		110	80 - 120
Nitrate as N	1.4		5.00	6.69		mg/L		106	80 - 120

**Lab Sample ID: 570-123650-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 295296**

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	ND		2.50	2.75		mg/L		110	80 - 120	0	20
Nitrate as N	1.4		5.00	6.70		mg/L		106	80 - 120	0	20

**Lab Sample ID: MB 570-295297/5**  
**Matrix: Water**  
**Analysis Batch: 295297**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/12/23 06:53	1
Sulfate	ND		1.0	0.24	mg/L			01/12/23 06:53	1

**Lab Sample ID: LCS 570-295297/6**  
**Matrix: Water**  
**Analysis Batch: 295297**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.3		mg/L		99	90 - 110
Sulfate	50.0	49.7		mg/L		99	90 - 110

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-295297/7  
 Matrix: Water  
 Analysis Batch: 295297

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	49.3		mg/L		99	90 - 110	0	15
Sulfate	50.0	49.6		mg/L		99	90 - 110	0	15

Lab Sample ID: 570-123650-1 MS  
 Matrix: Water  
 Analysis Batch: 295297

Client Sample ID: Outfall001\_20230111\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	35		50.0	92.7		mg/L		116	80 - 120
Sulfate	11		50.0	64.1		mg/L		107	80 - 120

Lab Sample ID: 570-123650-1 MSD  
 Matrix: Water  
 Analysis Batch: 295297

Client Sample ID: Outfall001\_20230111\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	35		50.0	92.7		mg/L		116	80 - 120	0	20
Sulfate	11		50.0	64.2		mg/L		107	80 - 120	0	20

## Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-296367/7  
 Matrix: Water  
 Analysis Batch: 296367

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/17/23 13:59	1

Lab Sample ID: LCS 570-296367/8  
 Matrix: Water  
 Analysis Batch: 296367

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	23.9		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-296367/9  
 Matrix: Water  
 Analysis Batch: 296367

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	23.8		ug/L		95	85 - 115	0	15

Lab Sample ID: 570-123690-P-1 MS  
 Matrix: Water  
 Analysis Batch: 296367

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	120	EY	50.0	206	EY LM	ug/L		171	80 - 120



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: 570-123690-P-1 MSD  
 Matrix: Water  
 Analysis Batch: 296367

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	120	EY	50.0	185	EY LM	ug/L		130	80 - 120	10	15

## Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-295993/1-A  
 Matrix: Water  
 Analysis Batch: 296199

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 295993

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		01/16/23 07:29	01/16/23 11:51	1
Copper	ND		2.0	0.32	ug/L		01/16/23 07:29	01/16/23 11:51	1
Lead	ND		1.0	0.12	ug/L		01/16/23 07:29	01/16/23 11:51	1
Selenium	ND		2.0	0.52	ug/L		01/16/23 07:29	01/16/23 11:51	1
Iron	ND		20	3.7	ug/L		01/16/23 07:29	01/16/23 11:51	1
Zinc	ND		20	2.8	ug/L		01/16/23 07:29	01/16/23 11:51	1
Manganese	ND		1.0	0.41	ug/L		01/16/23 07:29	01/16/23 11:51	1

Lab Sample ID: LCS 570-295993/2-A  
 Matrix: Water  
 Analysis Batch: 296199

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 295993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	80.5		ug/L		101	85 - 115
Copper	80.0	81.2		ug/L		102	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115
Selenium	80.0	78.9		ug/L		99	85 - 115
Iron	800	810		ug/L		101	85 - 115
Zinc	80.0	79.5		ug/L		99	85 - 115
Manganese	80.0	79.9		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-295993/3-A  
 Matrix: Water  
 Analysis Batch: 296199

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total Recoverable  
 Prep Batch: 295993

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	78.3		ug/L		98	85 - 115	3	20
Copper	80.0	80.4		ug/L		100	85 - 115	1	20
Lead	80.0	79.8		ug/L		100	85 - 115	1	20
Selenium	80.0	78.2		ug/L		98	85 - 115	1	20
Iron	800	806		ug/L		101	85 - 115	0	20
Zinc	80.0	77.7		ug/L		97	85 - 115	2	20
Manganese	80.0	79.2		ug/L		99	85 - 115	1	20

Lab Sample ID: 570-123670-D-1-F MS  
 Matrix: Water  
 Analysis Batch: 296199

Client Sample ID: Matrix Spike  
 Prep Type: Total Recoverable  
 Prep Batch: 295993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		100	99.6		ug/L		100	80 - 120
Copper	4.4		100	104		ug/L		99	80 - 120

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-123670-D-1-F MS**  
**Matrix: Water**  
**Analysis Batch: 296199**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295993**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.68	J,DX	100	101		ug/L		100	80 - 120
Selenium	ND		100	97.0		ug/L		97	80 - 120
Iron	520		100	634	BB	ug/L		112	80 - 120
Zinc	9.7	J,DX	100	107		ug/L		97	80 - 120
Manganese	12		100	112		ug/L		100	80 - 120

**Lab Sample ID: 570-123670-D-1-G MSD**  
**Matrix: Water**  
**Analysis Batch: 296199**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 295993**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		100	102		ug/L		102	80 - 120	2	20
Copper	4.4		100	106		ug/L		102	80 - 120	2	20
Lead	0.68	J,DX	100	102		ug/L		101	80 - 120	1	20
Selenium	ND		100	96.5		ug/L		97	80 - 120	1	20
Iron	520		100	611	BB	ug/L		89	80 - 120	4	20
Zinc	9.7	J,DX	100	108		ug/L		98	80 - 120	1	20
Manganese	12		100	112		ug/L		100	80 - 120	0	20

**Lab Sample ID: MB 570-295857/1-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			01/18/23 10:32	1
Copper	ND		2.0	0.32	ug/L			01/18/23 10:32	1
Lead	ND		1.0	0.12	ug/L			01/18/23 10:32	1
Selenium	ND		2.0	0.52	ug/L			01/18/23 10:32	1
Iron	ND		20	3.7	ug/L			01/18/23 10:32	1
Zinc	ND		20	2.8	ug/L			01/18/23 10:32	1

**Lab Sample ID: LCS 570-295857/2-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	78.1		ug/L		98	85 - 115
Copper	80.0	79.4		ug/L		99	85 - 115
Lead	80.0	79.5		ug/L		99	85 - 115
Selenium	80.0	78.2		ug/L		98	85 - 115
Iron	800	786		ug/L		98	85 - 115
Zinc	80.0	79.0		ug/L		99	85 - 115

**Lab Sample ID: LCSD 570-295857/3-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	75.2		ug/L		94	85 - 115	4	20
Copper	80.0	78.4		ug/L		98	85 - 115	1	20

Euromins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-295857/3-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	80.0	77.8		ug/L		97	85 - 115	2	20
Selenium	80.0	74.4		ug/L		93	85 - 115	5	20
Iron	800	792		ug/L		99	85 - 115	1	20
Zinc	80.0	76.6		ug/L		96	85 - 115	3	20

**Lab Sample ID: MB 570-300322/1-A**  
**Matrix: Water**  
**Analysis Batch: 300368**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0	0.41	ug/L			02/01/23 14:38	1

**Lab Sample ID: LCS 570-300322/2-A**  
**Matrix: Water**  
**Analysis Batch: 300368**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	80.0	76.0		ug/L		95	85 - 115

**Lab Sample ID: LCSD 570-300322/3-A**  
**Matrix: Water**  
**Analysis Batch: 300368**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	80.0	75.4		ug/L		94	85 - 115	1	20

**Lab Sample ID: 570-125839-A-2-B MS**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	1.0		80.0	74.8		ug/L		92	80 - 120

**Lab Sample ID: 570-125839-A-2-C MSD**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	1.0		80.0	75.3		ug/L		93	80 - 120	1	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-295795/1-A**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 295795**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/13/23 16:10	01/16/23 18:50	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 570-295795/2-A**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 295795**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.51		ug/L		106	85 - 115

**Lab Sample ID: LCSD 570-295795/3-A**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295795**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	8.00	8.65		ug/L		108	85 - 115	2	10

**Lab Sample ID: 570-123545-A-2-C MS**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 295795**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	8.68		ug/L		108	85 - 115

**Lab Sample ID: 570-123545-A-2-D MSD**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 295795**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	ND		8.00	8.57		ug/L		107	85 - 115	1	10

**Lab Sample ID: MB 570-295846/1-B**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 295898**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/13/23 18:30	01/16/23 19:52	1

**Lab Sample ID: LCS 570-295846/2-B**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 295898**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.40		ug/L		105	85 - 115

**Lab Sample ID: LCSD 570-295846/3-B**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 295898**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	8.00	8.29		ug/L		104	85 - 115	1	10

**Lab Sample ID: 570-123462-B-15-E MS**  
**Matrix: Water**  
**Analysis Batch: 296261**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**  
**Prep Batch: 295898**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	8.85		ug/L		111	85 - 115

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 570-123462-B-15-F MSD  
 Matrix: Water  
 Analysis Batch: 296261

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Dissolved  
 Prep Batch: 295898

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.33		ug/L		104	85 - 115	6	10

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-297466/5-A  
 Matrix: Water  
 Analysis Batch: 297482

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 297466

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		01/20/23 12:20	01/20/23 14:06	1

Lab Sample ID: LCS 570-297466/6-A  
 Matrix: Water  
 Analysis Batch: 297482

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 297466

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.492		mg/L		98	90 - 110

Lab Sample ID: LCSD 570-297466/7-A  
 Matrix: Water  
 Analysis Batch: 297482

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 297466

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.497		mg/L		99	90 - 110	1	20

Lab Sample ID: 570-123567-G-2-A MS  
 Matrix: Water  
 Analysis Batch: 297482

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 297466

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.085		0.500	0.560		mg/L		95	90 - 110

Lab Sample ID: 570-123567-G-2-B MSD  
 Matrix: Water  
 Analysis Batch: 297482

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 297466

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.085		0.500	0.534		mg/L		90	90 - 110	5	25

Lab Sample ID: 570-123567-G-2-C DU  
 Matrix: Water  
 Analysis Batch: 297482

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 297466

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia	0.085		0.0827		mg/L		2	25

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

**Lab Sample ID: MB 570-296127/11**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			01/13/23 14:05	1

**Lab Sample ID: LCS 570-296127/12**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	255		ug/L		102	90 - 110

**Lab Sample ID: LCSD 570-296127/13**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Cyanide, Total	250	255		ug/L		102	90 - 110	0	20

**Lab Sample ID: MRL 570-296127/10**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	4.46	J,DX	ug/L		89	50 - 150

**Lab Sample ID: 570-123567-H-4 MS**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	ND		250	235		ug/L		94	70 - 130

**Lab Sample ID: 570-123567-H-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Cyanide, Total	ND		250	227		ug/L		91	70 - 130	3	30

**Lab Sample ID: 570-123567-H-4 DU**  
**Matrix: Water**  
**Analysis Batch: 296127**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Cyanide, Total	ND		ND		ug/L		NC	

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-295554/1  
 Matrix: Water  
 Analysis Batch: 295554

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		100.2	99.0 - 101.0

Lab Sample ID: LCSSRM 570-295554/2  
 Matrix: Water  
 Analysis Batch: 295554

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-295554/3  
 Matrix: Water  
 Analysis Batch: 295554

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Lab Sample ID: 570-123650-1 DU  
 Matrix: Water  
 Analysis Batch: 295554

Client Sample ID: Outfall001\_20230111\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	5.1		5.1		NTU		0.4	25

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-296459/1  
 Matrix: Water  
 Analysis Batch: 296459

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			01/17/23 13:25	1

Lab Sample ID: LCS 570-296459/2  
 Matrix: Water  
 Analysis Batch: 296459

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1020		mg/L		102	84 - 108

Lab Sample ID: LCSD 570-296459/3  
 Matrix: Water  
 Analysis Batch: 296459

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	84 - 108	1	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 570-123834-A-1 DU  
 Matrix: Water  
 Analysis Batch: 296459

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Dissolved Solids	170		185		mg/L		10	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-296269/1  
 Matrix: Water  
 Analysis Batch: 296269

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			01/16/23 19:52	1

Lab Sample ID: LCS 570-296269/2  
 Matrix: Water  
 Analysis Batch: 296269

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	105		mg/L		105	77 - 116

Lab Sample ID: LCSD 570-296269/3  
 Matrix: Water  
 Analysis Batch: 296269

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Total Suspended Solids	100	107		mg/L		107	77 - 116	2	10

Lab Sample ID: 570-123650-1 DU  
 Matrix: Water  
 Analysis Batch: 296269

Client Sample ID: Outfall001\_20230111\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	7.4		7.20		mg/L		3	10

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-295690/5-A  
 Matrix: Water  
 Analysis Batch: 295590

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 295690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.054	mg/L		01/12/23 19:30	01/12/23 21:05	1

Lab Sample ID: LCS 570-295690/6-A  
 Matrix: Water  
 Analysis Batch: 295590

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 295690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	1.00	0.961		mg/L		96	85 - 111



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

**Lab Sample ID: LCSD 570-295690/7-A**  
**Matrix: Water**  
**Analysis Batch: 295590**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 295690**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	1.00	0.949		mg/L		95	85 - 111	1	7

**Lab Sample ID: 570-123848-L-2-A MS**  
**Matrix: Water**  
**Analysis Batch: 295590**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 295690**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.11	J,DX	1.00	1.14		mg/L		103	75 - 125

**Lab Sample ID: 570-123848-L-2-B MSD**  
**Matrix: Water**  
**Analysis Batch: 295590**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 295690**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.11	J,DX	1.00	1.15		mg/L		104	75 - 125	1	12

## Method: SM5210B - BOD, 5 Day

**Lab Sample ID: USB 570-296522/2**  
**Matrix: Water**  
**Analysis Batch: 296522**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			01/12/23 17:38	1

**Lab Sample ID: LCS 570-296522/4**  
**Matrix: Water**  
**Analysis Batch: 296522**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	219		mg/L		110	84.6 - 115.4

**Lab Sample ID: 570-123606-A-1 DU**  
**Matrix: Water**  
**Analysis Batch: 296522**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	1900		1810		mg/L		3	25

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## GC/MS Semi VOA

### Prep Batch: 296476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	625	
MB 570-296476/1-A	Method Blank	Total/NA	Water	625	
LCS 570-296476/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-296476/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 298807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-296476/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	296476
LCSD 570-296476/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	296476

### Analysis Batch: 299094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	625.1 SIM	296476
MB 570-296476/1-A	Method Blank	Total/NA	Water	625.1 SIM	296476

## GC Semi VOA

### Prep Batch: 296435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	608	
MB 570-296435/1-A	Method Blank	Total/NA	Water	608	
LCS 570-296435/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-296435/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 296586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-296435/1-A	Method Blank	Total/NA	Water	608.3	296435
LCS 570-296435/2-A	Lab Control Sample	Total/NA	Water	608.3	296435
LCSD 570-296435/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	296435

### Analysis Batch: 296909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	608.3	296435

## HPLC/IC

### Analysis Batch: 295296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	300.0	
MB 570-295296/5	Method Blank	Total/NA	Water	300.0	
LCS 570-295296/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-295296/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-123650-1 MS	Outfall001_20230111_Comp	Total/NA	Water	300.0	
570-123650-1 MSD	Outfall001_20230111_Comp	Total/NA	Water	300.0	

### Analysis Batch: 295297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	300.0	
MB 570-295297/5	Method Blank	Total/NA	Water	300.0	
LCS 570-295297/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-295297/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-123650-1 MS	Outfall001_20230111_Comp	Total/NA	Water	300.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## HPLC/IC (Continued)

### Analysis Batch: 295297 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1 MSD	Outfall001_20230111_Comp	Total/NA	Water	300.0	

### Analysis Batch: 296367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	314.0	
MB 570-296367/7	Method Blank	Total/NA	Water	314.0	
LCS 570-296367/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-296367/9	Lab Control Sample Dup	Total/NA	Water	314.0	
570-123690-P-1 MS	Matrix Spike	Total/NA	Water	314.0	
570-123690-P-1 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

### Analysis Batch: 296501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Prep Batch: 295795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	245.1	
MB 570-295795/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-295795/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-295795/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-123545-A-2-C MS	Matrix Spike	Total/NA	Water	245.1	
570-123545-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

### Filtration Batch: 295846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	Filtration	
MB 570-295846/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-295846/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-295846/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-123462-B-15-E MS	Matrix Spike	Dissolved	Water	Filtration	
570-123462-B-15-F MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

### Filtration Batch: 295857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	Filtration	
MB 570-295857/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-295857/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-295857/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	

### Prep Batch: 295898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	245.1	295846
MB 570-295846/1-B	Method Blank	Dissolved	Water	245.1	295846
LCS 570-295846/2-B	Lab Control Sample	Dissolved	Water	245.1	295846
LCSD 570-295846/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	295846
570-123462-B-15-E MS	Matrix Spike	Dissolved	Water	245.1	295846
570-123462-B-15-F MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	295846

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Metals

### Prep Batch: 295993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total Recoverable	Water	200.8	
MB 570-295993/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-295993/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-295993/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-123670-D-1-F MS	Matrix Spike	Total Recoverable	Water	200.8	
570-123670-D-1-G MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 296199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total Recoverable	Water	200.8	295993
MB 570-295993/1-A	Method Blank	Total Recoverable	Water	200.8	295993
LCS 570-295993/2-A	Lab Control Sample	Total Recoverable	Water	200.8	295993
LCSD 570-295993/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	295993
570-123670-D-1-F MS	Matrix Spike	Total Recoverable	Water	200.8	295993
570-123670-D-1-G MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	295993

### Analysis Batch: 296261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	245.1	295795
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	245.1	295898
MB 570-295795/1-A	Method Blank	Total/NA	Water	245.1	295795
MB 570-295846/1-B	Method Blank	Dissolved	Water	245.1	295898
LCS 570-295795/2-A	Lab Control Sample	Total/NA	Water	245.1	295795
LCS 570-295846/2-B	Lab Control Sample	Dissolved	Water	245.1	295898
LCSD 570-295795/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	295795
LCSD 570-295846/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	295898
570-123462-B-15-E MS	Matrix Spike	Dissolved	Water	245.1	295898
570-123462-B-15-F MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	295898
570-123545-A-2-C MS	Matrix Spike	Total/NA	Water	245.1	295795
570-123545-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	295795

### Analysis Batch: 296754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-295857/1-A	Method Blank	Dissolved	Water	200.8	295857
LCS 570-295857/2-A	Lab Control Sample	Dissolved	Water	200.8	295857
LCSD 570-295857/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	295857

### Analysis Batch: 296758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	200.8	295857

### Filtration Batch: 300322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	Filtration	
MB 570-300322/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-300322/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-300322/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-125839-A-2-B MS	Matrix Spike	Dissolved	Water	Filtration	
570-125839-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Metals

### Analysis Batch: 300368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-300322/1-A	Method Blank	Dissolved	Water	200.8	300322
LCS 570-300322/2-A	Lab Control Sample	Dissolved	Water	200.8	300322
LCSD 570-300322/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	300322

### Analysis Batch: 300379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-3	Outfall001_20230111_Comp_F	Dissolved	Water	200.8	300322
570-125839-A-2-B MS	Matrix Spike	Dissolved	Water	200.8	300322
570-125839-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	300322

## General Chemistry

### Analysis Batch: 295554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-295554/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-295554/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-295554/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-123650-1 DU	Outfall001_20230111_Comp	Total/NA	Water	SM 2130B	

### Analysis Batch: 295590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	SM 5540C	295690
MB 570-295690/5-A	Method Blank	Total/NA	Water	SM 5540C	295690
LCS 570-295690/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	295690
LCSD 570-295690/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	295690
570-123848-L-2-A MS	Matrix Spike	Total/NA	Water	SM 5540C	295690
570-123848-L-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	295690

### Prep Batch: 295690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	SM 5540C	
MB 570-295690/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-295690/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-295690/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-123848-L-2-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-123848-L-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

### Analysis Batch: 296127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	Kelada 01	
MB 570-296127/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-296127/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-296127/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-296127/10	Lab Control Sample	Total/NA	Water	Kelada 01	
570-123567-H-4 MS	Matrix Spike	Total/NA	Water	Kelada 01	
570-123567-H-4 MSD	Matrix Spike Duplicate	Total/NA	Water	Kelada 01	
570-123567-H-4 DU	Duplicate	Total/NA	Water	Kelada 01	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## General Chemistry

### Analysis Batch: 296269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	SM 2540D	
MB 570-296269/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-296269/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-296269/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-123650-1 DU	Outfall001_20230111_Comp	Total/NA	Water	SM 2540D	

### Analysis Batch: 296459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	SM 2540C	
MB 570-296459/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-296459/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-296459/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-123834-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 296522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	SM5210B	
USB 570-296522/2	Method Blank	Total/NA	Water	SM5210B	
LCS 570-296522/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-123606-A-1 DU	Duplicate	Total/NA	Water	SM5210B	

### Prep Batch: 297466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-297466/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-297466/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-297466/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-123567-G-2-A MS	Matrix Spike	Total/NA	Water	Distill/Ammonia	
570-123567-G-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/Ammonia	
570-123567-G-2-C DU	Duplicate	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 297482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	350.1	297466
MB 570-297466/5-A	Method Blank	Total/NA	Water	350.1	297466
LCS 570-297466/6-A	Lab Control Sample	Total/NA	Water	350.1	297466
LCSD 570-297466/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	297466
570-123567-G-2-A MS	Matrix Spike	Total/NA	Water	350.1	297466
570-123567-G-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	297466
570-123567-G-2-C DU	Duplicate	Total/NA	Water	350.1	297466

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

**Client Sample ID: Outfall001\_20230111\_Comp**

**Lab Sample ID: 570-123650-1**

**Date Collected: 01/11/23 07:30**

**Matrix: Water**

**Date Received: 01/11/23 19:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			966 mL	2 mL	296476	01/17/23 13:55	UM1W	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	299094	01/27/23 15:37	ULLI	EET CAL 4
Instrument ID: GCMSJJJ										
Total/NA	Prep	608			1500 mL	1 mL	296435	01/17/23 12:18	USUL	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	296909	01/19/23 13:22	N5Y3	EET CAL 4
Instrument ID: GC52A										
Total/NA	Analysis	300.0		1	4 mL	4 mL	295296	01/12/23 07:44	PS	EET CAL 4
Instrument ID: IC9										
Total/NA	Analysis	300.0		1	4 mL	4 mL	295297	01/12/23 07:44	PS	EET CAL 4
Instrument ID: IC9										
Total/NA	Analysis	314.0		1	4 mL	4 mL	296367	01/17/23 17:28	M5Z3	EET CAL 4
Instrument ID: IC13										
Total/NA	Analysis	NO2NO3 Calc		1			296501	01/17/23 15:00	WH6J	EET CAL 4
Instrument ID: NOEQUIP										
Total Recoverable	Prep	200.8			50 mL	50 mL	295993	01/16/23 07:29	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			296199	01/16/23 12:09	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Total/NA	Prep	245.1			25 mL	50 mL	295795	01/13/23 16:10	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			296261	01/16/23 19:34	C0YH	EET CAL 4
Instrument ID: HG8										
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	297466	01/20/23 12:20	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	297482	01/20/23 14:48	UXCH	EET CAL 4
Instrument ID: ACA2										
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	296127	01/13/23 17:06	GG0B	EET CAL 4
Instrument ID: LACHAT01										
Total/NA	Analysis	SM 2130B		1			295554	01/12/23 19:07	ZVB7	EET CAL 4
Instrument ID: TUR4										
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	296459	01/17/23 13:25	ZL7L	EET CAL 4
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	296269	01/16/23 19:52	BDH9	EET CAL 4
Instrument ID: NOEQUIP										
Total/NA	Prep	SM 5540C			100 mL	100 mL	295690	01/12/23 19:30	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	295590	01/12/23 21:11	TXA8	EET CAL 4
Instrument ID: UV9										
Total/NA	Analysis	SM5210B		1			296522	01/12/23 18:02	U7UR	EET CAL 4
Instrument ID: BOD3										

**Client Sample ID: Outfall001\_20230111\_Comp\_F**

**Lab Sample ID: 570-123650-3**

**Date Collected: 01/11/23 07:30**

**Matrix: Water**

**Date Received: 01/11/23 19:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	295857	01/13/23 18:26	ECX6	EET CAL 4
Dissolved	Analysis	200.8		1			296758	01/18/23 09:19	Y2WS	EET CAL 4
Instrument ID: ICPMS09										

Eurolins Calscience

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

**Client Sample ID: Outfall001\_20230111\_Comp\_F**

**Lab Sample ID: 570-123650-3**

**Date Collected: 01/11/23 07:30**

**Matrix: Water**

**Date Received: 01/11/23 19:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	300322	02/01/23 13:29	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			300379	02/01/23 14:38	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Dissolved	Filtration	Filtration			25 mL	25 mL	295846	01/13/23 18:17	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	295898	01/13/23 18:30	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			296261	01/16/23 20:15	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494





# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	40CFR136A	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
SM5210B	BOD, 5 Day	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	EET CAL 4
625	Liquid-Liquid Extraction	40CFR136A	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

#### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123650-1	Outfall001_20230111_Comp	Water	01/11/23 07:30	01/11/23 19:10
570-123650-3	Outfall001_20230111_Comp_F	Water	01/11/23 07:30	01/11/23 19:10

1

2

3

4

5

6

7

8

9

10

11

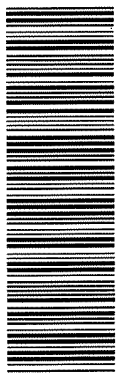
12

13

14

15

CHAIN OF CUSTODY FORM



570-123650 Chain of Custody

Eurofins Calscience Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel 949-260-3218		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001 002, 011 018] Outfall 001 Comp		ANALYSIS REQUIRED Total Recoverable Metals (E200.7): Mn, Fe X Total Recoverable Metals: Mercury (E245.1) X 2,4,6 TCP 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E609) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Chloride (E300) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Surfactants (MBAS) (SM5540C/E425.1) BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc)) TCDD (and all congeners) (E1613B) (E200.8), Cu, Pb, Cd, Se Total Recoverable Metals X												Comments Outfall 001 analyze for Fe and Mn 48 hours holding time for NO3 & NO2 48 hour holding time for turbidity	
Sample Description Outfall001_20230111_Comp Outfall 001	Sample I.D. Outfall001_20230111_Comp 10730	Sampling Date/Time 1/11/2023 10730	Sample Matrix WM	Container Type 500 mL Poly 1 L Glass Amber 1L Poly 500 mL Poly 500 mL Poly 500 mL Poly 500 mL Poly 1 L Glass Amber 1 L Glass Amber 1L Poly 1 L Glass Amber 500 mL Poly 500 mL Poly 1 L Glass Amber 1 L Glass Amber	# of Cont. 1 2 1 2 2 1 1 2 2 1 2 1 2 2 2 2	Preservative HNO3 None None None None None H2SO4 None None None None None None None	Bottle # 90 110 115 120 130 150 160 170 180 185 110 120 130 170 180	MSMSD No No No No No No No No No No No No No No	Total Recoverable Metals (E200.7): Mn, Fe X Total Recoverable Metals: Mercury (E245.1) X 2,4,6 TCP 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E609) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Chloride (E300) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Surfactants (MBAS) (SM5540C/E425.1) BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc)) TCDD (and all congeners) (E1613B) (E200.8), Cu, Pb, Cd, Se Total Recoverable Metals X	Comments Outfall 001 analyze for Fe and Mn 48 hours holding time for NO3 & NO2 48 hour holding time for turbidity							
											Relinquished By Michelle Dallahlah Date/Time: 1/11/2023 1400 Company: H & A	Received By [Signature] Date/Time: 1/11/23 1910 Company: EC	Legend C=Conditional, R=Routine Received By [Signature] Date/Time: 1/11/23 1910 Company: EC	Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal: _____ Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: _____ X			

2.3/2.3 1.7/1.7 2.1/2.1 SC11

CHAIN OF CUSTODY FORM

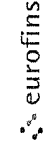
Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deivan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall 001 002 011, 018 Outfall 001 Comp		ANALYSIS REQUIRED		Comments					
TestAmerica's services under this CoC shall be performed in accordance with the TSCs within Blanket Service Agreement# 2019-22746America by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Dissolved Metals (E200.7) Mn, Fe Total Dissolved Metals, Mercury (E245.1) Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA CS-137 (E901.0 or E901.1) Radium 228 (E904.0), Uranium (E908.0), K-40 Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0), Cyanide (SM4500-CN-E / E335.2)		Filter and preserve with 24hrs of receipt at lab. Outfall 001 analyze for Fe and Mn. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA					
Sample Description Outfall001_20230111_Comp_F Outfall001_20230111_Comp Outfall 001	Sample I.D. 10730 10730	Sampling Date/Time 1/11/2023 1/11/2023 10730	Sample Matrix WM WM WM WM WM WM	Container Type 1L Poly borosilicate vials 500 mL Poly 2.5 Gal Cube 1 L Glass Amber 1 Gal Cube	# of Cont. 1 1 1 1 1 6	Preservative None None NaOH None None None	Bottle # 200 320 220 225 230 235	MS/MSD No No No No No No	Total Dissolved Metals (E200.7) Cu, Pb, Cd, Se X X X X X X	Total Dissolved Metals (E200.7) Zn X X X X X X	Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal _____
Relinquished By Michelle Daldalab Date/Time: 1/11/2023 1400		Company H&A		Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual Received By Date/Time: 1/11/23 1400 EC		Sample Integrity (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements (Check) No Level IV: _____ All Level IV: _____ X					
Relinquished By Date/Time: 1/15/23 1910 EC		Company EC		Received By Date/Time: 1/11/23 1916		No Level IV: _____ All Level IV: _____ X					

\* Hand-delivered to ABC labs with copy of CoC



**Eurofins Calscience**  
 2841 Dow Avenue Suite 100  
 Tustin CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Carrier Tracking No(s) 570-203937 1												
Client Contact: Shipping/Receiving		State of Origin California	Page Page 1 of 1												
Company TestAmerica Laboratories Inc.		E-Mail: Virendra.Patel@eurofins.com	Job #: 570-123650-3												
Address: 13715 Rider Trail North		Accreditations Required (See note): State Program - California													
City: Earth City	Due Date Requested 2/13/2023	<b>Analysis Requested</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">9011_Cs/137_0_K-40 and Csium-137</th> <th style="width: 15%;">904.0/PreSep_0 Radium-226</th> <th style="width: 15%;">906.0/PreSep_7 Strontium-90</th> <th style="width: 15%;">906.0/LSC_Dist_Susp Tritium</th> <th style="width: 15%;"></th> <th style="width: 15%;"></th> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>		9011_Cs/137_0_K-40 and Csium-137	904.0/PreSep_0 Radium-226	906.0/PreSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium			X	X	X	X	X	X
9011_Cs/137_0_K-40 and Csium-137	904.0/PreSep_0 Radium-226			906.0/PreSep_7 Strontium-90	906.0/LSC_Dist_Susp Tritium										
X	X			X	X	X	X								
State, Zip: MO, 63045	TAT Requested (days)														
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:														
Email:	WO #:														
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp	Project #: 44024446														
Site:	SSOW#:														
Sample Identification - Client ID (Lab ID) Outfall001_20230111_Comp (570-123650-1)				Field Filtered Sample (Yes or No) X	Perform MS/MSD (Yes or No) X										
Sample Date 1/11/23	Sample Time 07:30 Pacific			Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)										
		Preservation Code: Water	Total Number of Containers 2												
		Special Instructions/Note: Boeing SSFL, DO NOT FILTER, use prep date from preservation													

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2

Special Instructions/QC Requirements:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client     Disposal By Lab     Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by:	Date/Time:	Received by:	Date/Time:
<i>[Signature]</i>	1/12/23 13:11	Company:	Company:
Relinquished by:	Date/Time:	Received by:	Date/Time:
		Company:	Company:
Relinquished by:	Date/Time:	Received by:	Date/Time:
		Company:	Company:
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:	



### Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel Virendra	Lab P/I: Virendra	Carrier Tracking No(s): 570-203964 1	COC No. 570-203964 1
Client Contact: Shipping/Receiving		Phone: Virendra Patel@et.eurofins.com	E-Mail: Virendra Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-123650-2	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Triama Z - other (specify)
Address: 880 Riverside Parkway, West Sacramento CA, 95605		Due Date Requested: 1/27/2023	Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:
City: West Sacramento	State: CA	TAT Requested (days):	Total Number of Containers		
State: CA	Zip: 95605	PO #:	Perform MS/MSD (Yes or No)	Field Filled Sample (Yes or No)	Special Instructions/Note:
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	Email:	WO #:	1613B/1613B_Box_Sep_P Standard List w/ Totals	1613B/1613B_Box_Sep_P Standard List w/ Totals	See QAS Boeing w/u to zero ug/L, Use Boeing glassware.
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp	Project #: 44024446	Sample Date:	1613B/1613B_Box_Sep_P Standard List w/ Totals	1613B/1613B_Box_Sep_P Standard List w/ Totals	See QAS Boeing w/u to zero, ug/L, Use Boeing glassware.
Site:	SSOW#:	Sample Time:			
<b>Sample Identification - Client ID (Lab ID)</b>	<b>MATRIX</b> (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	<b>Sample Type (C=Comp, G=grab)</b>	<b>Preservation Code:</b>		
<del>Outfall001_20230111_Comp (570-123650-1)</del>	<del>Water</del>	<del>07 30 Pacific</del>	<del>1/1/23</del>	<del>X</del>	<del>X</del>
Outfall001_20230111_Comp_Extra (570-123650-2)	Water	07 30 Pacific	1/1/23	X	X

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**

Unconfirmed

Deliverable Requested I | II | III | IV Other (specify)

Primary Deliverable Rank: 2

Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)

Return To Client  Disposal By Lab  Archive For  Months

Special Instructions/QC Requirements

Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by:		Date/Time:	11/2/23 1419	Received by:	Company
Relinquished by:		Date/Time:		Received by:	Company
Relinquished by:		Date/Time:		Received by:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:			



## Virendra Patel

---

**From:** Miller, Katherine <KMiller@haleyaldrich.com>  
**Sent:** Monday, January 30, 2023 9:27 AM  
**To:** Virendra Patel  
**Subject:** 200.8 Metals SSFL NPDES

EXTERNAL EMAIL\*

Virendra,

Please revise any metals requested as 200.7 to 200.8 for the SSFL NPDES program starting from data collected January 1<sup>st</sup>, 2023.

**Katherine Miller**  
Project Manager

**Haley Aldrich, Inc.**  
600 South Meyer Ave. | Suite 100  
Tucson, AZ 85701

T: (520) 289.8606  
C: (520) 904.6944

[www.haleyaldrich.com](http://www.haleyaldrich.com)

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123650-1

**Login Number: 123650**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/6/2023 12:49:45 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-123650-2

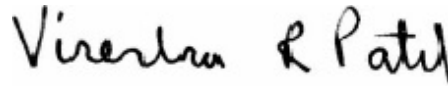
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/6/2023 12:49:45 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	26

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

---

**Job ID: 570-123650-2**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative  
570-123650-2**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/11/2023 7:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 2.1° C and 2.3° C.

**Dioxin**

Method 1613B: The continuing calibration verification (CCV) associated with batch 320-650893 recovered above the upper control limit for isotope dilution analyte (IDA) 13C-1,2,3,4,7,8,9-HpCDF. The samples associated with this CCV are in control for this IDA and are non-detect above the reporting limit (RL) for the native analyte 1,2,3,4,7,8,9-HpCDF; therefore, the data have been reported. The associated samples are impacted: Outfall001\_20230111\_Comp (570-123650-1) and (CCV 320-650893/18).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Dioxin Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

**Client Sample ID: Outfall001\_20230111\_Comp**

**Lab Sample ID: 570-123650-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000020	J,DX q MB	0.000052	0.0000002	ug/L	1		1613B	Total/NA
				0					
1,2,3,7,8,9-HxCDD	0.0000097	J,DX q MB	0.000052	0.0000002	ug/L	1		1613B	Total/NA
				0					
1,2,3,4,7,8-HxCDF	0.0000054	J,DX q MB	0.000052	0.0000001	ug/L	1		1613B	Total/NA
				2					
1,2,3,6,7,8-HxCDF	0.0000061	J,DX MB	0.000052	0.0000001	ug/L	1		1613B	Total/NA
				2					
1,2,3,7,8,9-HxCDF	0.0000071	J,DX MB	0.000052	0.0000001	ug/L	1		1613B	Total/NA
				2					
2,3,4,6,7,8-HxCDF	0.0000051	J,DX q MB	0.000052	0.0000011	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.000015	J,DX MB	0.000052	0.0000002	ug/L	1		1613B	Total/NA
				0					
1,2,3,4,6,7,8-HpCDF	0.000013	J,DX MB	0.000052	0.0000008	ug/L	1		1613B	Total/NA
				7					
OCDD	0.00024	MB	0.00010	0.0000006	ug/L	1		1613B	Total/NA
				7					
OCDF	0.000014	J,DX MB	0.00010	0.0000006	ug/L	1		1613B	Total/NA
				1					
Total HxCDD	0.0000065	J,DX q MB	0.000052	0.0000002	ug/L	1		1613B	Total/NA
				0					
Total HxCDF	0.0000062	J,DX q MB	0.000052	0.0000011	ug/L	1		1613B	Total/NA
Total HpCDD	0.000036	J,DX MB	0.000052	0.0000002	ug/L	1		1613B	Total/NA
				0					
Total HpCDF	0.000019	J,DX MB	0.000052	0.0000008	ug/L	1		1613B	Total/NA
				1					

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230111\_Comp**

**Lab Sample ID: 570-123650-1**

**Date Collected: 01/11/23 07:30**

**Matrix: Water**

**Date Received: 01/11/23 19:10**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000005	ug/L		01/19/23 11:44	02/01/23 06:25	1
2,3,7,8-TCDF	ND		0.000010	0.0000000	ug/L		01/19/23 11:44	02/01/23 06:25	1
1,2,3,7,8-PeCDD	ND		0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
1,2,3,7,8-PeCDF	ND		0.000052	0.00000011	ug/L		01/19/23 11:44	02/01/23 06:25	1
2,3,4,7,8-PeCDF	ND		0.000052	0.0000001	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.0000020</b>	<b>J,DX q MB</b>	0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
1,2,3,6,7,8-HxCDD	ND		0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.00000097</b>	<b>J,DX q MB</b>	0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.00000054</b>	<b>J,DX q MB</b>	0.000052	0.0000001	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.00000061</b>	<b>J,DX MB</b>	0.000052	0.0000001	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.00000071</b>	<b>J,DX MB</b>	0.000052	0.0000001	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.00000051</b>	<b>J,DX q MB</b>	0.000052	0.00000011	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.000015</b>	<b>J,DX MB</b>	0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.000013</b>	<b>J,DX MB</b>	0.000052	0.0000008	ug/L		01/19/23 11:44	02/01/23 06:25	1
1,2,3,4,7,8,9-HpCDF	ND		0.000052	0.0000008	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>OCDD</b>	<b>0.00024</b>	<b>MB</b>	0.00010	0.0000006	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>OCDF</b>	<b>0.000014</b>	<b>J,DX MB</b>	0.00010	0.0000006	ug/L		01/19/23 11:44	02/01/23 06:25	1
Total TCDD	ND		0.000010	0.0000005	ug/L		01/19/23 11:44	02/01/23 06:25	1
Total TCDF	ND		0.000010	0.0000000	ug/L		01/19/23 11:44	02/01/23 06:25	1
Total PeCDD	ND		0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
Total PeCDF	ND		0.000052	0.00000011	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>Total HxCDD</b>	<b>0.0000065</b>	<b>J,DX q MB</b>	0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>Total HxCDF</b>	<b>0.0000062</b>	<b>J,DX q MB</b>	0.000052	0.00000011	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>Total HpCDD</b>	<b>0.000036</b>	<b>J,DX MB</b>	0.000052	0.0000002	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>Total HpCDF</b>	<b>0.000019</b>	<b>J,DX MB</b>	0.000052	0.0000008	ug/L		01/19/23 11:44	02/01/23 06:25	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	72		25 - 164				01/19/23 11:44	02/01/23 06:25	1
13C-2,3,7,8-TCDF	67		24 - 169				01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,7,8-PeCDD	80		25 - 181				01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,7,8-PeCDF	81		24 - 185				01/19/23 11:44	02/01/23 06:25	1
13C-2,3,4,7,8-PeCDF	79		21 - 178				01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,4,7,8-HxCDD	95		32 - 141				01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,6,7,8-HxCDD	80		28 - 130				01/19/23 11:44	02/01/23 06:25	1

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Date Collected: 01/11/23 07:30**  
**Date Received: 01/11/23 19:10**

**Lab Sample ID: 570-123650-1**  
**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,4,7,8-HxCDF	105		26 - 152	01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,6,7,8-HxCDF	104		26 - 123	01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,7,8,9-HxCDF	103		29 - 147	01/19/23 11:44	02/01/23 06:25	1
13C-2,3,4,6,7,8-HxCDF	112		28 - 136	01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,4,6,7,8-HpCDD	111		23 - 140	01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,4,6,7,8-HpCDF	99		28 - 143	01/19/23 11:44	02/01/23 06:25	1
13C-1,2,3,4,7,8,9-HpCDF	121		26 - 138	01/19/23 11:44	02/01/23 06:25	1
13C-OCDD	95		17 - 157	01/19/23 11:44	02/01/23 06:25	1
13C-OCDF	118		17 - 157	01/19/23 11:44	02/01/23 06:25	1
<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
37Cl4-2,3,7,8-TCDD	88		35 - 197	01/19/23 11:44	02/01/23 06:25	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-123650-1	Outfall001_20230111_Comp	88
MB 320-648057/1-A	Method Blank	85

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-648057/2-A	Lab Control Sample	86
LCSD 320-648057/3-A	Lab Control Sample Dup	89

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-123650-1	Outfall001_20230111_Comp	72	67	80	81	79	95	80	105
MB 320-648057/1-A	Method Blank	63	60	77	72	76	90	76	97

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-123650-1	Outfall001_20230111_Comp	104	103	112	111	99	121	95	118
MB 320-648057/1-A	Method Blank	97	85	98	89	83	90	71	87

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-648057/2-A	Lab Control Sample	61	56	74	74	72	88	73	93
LCSD 320-648057/3-A	Lab Control Sample Dup	67	64	75	75	78	97	77	101

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-648057/2-A	Lab Control Sample	90	87	95	92	83	97	79	98
LCSD 320-648057/3-A	Lab Control Sample Dup	100	91	104	93	88	93	77	92

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-648057/1-A  
Matrix: Water  
Analysis Batch: 650623

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 648057

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000006	ug/L		01/19/23 11:44	01/31/23 12:28	1
2,3,7,8-TCDF	ND		0.000010	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000002	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,7,8-PeCDF	ND		0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,4,7,8-HxCDD	0.00000374	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,6,7,8-HxCDD	0.00000237	J,DX q	0.000050	0.0000002	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,7,8,9-HxCDD	0.00000379	J,DX	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,4,7,8-HxCDF	0.00000153	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,6,7,8-HxCDF	0.00000246	J,DX	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,7,8,9-HxCDF	0.00000228	J,DX q	0.000050	0.0000002	ug/L		01/19/23 11:44	01/31/23 12:28	1
2,3,4,6,7,8-HxCDF	0.00000181	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,4,6,7,8-HpCDD	0.00000536	J,DX	0.000050	0.00000011	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,4,6,7,8-HpCDF	0.00000371	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
1,2,3,4,7,8,9-HpCDF	0.00000407	J,DX	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
OCDD	0.0000548	J,DX	0.00010	0.0000003	ug/L		01/19/23 11:44	01/31/23 12:28	1
OCDF	0.0000116	J,DX	0.00010	0.0000002	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total TCDD	ND		0.000010	0.0000006	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total TCDF	ND		0.000010	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total PeCDD	ND		0.000050	0.0000002	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total PeCDF	ND		0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total HxCDD	0.00000991	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total HxCDF	0.00000809	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total HpCDD	0.00000810	J,DX	0.000050	0.00000011	ug/L		01/19/23 11:44	01/31/23 12:28	1
Total HpCDF	0.00000825	J,DX q	0.000050	0.0000001	ug/L		01/19/23 11:44	01/31/23 12:28	1
Isotope Dilution		MB MB		Limits			Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDD		63		25 - 164			01/19/23 11:44	01/31/23 12:28	1
13C-2,3,7,8-TCDF		60		24 - 169			01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,7,8-PeCDD		77		25 - 181			01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,7,8-PeCDF		72		24 - 185			01/19/23 11:44	01/31/23 12:28	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-648057/1-A**  
**Matrix: Water**  
**Analysis Batch: 650623**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 648057**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,4,7,8-PeCDF	76		21 - 178	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,4,7,8-HxCDD	90		32 - 141	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,6,7,8-HxCDD	76		28 - 130	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,4,7,8-HxCDF	97		26 - 152	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,6,7,8-HxCDF	97		26 - 123	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,7,8,9-HxCDF	85		29 - 147	01/19/23 11:44	01/31/23 12:28	1
13C-2,3,4,6,7,8-HxCDF	98		28 - 136	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,4,6,7,8-HpCDD	89		23 - 140	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,4,6,7,8-HpCDF	83		28 - 143	01/19/23 11:44	01/31/23 12:28	1
13C-1,2,3,4,7,8,9-HpCDF	90		26 - 138	01/19/23 11:44	01/31/23 12:28	1
13C-OCDD	71		17 - 157	01/19/23 11:44	01/31/23 12:28	1
13C-OCDF	87		17 - 157	01/19/23 11:44	01/31/23 12:28	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	85		35 - 197	01/19/23 11:44	01/31/23 12:28	1

**Lab Sample ID: LCS 320-648057/2-A**  
**Matrix: Water**  
**Analysis Batch: 650623**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 648057**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDF	0.000200	0.000235		ug/L		118	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000845		ug/L		84	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000833		ug/L		83	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000854		ug/L		85	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000830	MB	ug/L		83	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00102	MB	ug/L		102	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000878	MB	ug/L		88	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000871	MB	ug/L		87	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000890	MB	ug/L		89	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000902	MB	ug/L		90	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000895	MB	ug/L		89	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000850	MB	ug/L		85	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000988	MB	ug/L		99	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000829	MB	ug/L		83	78 - 138
OCDD	0.00200	0.00210	MB	ug/L		105	78 - 144
OCDF	0.00200	0.00182	MB	ug/L		91	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	61		20 - 175
13C-2,3,7,8-TCDF	56		22 - 152
13C-1,2,3,7,8-PeCDD	74		21 - 227
13C-1,2,3,7,8-PeCDF	74		21 - 192
13C-2,3,4,7,8-PeCDF	72		13 - 328
13C-1,2,3,4,7,8-HxCDD	88		21 - 193
13C-1,2,3,6,7,8-HxCDD	73		25 - 163
13C-1,2,3,4,7,8-HxCDF	93		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-648057/2-A**  
**Matrix: Water**  
**Analysis Batch: 650623**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 648057**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,6,7,8-HxCDF	90		21 - 159
13C-1,2,3,7,8,9-HxCDF	87		17 - 205
13C-2,3,4,6,7,8-HxCDF	95		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	92		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	83		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	97		20 - 186
13C-OCDD	79		13 - 199
13C-OCDF	98		13 - 199
Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	86		31 - 191

**Lab Sample ID: LCSD 320-648057/3-A**  
**Matrix: Water**  
**Analysis Batch: 650623**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 648057**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000193		ug/L		97	67 - 158	4	50	
2,3,7,8-TCDF	0.000200	0.000222		ug/L		111	75 - 158	6	50	
1,2,3,7,8-PeCDD	0.00100	0.000901		ug/L		90	70 - 142	6	50	
1,2,3,7,8-PeCDF	0.00100	0.000888		ug/L		89	80 - 134	6	50	
2,3,4,7,8-PeCDF	0.00100	0.000825		ug/L		83	68 - 160	3	50	
1,2,3,4,7,8-HxCDD	0.00100	0.000836	MB	ug/L		84	70 - 164	1	50	
1,2,3,6,7,8-HxCDD	0.00100	0.00109	MB	ug/L		109	76 - 134	7	50	
1,2,3,7,8,9-HxCDD	0.00100	0.000911	MB	ug/L		91	64 - 162	4	50	
1,2,3,4,7,8-HxCDF	0.00100	0.000869	MB	ug/L		87	72 - 134	0	50	
1,2,3,6,7,8-HxCDF	0.00100	0.000901	MB	ug/L		90	84 - 130	1	50	
1,2,3,7,8,9-HxCDF	0.00100	0.000910	MB	ug/L		91	78 - 130	1	50	
2,3,4,6,7,8-HxCDF	0.00100	0.000905	MB	ug/L		91	70 - 156	1	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.000885	MB	ug/L		89	70 - 140	4	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.00102	MB	ug/L		102	82 - 122	4	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.000870	MB	ug/L		87	78 - 138	5	50	
OCDD	0.00200	0.00211	MB	ug/L		105	78 - 144	0	50	
OCDF	0.00200	0.00190	MB	ug/L		95	63 - 170	5	50	

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	64		22 - 152
13C-1,2,3,7,8-PeCDD	75		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	78		13 - 328
13C-1,2,3,4,7,8-HxCDD	97		21 - 193
13C-1,2,3,6,7,8-HxCDD	77		25 - 163
13C-1,2,3,4,7,8-HxCDF	101		19 - 202
13C-1,2,3,6,7,8-HxCDF	100		21 - 159
13C-1,2,3,7,8,9-HxCDF	91		17 - 205
13C-2,3,4,6,7,8-HxCDF	104		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	93		26 - 166

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-648057/3-A

Matrix: Water

Analysis Batch: 650623

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 648057

<u>Isotope Dilution</u>	<u>LCSD LCSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
13C-1,2,3,4,6,7,8-HpCDF	88		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	93		20 - 186
13C-OCDD	77		13 - 199
13C-OCDF	92		13 - 199

<u>Surrogate</u>	<u>LCSD LCSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
37Cl4-2,3,7,8-TCDD	89		31 - 191



# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Specialty Organics

### Prep Batch: 648057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	1613B	
MB 320-648057/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-648057/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-648057/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 650623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-648057/1-A	Method Blank	Total/NA	Water	1613B	648057
LCS 320-648057/2-A	Lab Control Sample	Total/NA	Water	1613B	648057
LCSD 320-648057/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	648057

### Analysis Batch: 650893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	1613B	648057

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

**Client Sample ID: Outfall001\_20230111\_Comp**

**Lab Sample ID: 570-123650-1**

**Date Collected: 01/11/23 07:30**

**Matrix: Water**

**Date Received: 01/11/23 19:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			966.2 mL	20.0 uL	648057	01/19/23 11:44	CGB	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	650893	02/01/23 06:25	KSS	EET SAC

Instrument ID: DFS 1

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-23 *
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
Utah	NELAP	CA000442021-12	02-28-23
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123650-1	Outfall001_20230111_Comp	Water	01/11/23 07:30	01/11/23 19:10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

CHAIN OF CUSTODY FORM



570-123650 Chain of Custody

Eurofins Calscience Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel 949-260-3218		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001 002, 011 018] Outfall 001 Comp		ANALYSIS REQUIRED Total Recoverable Metals (E200.7): Mn, Fe Total Recoverable Metals: Mercury (E245.1) 2,4,6 TSP 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E609) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Chloride (E300) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Surfactants (MBAS) (SM5540C/E425.1) BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc)) TCDD (and all congeners) (E1613B) (E200.8), Cu, Pb, Cd, Se Total Recoverable Metals												Comments Outfall 001 analyze for Fe and Mn						
Project Manager: Katherine Miller 520.289.8606, 520.904.6844 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Project Manager: Katherine Miller 520.289.8606, 520.904.6844 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Chloride (E300) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Surfactants (MBAS) (SM5540C/E425.1) BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc)) TCDD (and all congeners) (E1613B) (E200.8), Cu, Pb, Cd, Se Total Recoverable Metals												Comments Outfall 001 analyze for Fe and Mn						
Sample Description	Sample I.D.	Sample Matrix	Sampling Date/Time	Container Type	# of Cont.	Preservative	Bottle #	MSMSD	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E425.1)	Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N	Chloride (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E609)	2,4,6 TSP 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals (E200.7): Mn, Fe	Total Recoverable Metals: Mercury (E245.1)	Comments	
Outfall001_20230111_Comp		WM	1/11/2023	500 mL Poly	1	HNO3	90	No	X											X		
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Glass Amber	2	None	110	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Poly	1	None	115	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	500 mL Poly	2	None	120	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	500 mL Poly	2	None	130	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	500 mL Poly	1	None	150	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	500 mL Poly	1	H2SO4	160	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Glass Amber	2	None	170	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Glass Amber	2	None	180	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Poly	1	None	185	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Glass Amber	2	None	110	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	500 mL Poly	2	None	120	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	500 mL Poly	2	None	130	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Glass Amber	2	None	170	No														
Outfall001_20230111_Comp_Extra		WM	1/11/2023	1 L Glass Amber	2	None	180	No														



CHAIN OF CUSTODY FORM

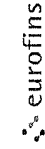
Eurofins Calscience Irvine

Client Name/Address:		Project:		ANALYSIS REQUIRED		Comments					
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deivan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		Boeing-SSFL NPDES Permit 2023 Routine Outfall 001 002 011, 018 Outfall 001 Comp		Total Dissolved Metals (E200.7) Mn, Fe Total Dissolved Metals, Mercury (E245.1) Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA CS-137 (E901.0 or E901.1) Radium 228 (E904.0), Uranium (E908.0), K-40 Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0) Cyanide (SM4500-CN-E / E335.2)			Filter and preserve with 24hrs of receipt at lab. Outfall 001 analyze for Fe and Mn. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA				
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Dissolved Metals (E200.7) Zn, Pb, Cd, Se Total Dissolved Metals, Mercury (E245.1) Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA CS-137 (E901.0 or E901.1) Radium 228 (E904.0), Uranium (E908.0), K-40 Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0) Cyanide (SM4500-CN-E / E335.2)		Filter and preserve with 24hrs of receipt at lab. Outfall 001 analyze for Fe and Mn. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	ANALYSIS REQUIRED		Comments
Outfall001_20230111_Comp_F		1/11/2023	WM	1L Poly	1	None	200	No	X	Total Dissolved Metals (E200.7) Mn, Fe	
Outfall001_20230111_Comp		1/11/2023	WM	borosilicate vials	1	None	320	No	X	Total Dissolved Metals, Mercury (E245.1)	
		10/30	WM	500 mL Poly	1	NaOH	220	No			
		1/11/2023	WM	2.5 Gal Cube	1	None	225	No	X	Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA	
		10/30	WM	1 L Glass Amber	1	None	230	No			
			WM	1 Gal Cube	6	None	235	No			

\* Hand-delivered to ABC labs with copy of CUC



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler Patel, Virendra	Lab PM Patel, Virendra	Carrier Tracking No(s) 570-203937 1	COC No. 570-203937 1
Client Contact: Shipping/Receiving		Phone: Virendra.Patel@eurofins.com	E-Mail: Virendra.Patel@eurofins.com	State of Origin California	Page Page 1 of 1
Company TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-123650-3	Preservation Codes A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other
Address: 13715 Rider Trail North		Due Date Requested 2/13/2023	Analysis Requested		
City: Earth City		TAT Requested (days)	901 1 Cs/137Geo_0 K-40 and Csium-137	900 0/Evaporation Gross Alpha/Beta	903 0/PreSep_21 Radium-226
State, Zip: MO, 63045		PO #:	A01R U/Exchrom_Ao1in Total Uranium	904 0/PreSep_0 Radium-228	906 0/SC_Dist_Susp Tritium
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		WO #:	Field Filtered Sample (Yes or No)	905 5r90/PreSep_7 Strontium-90	Total Number of Containers
Email:		Project #: 44024446	Perform MS/MSD (Yes or No)	906 0/PreSep_21 Radium-226	2
Site: Boeing SSFL NPDES - Outfall 001 - Comp		SSOW#:	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)	906 0/PreSep_21 Radium-226	Boeing SSFL, DO NOT FILTER, use prep date from preservation
Sample Identification - Client ID (Lab ID) Outfall001_20230111_Comp (570-123650-1)		Sample Date 1/11/23	Sample Type (C=Comp, G=grab) Water	906 0/PreSep_21 Radium-226	Special Instructions/Note:
Sample Date Time 07 30 Pacific		Sample Time 07 30 Pacific	Preservation Code: Water	906 0/PreSep_21 Radium-226	
<p>Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>					
<p><b>Possible Hazard Identification</b>          Unconfirmed          Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2</p>					
Empty Kit Relinquished by:		Date	Method of Shipment:		
Relinquished by:		Date/Time: 1/12/23 13:11	Received by:		
Relinquished by:		Date/Time:	Received by:		
Relinquished by:		Date/Time:	Received by:		
Custody Seals Intact: Δ Yes Δ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks:	





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel Virendra	Lab P#I: Virendra	Carrier Tracking No(s): 570-203964 1	COC No. 570-203964 1
Client Contact: Shipping/Receiving		Phone: Virendra Patel@et.eurofins.com	E-Mail: Virendra Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-123650-2	Preservation Codes: M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2SO4, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Address: 880 Riverside Parkway, West Sacramento, CA, 95605		Due Date Requested: 1/27/2023		Analysis Requested	
City: West Sacramento		TAT Requested (days):		Total Number of Containers	
State, Zip: CA, 95605		PO #:		Perform MS/MSD (Yes or No)	
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		WO #:		Field Filled Sample (Yes or No)	
Email:		Project #: 44024446		1613B/1613B_Box_Sep_P Standard List w/ Totals	
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp		SSOW#:		1613B/1613B_Box_Sep_P Standard List w/ Totals (Hold)	
Site:		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:
Outfall001_20230111_Comp (570-123650-1)	1/11/23	07:30 Pacific	Water	X	See QAS Boeing_w/lu to zero ug/L, Use Boeing glassware.
Outfall001_20230111_Comp_Extra (570-123650-2)	1/11/23	07:30 Pacific	Water	X	See QAS Boeing_w/lu to zero, ug/L, Use Boeing glassware.
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.					
<b>Possible Hazard Identification</b>					
Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months					
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank: 2					
Empty Kit Relinquished by:		Date:		Method of Shipment:	
Relinquished by: [Signature]		Date: 1/12/23 1419		Received by: Company	
Relinquished by:		Date/Time:		Received by: Company	
Relinquished by:		Date/Time:		Received by: Company	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks:	





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123650-2

**Login Number: 123650**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123650-2

**Login Number: 123650**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 01/13/23 02:43 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0c 4.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/13/2023 2:27:04 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-123650-3

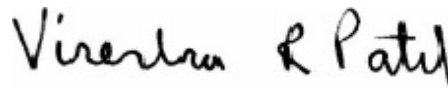
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/13/2023 2:27:04 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	22
Lab Chronicle . . . . .	23
Certification Summary . . . . .	24
Method Summary . . . . .	25
Sample Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	33

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Job ID: 570-123650-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-123650-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/11/2023 7:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 2.1° C and 2.3° C.

#### Receipt Exceptions

The reference method requires samples to be preserved to a pH of <2 SU. The following samples were received with insufficient preservation at a pH of >2 SU: Outfall001\_20230111\_Comp (570-123650-1), Outfall001\_20230111\_Comp\_Extra (570-123650-2) and Outfall001\_20230111\_Comp\_F (570-123650-3). 570-123650-R-1. The sample was preserved to the appropriate pH in the laboratory.

#### RAD

Method 900.0: Gross Alpha and Gross Beta batch 597777

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230111\_Comp (570-123650-1), (LCS 160-597777/2-A), (LCSB 160-597777/3-A), (MB 160-597777/1-A), (570-123670-K-1-F), (570-123670-K-1-I DU), (570-123670-K-1-G MS) and (570-123670-K-1-H MSBT)

Method 901.1: Gamma Prep Batch 160-597241

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Job ID: 570-123650-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Outfall001\_20230111\_Comp (570-123650-1), (570-123234-AI-1-D) and (570-123234-AI-1-E DU)

Method 903.0: Radium-226 batch 598605

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230111\_Comp (570-123650-1), (LCS 160-597154/2-A), (LCSD 160-597154/3-A) and (MB 160-597154/1-A)

Method 904.0: Radium-228 batch 597175

The LCS recovered at (126%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS passes, no further action is required

(LCSD 160-597175/3-A)

Method 904.0: Radium-228 batch 597175

The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: Outfall001\_20230111\_Comp (570-123650-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium-228 batch 597175

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date

Outfall001\_20230111\_Comp (570-123650-1), (LCS 160-597175/2-A), (LCSD 160-597175/3-A) and (MB 160-597175/1-A)

Method 905: Strontium-90 batch 597176

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230111\_Comp (570-123650-1), (LCS 160-597176/2-A), (LCSD 160-597176/3-A) and (MB 160-597176/1-A)

Method 906.0: Tritium 597488

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230111\_Comp (570-123650-1), (LCS 160-597488/2-A), (MB 160-597488/1-A), (570-123038-U-2-B), (570-123038-U-2-C DU), (570-123414-Q-1-B) and (570-123414-Q-1-C MS)

Method A-01-R: Isotopic Uranium batch 597259

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230111\_Comp (570-123650-1), (LCS 160-597259/2-A), (MB 160-597259/1-A), (570-123038-A-2-B) and (570-123038-A-2-C DU)

Method ExtChrom: Uranium Prep Batch 160-597259

The following sample was prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001\_20230111\_Comp (570-123650-1).

Method PrecSep\_0: Radium-228 Prep Batch 160-597175

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230111\_Comp (570-123650-1). A laboratory control

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

---

## Job ID: 570-123650-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-597154

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230111\_Comp (570-123650-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-597176

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230111\_Comp (570-123650-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

**Client Sample ID: Outfall001\_20230111\_Comp**

**Lab Sample ID: 570-123650-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230111\_Comp

Date Collected: 01/11/23 07:30

Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.558	U	1.04	1.04	3.00	1.81	pCi/L	01/23/23 11:47	01/30/23 19:06	1
Gross Beta	0.931	U	0.614	0.621	4.00	0.938	pCi/L	01/23/23 11:47	01/30/23 19:06	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Date Collected: 01/11/23 07:30**  
**Date Received: 01/11/23 19:10**

**Lab Sample ID: 570-123650-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-4.58	U	8.23	8.25	20.0	9.39	pCi/L	01/17/23 13:13	02/06/23 17:29	1
<b>Potassium-40</b>	<b>63.6</b>		51.8	52.3		49.2	pCi/L	01/17/23 13:13	02/06/23 17:29	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall001\_20230111\_Comp  
 Date Collected: 01/11/23 07:30  
 Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0701	U	0.118	0.119	1.00	0.207	pCi/L	01/17/23 10:52	02/08/23 09:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.4		40 - 110					01/17/23 10:52	02/08/23 09:39	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Date Collected: 01/11/23 07:30**  
**Date Received: 01/11/23 19:10**

**Lab Sample ID: 570-123650-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0418	U G	0.575	0.575	1.00	1.06	pCi/L	01/17/23 11:26	01/24/23 11:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.4		40 - 110					01/17/23 11:26	01/24/23 11:26	1
Y Carrier	85.2		40 - 110					01/17/23 11:26	01/24/23 11:26	1





# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Date Collected: 01/11/23 07:30**  
**Date Received: 01/11/23 19:10**

**Lab Sample ID: 570-123650-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.411	U	0.467	0.468	3.00	0.768	pCi/L	01/17/23 11:33	01/26/23 17:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	84.3		40 - 110					01/17/23 11:33	01/26/23 17:47	1
Y Carrier	70.7		40 - 110					01/17/23 11:33	01/26/23 17:47	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230111\_Comp  
Date Collected: 01/11/23 07:30  
Date Received: 01/11/23 19:10

Lab Sample ID: 570-123650-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-161	U	148	149	500	314	pCi/L	01/19/23 12:02	01/20/23 23:48	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230111\_Comp**  
**Date Collected: 01/11/23 07:30**  
**Date Received: 01/11/23 19:10**

**Lab Sample ID: 570-123650-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.322	U	0.315	0.316	1.00	0.385	pCi/L	01/17/23 16:09	01/25/23 14:42	1
Tracer	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Uranium-232	69.7		30 - 110					01/17/23 16:09	01/25/23 14:42	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
570-123650-1	Outfall001_20230111_Comp	89.4	
LCS 160-597154/2-A	Lab Control Sample	87.7	
LCSD 160-597154/3-A	Lab Control Sample Dup	91.3	
MB 160-597154/1-A	Method Blank	94.7	

**Tracer/Carrier Legend**  
Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
570-123650-1	Outfall001_20230111_Comp	89.4	85.2
LCS 160-597175/2-A	Lab Control Sample	87.7	82.6
LCSD 160-597175/3-A	Lab Control Sample Dup	91.3	81.9
MB 160-597175/1-A	Method Blank	94.7	84.5

**Tracer/Carrier Legend**  
Ba = Ba Carrier  
Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (40-110)	Y (40-110)
570-123650-1	Outfall001_20230111_Comp	84.3	70.7
LCS 160-597176/2-A	Lab Control Sample	82.2	72.1
LCSD 160-597176/3-A	Lab Control Sample Dup	82.8	70.3
MB 160-597176/1-A	Method Blank	79.4	74.0

**Tracer/Carrier Legend**  
Sr = Sr Carrier  
Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	U-232 (30-110)	
570-123038-A-2-C DU	Duplicate	86.2	
570-123650-1	Outfall001_20230111_Comp	69.7	
LCS 160-597259/2-A	Lab Control Sample	87.1	
MB 160-597259/1-A	Method Blank	85.3	

**Tracer/Carrier Legend**  
U-232 = Uranium-232

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-597777/1-A**  
**Matrix: Water**  
**Analysis Batch: 598614**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597777**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Gross Alpha	0.08001	U	0.636	0.636	3.00	1.19	pCi/L	01/23/23 11:47	01/30/23 19:04	1
Gross Beta	-0.2904	U	0.420	0.421	4.00	0.816	pCi/L	01/23/23 11:47	01/30/23 19:04	1

**Lab Sample ID: LCS 160-597777/2-A**  
**Matrix: Water**  
**Analysis Batch: 598614**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597777**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

**Lab Sample ID: LCSB 160-597777/3-A**  
**Matrix: Water**  
**Analysis Batch: 598614**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597777**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

**Lab Sample ID: 570-123670-K-1-G MS**  
**Matrix: Water**  
**Analysis Batch: 598850**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 597777**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

**Lab Sample ID: 570-123670-K-1-H MSBT**  
**Matrix: Water**  
**Analysis Batch: 598850**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 597777**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits

**Lab Sample ID: 570-123670-K-1-I DU**  
**Matrix: Water**  
**Analysis Batch: 598850**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597777**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Beta	2.89		2.634		0.775	4.00	0.892	pCi/L	0.16	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-597241/1-A**  
**Matrix: Water**  
**Analysis Batch: 599334**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597241**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Cesium-137	-2.826	U	8.51	8.52	20.0	10.3	pCi/L	01/17/23 13:03	02/03/23 22:10	1
Potassium-40	-36.61	U	86.6	86.7		115	pCi/L	01/17/23 13:03	02/03/23 22:10	1

**Lab Sample ID: LCS 160-597241/2-A**  
**Matrix: Water**  
**Analysis Batch: 599336**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597241**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Americium-241	135000	138000		16400		297	pCi/L	102	75 - 125
Cesium-137	41000	42160		5020	20.0	79.9	pCi/L	103	75 - 125
Cobalt-60	18200	18990		2260		44.3	pCi/L	105	75 - 125

**Lab Sample ID: 570-123234-AI-1-E DU**  
**Matrix: Water**  
**Analysis Batch: 599354**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597241**

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					Limit
Cesium-137	-5.12	U	-0.5107	U	7.06	20.0	8.40	pCi/L		0.29
Potassium-40	-33.9	U	67.97		68.0		67.4	pCi/L		0.58

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-597154/1-A**  
**Matrix: Water**  
**Analysis Batch: 599671**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597154**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.006957	U	0.0458	0.0458	1.00	0.0910	pCi/L	01/17/23 10:52	02/08/23 09:29	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Ba Carrier	94.7		40 - 110				01/17/23 10:52	02/08/23 09:29	1	

**Lab Sample ID: LCS 160-597154/2-A**  
**Matrix: Water**  
**Analysis Batch: 599671**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597154**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Radium-226	11.3	11.79		1.20	1.00	0.0822	pCi/L	104	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	87.7		40 - 110						

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: 903.0 - Radium-226 (GFPC) (Continued)

**Lab Sample ID: LCSD 160-597154/3-A**  
**Matrix: Water**  
**Analysis Batch: 599671**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 597154**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-226	11.3	11.35		1.16	1.00	0.0760	pCi/L	100	75 - 125	0.19		1
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
<i>Ba Carrier</i>		<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>								
		91.3		40 - 110								

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-597175/1-A**  
**Matrix: Water**  
**Analysis Batch: 598066**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597175**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								Prepared	Analyzed	Prepared	Analyzed	
Radium-228	0.05046	U	0.253	0.253	1.00	0.464	pCi/L	01/17/23 11:26	01/24/23 11:26	01/24/23 11:23		1
<b>Carrier</b>		<b>MB</b>										
<i>Ba Carrier</i>		<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>		
		94.7		40 - 110				01/17/23 11:26	01/24/23 11:23	1		
<i>Y Carrier</i>		84.5		40 - 110				01/17/23 11:26	01/24/23 11:23	1		

**Lab Sample ID: LCS 160-597175/2-A**  
**Matrix: Water**  
**Analysis Batch: 598066**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597175**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-228	8.25	9.815		1.34	1.00	0.590	pCi/L	119	75 - 125			
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
<i>Ba Carrier</i>		<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>								
		87.7		40 - 110								
<i>Y Carrier</i>		82.6		40 - 110								

**Lab Sample ID: LCSD 160-597175/3-A**  
**Matrix: Water**  
**Analysis Batch: 598066**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 597175**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-228	8.25	10.40		1.37	1.00	0.516	pCi/L	126	75 - 125	0.21		1
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
<i>Ba Carrier</i>		<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>								
		91.3		40 - 110								
<i>Y Carrier</i>		81.9		40 - 110								

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-597176/1-A**  
**Matrix: Water**  
**Analysis Batch: 598283**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597176**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Strontium-90	-0.03721	U	0.223	0.223	3.00	0.408	pCi/L	01/17/23 11:33	01/26/23 17:45	1
Carrier	MB %Yield	MB Qualifier	Limits				Prepared		Analyzed	Dil Fac
Sr Carrier	79.4		40 - 110				01/17/23 11:33		01/26/23 17:45	1
Y Carrier	74.0		40 - 110				01/17/23 11:33		01/26/23 17:45	1

**Lab Sample ID: LCS 160-597176/2-A**  
**Matrix: Water**  
**Analysis Batch: 598283**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597176**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec	Limits
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)						
Strontium-90			7.38	7.564		0.882	3.00	0.355	pCi/L	103	75 - 125	
Carrier	LCS %Yield	LCS Qualifier	Limits									
Sr Carrier	82.2		40 - 110									
Y Carrier	72.1		40 - 110									

**Lab Sample ID: LCSD 160-597176/3-A**  
**Matrix: Water**  
**Analysis Batch: 598283**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 597176**

Analyte	LCSD LCSD		Spike	LCSD	LCSD	Total	RL	MDC	Unit	%Rec	%Rec	Limits	RER	Limit
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)								
Strontium-90			7.38	7.695		0.910	3.00	0.459	pCi/L	104	75 - 125	0.07	1	
Carrier	LCSD %Yield	LCSD Qualifier	Limits											
Sr Carrier	82.8		40 - 110											
Y Carrier	70.3		40 - 110											

## Method: 906.0 - Tritium, Total (LSC)

**Lab Sample ID: MB 160-597488/1-A**  
**Matrix: Water**  
**Analysis Batch: 597784**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597488**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	-84.68	U	164	165	500	326	pCi/L	01/19/23 12:02	01/20/23 20:22	1

**Lab Sample ID: LCS 160-597488/2-A**  
**Matrix: Water**  
**Analysis Batch: 597784**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597488**

Analyte	LCS LCS		Spike	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec	Limits
	%Yield	Qualifier	Added	Result	Qual	Uncert. (2σ+/-)						
Tritium			2120	1848		381	500	324	pCi/L	87	75 - 125	

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-123414-Q-1-C MS  
 Matrix: Water  
 Analysis Batch: 597784

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 597488

Analyte	Sample	Sample	Spike Added	MS	MS	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual		Result	Qual						
Tritium	-26.1	U	2120	1947		376	500	297	pCi/L	92	60 - 140

Lab Sample ID: 570-123038-U-2-C DU  
 Matrix: Water  
 Analysis Batch: 597784

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 597488

Analyte	Sample	Sample	DU	DU	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual		Result						
Tritium	-83.3	U	-97.75	U	162	500	324	pCi/L	0.05	1

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-597259/1-A  
 Matrix: Water  
 Analysis Batch: 598217

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 597259

Analyte	MB	MB	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Total Uranium	0.05873	U	0.09433	0.09455	1.00	0.172	pCi/L	01/17/23 16:09	01/25/23 14:42	1
Tracer	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
Uranium-232	%Yield	Qualifier		30 - 110						01/17/23 16:09

Lab Sample ID: LCS 160-597259/2-A  
 Matrix: Water  
 Analysis Batch: 598218

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 597259

Analyte	Spike Added	LCS	LCS	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual						
Uranium-234	12.7	12.19		1.46	1.00	0.151	pCi/L	96	75 - 125
Uranium-238	13.0	13.33		1.56	1.00	0.135	pCi/L	102	75 - 125
Tracer	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
Uranium-232	%Yield	Qualifier		30 - 110					

Lab Sample ID: 570-123038-A-2-C DU  
 Matrix: Water  
 Analysis Batch: 598230

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 597259

Analyte	Sample	Sample	DU	DU	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual		Result						
Total Uranium	0.128		0.07847	U	0.1118	1.00	0.163	pCi/L	0.22	1
Tracer	DU	DU	Limits			Prepared	Analyzed	Dil Fac		
Uranium-232	%Yield	Qualifier		30 - 110						

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Rad

### Prep Batch: 597154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	PrecSep-21	
MB 160-597154/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-597154/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-597154/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 597175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	PrecSep_0	
MB 160-597175/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-597175/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-597175/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 597176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	PrecSep-7	
MB 160-597176/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-597176/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-597176/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

### Prep Batch: 597241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-597241/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-597241/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-123234-AI-1-E DU	Duplicate	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 597259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	ExtChrom	
MB 160-597259/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-597259/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-123038-A-2-C DU	Duplicate	Total/NA	Water	ExtChrom	

### Prep Batch: 597488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-597488/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-597488/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-123414-Q-1-C MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	
570-123038-U-2-C DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

### Prep Batch: 597777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-123650-1	Outfall001_20230111_Comp	Total/NA	Water	Evaporation	
MB 160-597777/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-597777/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSE 160-597777/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-123670-K-1-G MS	Matrix Spike	Total/NA	Water	Evaporation	
570-123670-K-1-H MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-123670-K-1-I DU	Duplicate	Total/NA	Water	Evaporation	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

**Client Sample ID: Outfall001\_20230111\_Comp**

**Lab Sample ID: 570-123650-1**

**Date Collected: 01/11/23 07:30**

**Matrix: Water**

**Date Received: 01/11/23 19:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.00 mL	1.0 g	597777	01/23/23 11:47	MST	EET SL
Total/NA	Analysis	900.0		1			598612	01/30/23 19:06	SCB	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	597241	01/17/23 13:13	JML	EET SL
Total/NA	Analysis	901.1		1			599353	02/06/23 17:29	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			508.90 mL	1.0 g	597154	01/17/23 10:52	DJP	EET SL
Total/NA	Analysis	903.0		1			599672	02/08/23 09:39	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			508.90 mL	1.0 g	597175	01/17/23 11:26	DJP	EET SL
Total/NA	Analysis	904.0		1			598066	01/24/23 11:26	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep-7			508.17 mL	1.0 g	597176	01/17/23 11:33	DJP	EET SL
Total/NA	Analysis	905		1			598283	01/26/23 17:47	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	LSC_Dist_Susp			100.00 mL	1.0 g	597488	01/19/23 12:02	ZR	EET SL
Total/NA	Analysis	906.0		1			597784	01/20/23 23:48	REV	EET SL
Instrument ID: LSCAQUA										
Total/NA	Prep	ExtChrom			251.38 mL	1.0 mL	597259	01/17/23 16:09	SAC	EET SL
Total/NA	Analysis	A-01-R		1			598244	01/25/23 14:42	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	02-09-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123650-1	Outfall001_20230111_Comp	Water	01/11/23 07:30	01/11/23 19:10

1

2

3

4

5

6

7

8

9

10

11

12

13

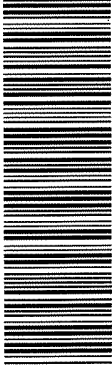
14

15

12-3650

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM



570-123650 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001_002_011_018] Outfall 001 Comp				ANALYSIS REQUIRED											Comments					
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel 949-260-3218		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)				TDS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E609)	2,4,6 TQP 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals (E200.7): Mn, Fe	Total Recoverable Metals (E245.1)	Total Recoverable Metals (E200.7): Mn, Fe	Outfall 001 analyze for Fe and Mn									
Sample Description	Sample I.D.	Sample Matrix	Sampling Date/Time	Preservative	Bottle #	MSMSD	Total Recoverable Metals (E200.7): Cu, Pb, Cd, Se (E200.8), TCDD (and all congeners) (E1613B) BOD5 (20 degrees C) (E405.1(SM5210B, BODCAL)) Surfactants (MBAS) (SM5540C/E425.1) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300) Turbidity TDS (SM2540C/E180.1)															
Outfall 001	Outfall001_20230111_Comp	WM	1/11/2023	None	90	No	Total Recoverable Metals (E200.7): Zn TCDD (and all congeners) (E1613B) BOD5 (20 degrees C) (E405.1(SM5210B, BODCAL)) Surfactants (MBAS) (SM5540C/E425.1)											48 hours holding time for turbidity				
							1	HNO3	No	X											48 hours holding time for turbidity	
							2	None	No												48 hours holding time for turbidity	
							1	None	No												48 hours holding time for turbidity	
							2	None	No												48 hours holding time for turbidity	
							2	None	No												48 hours holding time for turbidity	
							1	None	No												48 hours holding time for turbidity	
							1	H2SO4	No												48 hours holding time for turbidity	
							2	None	No												48 hours holding time for turbidity	
							2	None	No												48 hours holding time for turbidity	
							1	None	No												48 hours holding time for turbidity	
2	None	No												48 hours holding time for turbidity								
1	None	No												48 hours holding time for turbidity								
2	None	No												48 hours holding time for turbidity								
1	None	No												48 hours holding time for turbidity								
2	None	No												48 hours holding time for turbidity								
1	None	No												48 hours holding time for turbidity								
2	None	No												48 hours holding time for turbidity								

Relinquished By: Michelle Dollalah  
 Date/Time: 1/11/2023 1400  
 Company: H & A

Relinquished By: [Signature]  
 Date/Time: 1/11/23 1910  
 Company: EC

Relinquished By: [Signature]  
 Date/Time: 1/11/23 1910  
 Company: EC

Legend C=Conditional, R=Routine  
 Received By: [Signature] Date/Time: 1/11/23 1400  
 Received By: [Signature] Date/Time: 1/11/23 1910  
 Received By: [Signature] Date/Time: 1/11/23 1910

Turn-around time: (Check) 24 Hour \_\_\_ 72 Hour \_\_\_ 10 Day \_\_\_ X  
 48 Hour \_\_\_ 5 Day \_\_\_ Normal: \_\_\_

Sample Integrity: (Check) On Ice: \_\_\_  
 Intact: \_\_\_  
 Store samples for 6 months.  
 Data Requirements: (Check) No. Level IV: \_\_\_ All Level IV: \_\_\_ X

2.3/2-3 1.7/1.7 2.1/2.1 SC11



CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deivan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall 001 002 011, 018 Outfall 001 Comp		ANALYSIS REQUIRED		Comments													
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Dissolved Metals (E200.7) Mn, Fe Total Dissolved Metals, Mercury (E245.1) Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA CS-137 (E901.0 or E901.1) Radium 228 (E904.0), Uranium (E908.0), K-40 Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0) Cyanide (SM4500-CN-E / E335.2)		Filter and preserve with 24hrs of receipt at lab. Outfall 001 analyze for Fe and Mn. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD. Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	(E200.7) Zn, Pb, Cd, Se	(E200.7) Mn, Fe	Total Dissolved Metals, Mercury (E245.1)	Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA	CS-137 (E901.0 or E901.1)	Radium 228 (E904.0), Uranium (E908.0), K-40	Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0)	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha (E900.0), Gross Beta (E900.0)	Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.	
Outfall 001	Outfall001_20230111_Comp_F	1/11/2023	WM	1L Poly	1	None	200	No	X	X	X	X	X	X	X	X	X	X	X
		10730	WM	borosilicate vials	1	None	320	No											
		1/11/2023	WM	500 mL Poly	1	NaOH	220	No											
	Outfall001_20230111_Comp	1/11/2023	WM	2.5 Gal Cube	1	None	225	No											
		10730	WM	1 L Glass Amber	1	None	230	No											
		10730	WM	1 Gal Cube	6	None	235	No											

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By: Michelle Daldalab 1/11/2023 1400  
 Date/Time: 1/11/23 1400 EC  
 Company: HAA

Relinquished By: [Signature] 1/11/23 1910 EC  
 Date/Time: 1/11/23 1910 EC  
 Company: EC

Relinquished By: [Signature] 1/11/23 1916  
 Date/Time: 1/11/23 1916  
 Company: EC

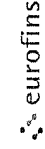
Turn-around time: (Check)  
 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal \_\_\_\_\_

Sample Integrity: (Check)  
 Intact: \_\_\_\_\_ On Ice: \_\_\_\_\_  
 Store samples for 6 months.  
 Data Requirements: (Check)  
 No Level IV \_\_\_\_\_ All Level IV: \_\_\_\_\_ X

\* Hand-delivered to ABC labs with copy of CUC



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: Patel, Virendra		Lab PM: Patel, Virendra		Carrier Tracking No(s): 570-203937 1		COC No.: 570-203937 1	
Client Contact: Shipping/Receiving		Phone: Virendra.Patel@eurofins.com		E-Mail: Virendra.Patel@eurofins.com		State of Origin: California		Page: Page 1 of 1	
Company: TestAmerica Laboratories Inc.		Due Date Requested: 2/13/2023		TAT Requested (days):		Accreditations Required (See note): State Program - California		Job #: 570-123650-3	
Address: 13715 Rider Trail North		City: Earth City		State: MO, 63045		Phone: 314-298-8566(Tel) 314-298-8757(Fax)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp		Project #: 44024446		SSOW#:		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)		Special Instructions/Note: Boeing SSFL, DO NOT FILTER, use prep date from preservation	
Site:		Sample Date: 1/11/23		Sample Time: 07 30 Pacific		Sample Type (C=Comp, G=grab)		Total Number of Containers: 2	
Sample Identification - Client ID (Lab ID): Outfall001_20230111_Comp (570-123650-1)		Sample Date: 1/11/23		Sample Time: 07 30 Pacific		Sample Type (C=Comp, G=grab)		Boeing SSFL, DO NOT FILTER, use prep date from preservation	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		9011_Cs/113_Geo_0_K-40 and Csium-137		A01R_U/Exchrom_Actin Total Uranium		900.0/Evaporation Gross Alpha/Beta	
903.0/PreSep_21 Radium-226		904.0/PreSep_0 Radium-228		906.0/PreSep_7 Strontium-90		906.0/LSC_Dist_Susp Tritium			
Analysis Requested									
<p>Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>									
<p><b>Possible Hazard Identification</b>                  Unconfirmed                  Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2</p>									
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:		Special Instructions/QC Requirements:	
Relinquished by:		Date/Time: 1/12/23 13:11		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks:					



**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin CA 92780  
 Phone 714-895-5494

# Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler	Lab P#	Carrier Tracking No(s)	COC No.
Client Contact: Shipping/Receiving		Patel Virendra		570-203964 1	570-203964 1
Company: Eurofins Environment Testing Northern Ca		E-Mail: Virendra.Patel@et.eurofins.com		State of Origin: California	Page: Page 1 of 1
Address: 880 Riverside Parkway		Accreditations Required (See note): State Program - California		Job #: 570-123650-2	
City: West Sacramento	State: CA, 95605	Due Date Requested: 1/27/2023		Preservation Codes	
Phone: 916-373-5600 (Tel) 916-372-1059 (Fax)	Email:	TAT Requested (days)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project #: 44024446	SSOW#:	PO #:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Triama Z - other (specify)	
Boeing Name: Boeing SSFL NPDES - Outfall 001 - Comp	Site:	WO #:		<b>Analysis Requested</b> Total Number of containers:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code
Outfall001_20230111_Comp (570-123650-1)	1/11/23	07:30 Pacific	Water	X	Water
Outfall001_20230111_Comp_Extra (570-123650-2)	1/11/23	07:30 Pacific	Water	X	Water
Special Instructions/Note:		Field Filled Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Box_Sep_P Standard List w/ Totals	1613B/1613B_Box_Sep_P Standard List w/ Totals
See OAS Boeing w/u to zero ug/L, Use Boeing glassware.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
See OAS Boeing w/u to zero, ug/L, Use Boeing glassware.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For Months

Special Instructions/QC Requirements: Method of Shipment: Date/Time: Received by: Company

Received by: Company  
 Date/Time: 1/12/23 1419  
 Received by: Company  
 Date/Time:  
 Received by: Company  
 Date/Time:

Custody Seals Intact: Custody Seal No  
 Yes  No  
 Cooler Temperature(s) °C and Other Remarks:



**Chain of Custody Record**

<p><b>Client Information (Sub Contract Lab)</b></p> <p>Client Contact: Patel, Virendra        Shipping/Receiving: Virendra.Patel@et.eurofins.com        Company: TestAmerica Laboratories, Inc.        Address: 13715 Rider Trail North,        City: Earth City        State, Zip: MO, 63045        Phone: 314-298-8566(Tel) 314-298-8757(Fax)        Email:        Project #: 44024446        Boeing SSFL NPDES - Outfall 001 - Comp        Site:</p>			<p>Sampler: Patel, Virendra        Phone: Virendra.Patel@et.eurofins.com        State of Origin: California        Camer Tracking No(s): 570-203937-1</p>		<p>COC No: 570-203937-1        Page: 1 of 1        Job #: 570-123650-3</p>						
<p>Due Date Requested: 2/13/2023        TAT Requested (days):        PO #:        WO #:        Project #: 44024446        SOW#:</p>											
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=original, 81=115-04, A=all)	Preservation Code	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of containers	Special Instructions/Note:
						Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)		
Outfall001_20230111_Comp (570-123650-1)	1/11/23	07:30 Pacific		Water		X	X	X	X	2	Boeing SSFL; DO NOT FILTER; use prep date from preservation

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience

**Possible Hazard Identification**

Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)  
 Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client    Disposal By Lab    Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: 1/12/23 13:11 Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_

Δ Yes Δ No   Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_



**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record



Environment Testing

**Client Information (Sub Contract Lab)**  
 Client Contact: Patel, Virendra  
 Shipping/Receiving: Virendra Patel@eurofins.com  
 Company: TestAmerica Laboratories, Inc.  
 Address: 13715 Rider Trail North, Earth City, MO, 63045  
 Phone: 314-298-8566 (Tel) 314-298-8757 (Fax)  
 Email:  
 Project Name: Boeing SSFL NPDES - Outfall 001 - Comp  
 Site:  
 Lab PM: Patel, Virendra  
 E-Mail: Virendra.Patel@eurofins.com  
 State of Origin: California  
 Carrier Tracking No(s):  
 COC No: 570-203937.1  
 Page: Page 1 of 1  
 Job #: 570-123650-3

**Analysis Requested**

Analysis Requested	Perform MS/MSD (Yes or No)	Field Filtered Sample (Yes or No)	901.1 Ca/Fill_Geo_0 K-40 and Cesium-137	A01R_UExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	906.5/90/PrecSep_7 Strontium-90	906.0/ISC_Dist_Susp Tritium	Total Number of Containers
			X	X	X	X	X	X	X	2

Preservation Codes:  
 A - HCL  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NaHSO4  
 F - MeOH  
 G - Amchlor  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 Other:  
 M - Hexane  
 N - None  
 O - AsNaO2  
 P - Na2O4S  
 Q - Na2SO3  
 R - Na2SO4  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - pH 4-5  
 Y - Trizma  
 Z - other (specify)

**Sample Identification - Client ID (Lab ID)**  
 Outfall001\_20230111\_Comp (570-123650-1)  
 Sample Date: 1/11/23  
 Sample Time: 07:30 Pacific  
 Sample Type (C=Comp, G=grab)  
 Preservation Code: Water  
 MATRIX (Water, Overhead, Bit-Tissue, A=All)

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify)  
 Primary Deliverable Rank: 2  
 Date: 1/12/23 13:11  
 Relinquished by: [Signature]  
 Relinquished by: FED EX  
 Relinquished by: FED EX  
 Custody Seals Intact:  Yes  No  
 Custody Seal No.:  
 Cooler Temperature(s) °C and Other Remarks:

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For  Months  
 Special Instructions/QC Requirements:  
 Time: Date: Method of Shipment:  
 Received by: FED EX  
 Received by: [Signature]  
 Received by: [Signature]  
 Date/Time: 1/13/23 9:00 AM  
 Date/Time: Company: ETASIL  
 Date/Time: Company:



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123650-3

**Login Number: 123650**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123650-3

**Login Number: 123650**

**List Number: 2**

**Creator: Sharkey-Gonzalez, Briana L**

**List Source: Eurofins St. Louis**

**List Creation: 01/13/23 03:20 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/3/2023 11:23:49 AM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-123650-4

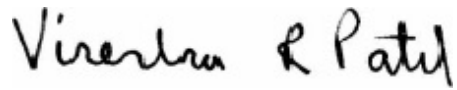
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
2/3/2023 11:23:49 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Method Summary . . . . .	6
Sample Summary . . . . .	7
Subcontract Data . . . . .	8
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	26

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-4

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-4

---

**Job ID: 570-123650-4**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative**  
**570-123650-4**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/11/2023 7:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 2.1° C and 2.3° C.

**Lab Admin**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Subcontract Work**

Method Chronic-Selenestrum: This method was subcontracted to Aquatic Bioassay & Consulting. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-4

---

Method	Method Description	Protocol	Laboratory
Subcontract	Chronic-Selenestrum	None	Aquatic

---

**Protocol References:**

None = None

**Laboratory References:**

Aquatic = Aquatic Bioassay & Consulting, 29 North Olive Street, Ventura, CA 93001



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-123650-4

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-123650-1	Outfall001_20230111_Comp	Water	01/11/23 07:30	01/11/23 19:10

1

2

3

4

5

6

7

8

9



January 25, 2023

Mr. Virendra Patel  
Eurofins Calscience  
7440 Lincoln Way  
Garden Grove, CA 92841-1432

Dear Mr. Patel:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013*. Results were as follows:

CLIENT: Eurofins Calscience  
SAMPLE I.D.: Outfall001\_20230111\_Comp  
DATE RECEIVED: 11 Jan - 2023  
ABC LAB. NO.: CSE0123.066

### CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

IWC = 100.00 %

#### TST RESULT

GROWTH = PASS      % EFFECT = 2.23 %

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Jan-23 16:01 (p 1 of 1)  
 Test Code/ID: CSE0123.066 / 01-6915-9846

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Batch ID: 19-4437-6933	Test Type: Cell Growth	Analyst:			
Start Date: 12 Jan-23 13:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 16 Jan-23 11:30	Species: Selenastrum capricornutum	Brine: Not Applicable			
Test Length: 94h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO	Age: 7d		
Sample ID: 00-5672-4818	Code: CSE0123.066	Project: Boeing-SSFL NPDES			
Sample Date: 11 Jan-23 07:30	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 11 Jan-23 14:25	CAS (PC):	Station: Outfall001_20230111_Comp			
Sample Age: 30h (2 °C)	Client: Eurofins Calscience				

Single Comparison Summary					
Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result	S
04-5593-9589	Cell Density	TST-Welch's t Test	2.0E-05	100% passed cell density	1

Test Acceptability							
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
04-5593-9589	Cell Density	Control CV	0.06034	<<	0.2	Yes	Passes Criteria
04-5593-9589	Cell Density	Control Resp	1.14E+6	1.00E+6	<<	Yes	Passes Criteria

Cell Density Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	8	1.136E+6	1.079E+6	1.194E+6	1.033E+6	1.214E+6	2.424E+4	6.857E+4	6.03%	0.00%
100		8	1.111E+6	1.034E+6	1.188E+6	1.019E+6	1.310E+6	3.256E+4	9.208E+4	8.29%	2.23%

Cell Density Detail											MD5: 248C3D32AAC306C6E24F0A38ACDB8396
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8		
0	N	1.195E+6	1.033E+6	1.044E+6	1.105E+6	1.214E+6	1.158E+6	1.159E+6	1.184E+6		
100		1.019E+6	1.031E+6	1.149E+6	1.132E+6	1.310E+6	1.077E+6	1.069E+6	1.102E+6		

# CETIS Analytical Report

Report Date: 20 Jan-23 16:01 (p 1 of 2)  
 Test Code/ID: CSE0123.066 / 01-6915-9846

**Selenastrum Growth Test** Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-5593-9589	Endpoint: Cell Density	CETIS Version: CETISv2.1.4
Analyzed: 20 Jan-23 16:00	Analysis: Parametric Bioequivalence-Two Sample	Status Level: 1
Edit Date: 20 Jan-23 15:58	MD5 Hash: 248C3D32AAC306C6E24F0A38ACDB8396	Editor ID: 009-702-627-3
Batch ID: 19-4437-6933	Test Type: Cell Growth	Analyst:
Start Date: 12 Jan-23 13:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 16 Jan-23 11:30	Species: Selenastrum capricornutum	Brine: Not Applicable
Test Length: 94h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO Age: 7d
Sample ID: 00-5672-4818	Code: CSE0123.066	Project: Boeing-SSFL NPDES
Sample Date: 11 Jan-23 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 11 Jan-23 14:25	CAS (PC):	Station: Outfall001_20230111_Comp
Sample Age: 30h (2 °C)	Client: Eurofins Calscience	

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed cell density endpoint

**TST-Welch's t Test**

Control	vs	Conc-%	df	Test Stat	Critical	P-Type	P-Value	Decision(α:25%)
Negative Control		100*	10	6.939	0.6998	CDF	2.0E-05	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control CV	0.06034	<<	0.2	Yes	Passes Criteria
Control Resp	1.14E+6	1.00E+6	<<	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	2.576E+09	2.576E+09	1	0.3908	0.5419	Non-Significant Effect
Error	9.226E+10	6.590E+09	14			
Total	9.484E+10		15			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Levene Equality of Variance Test	0.09567	8.862	0.7616	Equal Variances
	Mod Levene Equality of Variance Test	0.1323	8.862	0.7215	Equal Variances
	Variance Ratio F Test	1.803	8.885	0.4548	Equal Variances
Distribution	Anderson-Darling A2 Test	0.4136	3.878	0.3414	Normal Distribution
	D'Agostino Skewness Test	1.527	2.576	0.1267	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1049	0.2471	1.0000	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9275	0.8408	0.2222	Normal Distribution

**Cell Density Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	8	1.136E+6	1.079E+6	1.194E+6	1.158E+6	1.033E+6	1.214E+6	2.424E+4	6.03%	0.00%
100		8	1.111E+6	1.034E+6	1.188E+6	1.090E+6	1.019E+6	1.310E+6	3.256E+4	8.29%	2.23%

**Cell Density Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	N	1.195E+6	1.033E+6	1.044E+6	1.105E+6	1.214E+6	1.158E+6	1.159E+6	1.184E+6
100		1.019E+6	1.031E+6	1.149E+6	1.132E+6	1.310E+6	1.077E+6	1.069E+6	1.102E+6

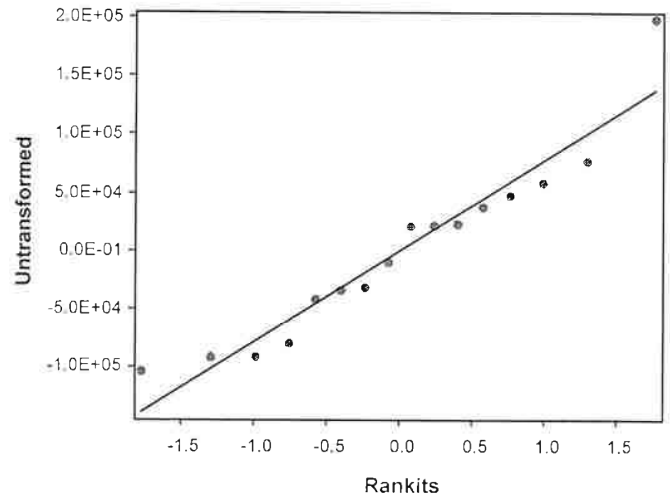
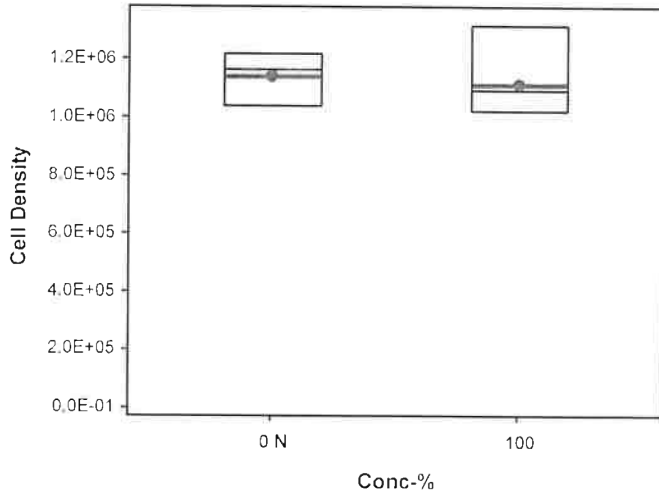


Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-5593-9589      Endpoint: Cell Density      CETIS Version: CETISv2.1.4  
Analyzed: 20 Jan-23 16:00      Analysis: Parametric Bioequivalence-Two Sample      Status Level: 1  
Edit Date: 20 Jan-23 15:58      MD5 Hash: 248C3D32AAC306C6E24F0A38ACDB8396      Editor ID: 009-702-627-3

Graphics



# CETIS Measurement Report

Report Date: 20 Jan-23 16:01 (p 1 of 1)  
 Test Code/ID: CSE0123.066 / 01-6915-9846

Selenastrum Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-4437-6933	Test Type: Cell Growth	Analyst:
Start Date: 12 Jan-23 13:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 16 Jan-23 11:30	Species: Selenastrum capricornutum	Brine: Not Applicable
Test Length: 94h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO Age: 7d
Sample ID: 00-5672-4818	Code: CSE0123.066	Project: Boeing-SSFL NPDES
Sample Date: 11 Jan-23 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 11 Jan-23 14:25	CAS (PC):	Station: Outfall001_20230111_Comp
Sample Age: 30h (2 °C)	Client: Eurofins Caiscience	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	77	---	---	77	77	---	---	---	0
100		1	43	---	---	43	43	---	---	---	0
Overall		2	60	-156	276	43	77	17	24.04	40.07%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	497.6	487.7	507.5	489	510	1.591	7.956	1.60%	0
100		5	352	339.3	364.7	345	370	2.045	10.22	2.90%	0
Overall		10	424.8	369.6	480	345	510	24.42	77.22	18.18%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	118	---	---	118	118	---	---	---	0
100		1	60	---	---	60	60	---	---	---	0
Overall		2	89	-279.5	457.5	60	118	29	41.01	46.08%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.96	7.849	8.071	7.8	8	0.01789	0.08944	1.12%	0
100		5	7.98	7.924	8.036	7.9	8	0.008943	0.04472	0.56%	0
Overall		10	7.97	7.922	8.018	7.8	8	0.02134	0.06749	0.85%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
100		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
Overall		10	25.28	25.13	25.43	25	25.5	0.06464	0.2044	0.81%	0 (0%)

Analyst:  QA: 

Eurofins Caldecote Irvine

CHAIN OF CUSTODY FORM

Temp. deg. C = 20.0 °C  
 Chlorine (mg/L) = 1.81

ANALYSIS REQUIRED

NIH3 (mg/L)

= 1.81

Client Name/Address:  
 Haley & Aldrich  
 5333 Mission Center Rd Suite 300  
 San Diego, CA 92108

Project:  
 Bowling SSFL NPDES  
 Permit: 2023  
 Routine Outfall 001, 002, 011, 0181  
 Outfall 001  
 Comp

Eurofins Caldecote Irvine Contact: Christian Bondoc  
 17461 Derran Ave Suite #100  
 Irvine CA 92614  
 Tel: 949-290-3218

Project Manager: Katherine Miller  
 520.289.8806, 520.804.8944 (cell)  
 Field Manager: Mark Donitick  
 978.234.6033, 818.899.0702 (cell)

Sample Description	Sample ID	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Volume #	USMSD	Total Dissolved Metals (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 226 (E904.0), Uranium (E908.0), K-40, Cs-137 (E901.0 or E901.1)	Chronic Toxicity - Selenium (EPA-821-R-02-013) ABC Labels in Ventura, CA	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals: (E200.7): Mn, Fe	Comments
Outfall 001	Outfall001_20230111_Comp_F	11/11/2023 10:30	WM	1L Poly	1	None	200	No	X		X				Filter and preserve with 24hrs of receipt at lab. Outfall 001 analyze for Fe and Mn.
			WM	600 mL Poly	1	NaOH	220	No		X					Unfiltered and unpreserved analyze duplicate from this sample. Analyze duplicate, not USMSD. Only used if first or second run events of the year. Deliver to ABC Labs in Ventura, CA.
			WM	2.5 Gal Can	1	None	225	No			X				
			WM	1 L Clear Amber	1	None	230	No				X			
			WM	1 Gal Clear	6	None	235	No				X			

Relinquished By: [Signature]  
 Date/Time: 1-11-2023 14:25  
 Company: H.A

Received By: [Signature]  
 Date/Time: 1-11-23 14:25

Legend: A=Annual, Q=Quarterly, E=Expert Panel, R=Routine, G=General, Q=Quarterly, Q=Quarterly Receiving Water, S=Semi-Annual

Turn-around time (Check):  
 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal \_\_\_\_\_

Sample Integrity (Check):  
 Intact: \_\_\_\_\_ On Ice \_\_\_\_\_  
 Store samples for 6 months.  
 Data Requirements (Check):  
 No Level IV: \_\_\_\_\_ All Level IV: \_\_\_\_\_ X

\* Hand delivered to ABC Labs with copy of CAC



**CHRONIC SELENASTRUM GROWTH BIOASSAY**

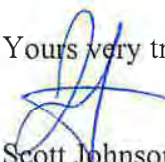
DATE: 12 January - 2023

STANDARD TOXICANT: Cadmium Chloride

NOEC = 20.00 ug/l

IC25 = 53.36 ug/l  
IC50 = 102.30 ug/l

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Jan-23 16:52 (p 1 of 1)  
 Test Code/ID: SEL011223 / 04-7405-9726

Selenastrum Growth Test		Aquatic Bioassay & Consulting Labs, Inc.	
Batch ID: 19-4179-0418	Test Type: Cell Growth	Analyst:	
Start Date: 12 Jan-23 13:24	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	
Ending Date: 16 Jan-23 13:10	Species: Selenastrum capricornutum	Brine: Not Applicable	
Test Length: 96h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO	Age: 7d
Sample ID: 01-0315-3386	Code: SEL011223	Project: REF TOX	
Sample Date: 12 Jan-23 13:24	Material: Cadmium chloride	Source: Reference Toxicant	
Receipt Date:	CAS (PC):	Station: REF TOX	
Sample Age: ---	Client: Internal Lab		

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	S
02-3719-8182	Cell Density	Dunnett Multiple Comparison Test	20	40	28.28	4.66%	1

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	µg/L	95% LCL	95% UCL	S
05-1997-3179	Cell Density	Linear Interpolation (ICPIN)	IC15	34.55	31.57	37.91	1
			IC20	39.4	35.65	48.58	
			IC25	53.36	40.71	62.3	
			IC40	88.59	84.67	92.36	
			IC50	102.3	99.22	105.6	

## Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
02-3719-8182	Cell Density	Control CV	0.03087	<<	0.2	Yes	Passes Criteria
05-1997-3179	Cell Density	Control CV	0.03087	<<	0.2	Yes	Passes Criteria
02-3719-8182	Cell Density	Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria
05-1997-3179	Cell Density	Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria

## Cell Density Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.057E+6	1.005E+6	1.109E+6	1.033E+6	1.105E+6	1.631E+4	3.262E+4	3.09%	0.00%
20		4	1.091E+6	1.026E+6	1.156E+6	1.040E+6	1.131E+6	2.040E+4	4.080E+4	3.74%	-3.26%
40		4	8.525E+5	8.034E+5	9.016E+5	8.250E+5	8.890E+5	1.541E+4	3.083E+4	3.62%	19.33%
80		4	7.118E+5	6.788E+5	7.447E+5	6.940E+5	7.330E+5	1.035E+4	2.069E+4	2.91%	32.65%
140		4	2.412E+5	1.995E+5	2.830E+5	2.190E+5	2.790E+5	1.312E+4	2.623E+4	10.87%	77.17%
180		4	1.472E+5	1.228E+5	1.717E+5	1.320E+5	1.610E+5	7.696E+3	1.539E+4	10.45%	86.07%

## Cell Density Detail

MD5: 8002C18F242E2CF77D044A91E3CE4461

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.045E+6	1.033E+6	1.044E+6	1.105E+6
20		1.131E+6	1.078E+6	1.116E+6	1.040E+6
40		8.670E+5	8.290E+5	8.250E+5	8.890E+5
80		6.940E+5	7.330E+5	6.940E+5	7.260E+5
140		2.190E+5	2.370E+5	2.300E+5	2.790E+5
180		1.360E+5	1.610E+5	1.600E+5	1.320E+5

**CETIS Analytical Report**

Report Date: 20 Jan-23 16:52 (p 1 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

Selenastrum Growth Test			Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 02-3719-8182	Endpoint: Cell Density	CETIS Version: CETISv2.1.4				
Analyzed: 20 Jan-23 16:51	Analysis: Parametric-Control vs Treatments	Status Level: 1				
Edit Date: 20 Jan-23 16:48	MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461	Editor ID: 009-702-627-3				
Batch ID: 19-4179-0418	Test Type: Cell Growth	Analyst:				
Start Date: 12 Jan-23 13:24	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water				
Ending Date: 16 Jan-23 13:10	Species: Selenastrum capricornutum	Brine: Not Applicable				
Test Length: 96h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO	Age: 7d			
Sample ID: 01-0315-3386	Code: SEL011223	Project: REF TOX				
Sample Date: 12 Jan-23 13:24	Material: Cadmium chloride	Source: Reference Toxicant				
Receipt Date:	CAS (PC):	Station: REF TOX				
Sample Age: ---	Client: Internal Lab					

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	20	40	28.28	---	49300	4.66%

**Dunnnett Multiple Comparison Test**

Control	vs	Conc-µg/L	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		20	6	-1.685	2.407	49300	CDF	0.9976	Non-Significant Effect
		40*	6	9.973	2.407	49300	CDF	2.7E-05	Significant Effect
		80*	6	16.85	2.407	49300	CDF	2.7E-05	Significant Effect
		140*	6	39.82	2.407	49300	CDF	2.7E-05	Significant Effect
		180*	6	44.41	2.407	49300	CDF	2.7E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control CV	0.03087	<<	0.2	Yes	Passes Criteria
Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.272E+12	6.545E+11	5	780.2	<1.0E-05	Significant Effect
Error	1.51E+10	838820000	18			
Total	3.287E+12		23			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.884	15.09	0.7178	Equal Variances
	Levene Equality of Variance Test	1.242	4.248	0.3306	Equal Variances
	Mod Levene Equality of Variance Test	0.6992	4.248	0.6311	Equal Variances
Distribution	Anderson-Darling A2 Test	0.7994	3.878	0.0381	Normal Distribution
	D'Agostino Kurtosis Test	0.7357	2.576	0.4619	Normal Distribution
	D'Agostino Skewness Test	0.6079	2.576	0.5433	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.9108	9.21	0.6342	Normal Distribution
	Kolmogorov-Smirnov D Test	0.2114	0.2056	0.0070	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.9401	0.884	0.1636	Normal Distribution

**Cell Density Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.057E+6	1.005E+6	1.109E+6	1.044E+6	1.033E+6	1.105E+6	1.631E+4	3.09%	0.00%
20		4	1.091E+6	1.026E+6	1.156E+6	1.097E+6	1.040E+6	1.131E+6	2.040E+4	3.74%	-3.26%
40		4	8.525E+5	8.034E+5	9.016E+5	8.480E+5	8.250E+5	8.890E+5	1.541E+4	3.62%	19.33%
80		4	7.118E+5	6.788E+5	7.447E+5	7.047E+5	6.940E+5	7.330E+5	1.035E+4	2.91%	32.65%
140		4	2.412E+5	1.995E+5	2.830E+5	2.335E+5	2.190E+5	2.790E+5	1.312E+4	10.87%	77.17%
180		4	1.472E+5	1.228E+5	1.717E+5	1.480E+5	1.320E+5	1.610E+5	7.696E+3	10.45%	86.07%

**CETIS Analytical Report**

Report Date: 20 Jan-23 16:52 (p 2 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

**Selenastrum Growth Test**

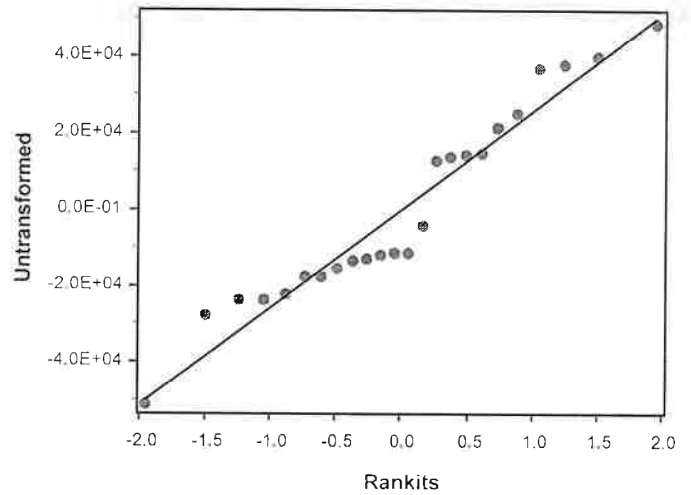
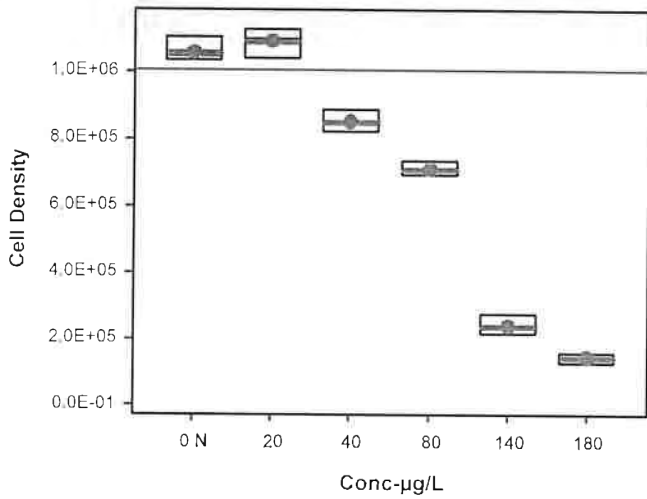
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-3719-8182      Endpoint: Cell Density      CETIS Version: CETISv2.1.4  
 Analyzed: 20 Jan-23 16:51      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Jan-23 16:48      MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461      Editor ID: 009-702-627-3

**Cell Density Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.045E+6	1.033E+6	1.044E+6	1.105E+6
20		1.131E+6	1.078E+6	1.116E+6	1.040E+6
40		8.670E+5	8.290E+5	8.250E+5	8.890E+5
80		6.940E+5	7.330E+5	6.940E+5	7.260E+5
140		2.190E+5	2.370E+5	2.300E+5	2.790E+5
180		1.360E+5	1.610E+5	1.600E+5	1.320E+5

**Graphics**



# CETIS Analytical Report

Report Date: 20 Jan-23 16:52 (p 1 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

**Selenastrum Growth Test** Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-1997-3179	Endpoint: Cell Density	CETIS Version: CETISv2.1.4
Analyzed: 20 Jan-23 16:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 20 Jan-23 16:48	MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461	Editor ID: 009-702-627-3
Batch ID: 19-4179-0418	Test Type: Cell Growth	Analyst:
Start Date: 12 Jan-23 13:24	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 16 Jan-23 13:10	Species: Selenastrum capricornutum	Brine: Not Applicable
Test Length: 96h	Taxon: Chlorophyta	Source: Aquatic Biosystems, CO Age: 7d
Sample ID: 01-0315-3386	Code: SEL011223	Project: REF TOX
Sample Date: 12 Jan-23 13:24	Material: Cadmium chloride	Source: Reference Toxicant
Receipt Date:	CAS (PC):	Station: REF TOX
Sample Age: ---	Client: Internal Lab	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control CV	0.03087	<<	0.2	Yes	Passes Criteria
Control Resp	1.06E+6	1.00E+6	<<	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
IC15	34.55	31.57	37.91
IC20	39.4	35.65	48.58
IC25	53.36	40.71	62.3
IC40	88.59	84.67	92.36
IC50	102.3	99.22	105.6

**Cell Density Summary**

Conc-µg/L	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	1.057E+6	1.044E+6	1.033E+6	1.105E+6	3.09%	0.00%	1.074E+6	0.00%
20		4	1.091E+6	1.097E+6	1.040E+6	1.131E+6	3.74%	-3.26%	1.074E+6	0.00%
40		4	8.525E+5	8.480E+5	8.250E+5	8.890E+5	3.62%	19.33%	8.525E+5	20.62%
80		4	7.118E+5	7.047E+5	6.940E+5	7.330E+5	2.91%	32.65%	7.118E+5	33.72%
140		4	2.412E+5	2.335E+5	2.190E+5	2.790E+5	10.87%	77.17%	2.412E+5	77.54%
180		4	1.472E+5	1.480E+5	1.320E+5	1.610E+5	10.45%	86.07%	1.472E+5	86.29%

**Cell Density Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.045E+6	1.033E+6	1.044E+6	1.105E+6
20		1.131E+6	1.078E+6	1.116E+6	1.040E+6
40		8.670E+5	8.290E+5	8.250E+5	8.890E+5
80		6.940E+5	7.330E+5	6.940E+5	7.260E+5
140		2.190E+5	2.370E+5	2.300E+5	2.790E+5
180		1.360E+5	1.610E+5	1.600E+5	1.320E+5



# CETIS Analytical Report

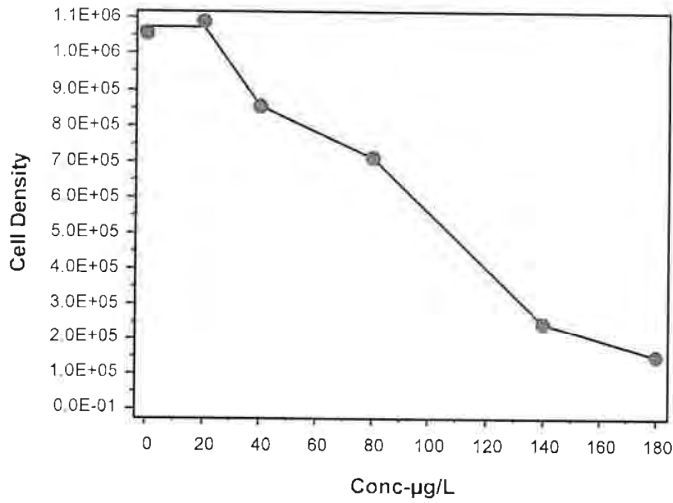
Report Date: 20 Jan-23 16:52 (p 2 of 2)  
Test Code/ID: SEL011223 / 04-7405-9726

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-1997-3179	Endpoint: Cell Density	CETIS Version: CETISv2.1.4
Analyzed: 20 Jan-23 16:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 20 Jan-23 16:48	MD5 Hash: 8002C18F242E2CF77D044A91E3CE4461	Editor ID: 009-702-627-3

### Graphics



# CETIS Measurement Report

Report Date: 20 Jan-23 16:52 (p 1 of 2)  
 Test Code/ID: SEL011223 / 04-7405-9726

## Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-4179-0418      Test Type: Cell Growth      Analyst:  
 Start Date: 12 Jan-23 13:24      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 16 Jan-23 13:10      Species: Selenastrum capricornutum      Brine: Not Applicable  
 Test Length: 96h      Taxon: Chlorophyta      Source: Aquatic Biosystems, CO      Age: 7d

Sample ID: 01-0315-3386      Code: SEL011223      Project: REF TOX  
 Sample Date: 12 Jan-23 13:24      Material: Cadmium chloride      Source: Reference Toxicant  
 Receipt Date:      CAS (PC):      Station: REF TOX  
 Sample Age: ---      Client: Internal Lab

## Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	77	---	---	77	77	---	---	---	0
20		1	80	---	---	80	80	---	---	---	0
40		1	77	---	---	77	77	---	---	---	0
80		1	68	---	---	68	68	---	---	---	0
140		1	66	---	---	66	66	---	---	---	0
180		1	65	---	---	65	65	---	---	---	0
Overall		6	72.17	65.29	79.05	65	80	2.676	6.555	9.08%	0 (0%)

## Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	497.6	487.7	507.5	489	510	1.591	7.956	1.60%	0
20		5	489.2	474.1	504.3	468	499	2.439	12.19	2.49%	0
40		5	453.6	434.3	472.9	445	481	3.104	15.52	3.42%	0
80		5	432.4	417.2	447.6	425	454	2.452	12.26	2.84%	0
140		5	407.8	390.9	424.7	400	432	2.722	13.61	3.34%	0
180		5	390.4	369.6	411.2	379	420	3.348	16.74	4.29%	0
Overall		30	445.2	429.5	460.8	379	510	7.646	41.88	9.41%	0 (0%)

## Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	1	118	---	---	118	118	---	---	---	0
20		1	110	---	---	110	110	---	---	---	0
40		1	125	---	---	125	125	---	---	---	0
80		1	95	---	---	95	95	---	---	---	0
140		1	98	---	---	98	98	---	---	---	0
180		1	93	---	---	93	93	---	---	---	0
Overall		6	106.5	92.63	120.4	93	125	5.396	13.22	12.41%	0 (0%)

## pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	7.96	7.849	8.071	7.8	8	0.01789	0.08944	1.12%	0
20		5	8	8	8	8	8	0	0	0.00%	0
40		5	8	8	8	8	8	0	0	0.00%	0
80		5	8	8	8	8	8	0	0	0.00%	0
140		5	7.98	7.924	8.036	7.9	8	0.008943	0.04472	0.56%	0
180		5	7.98	7.924	8.036	7.9	8	0.008943	0.04472	0.56%	0
Overall		30	7.987	7.97	8.003	7.8	8	0.007927	0.04342	0.54%	0 (0%)

## Temperature-°C

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
20		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
40		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
80		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
140		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
180		5	25.28	25.01	25.55	25	25.5	0.04336	0.2168	0.86%	0
Overall		30	25.28	25.21	25.35	25	25.5	0.03601	0.1972	0.78%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Jan-23 16:52 (p 2 of 2)

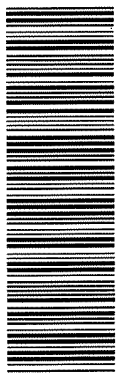
Test Code/ID: SEL011223 / 04-7405-9726

Selenastrum Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

CHAIN OF CUSTODY FORM



570-123650 Chain of Custody

Eurofins Calscience Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel 949-260-3218		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001 002, 011 018] Outfall 001 Comp		ANALYSIS REQUIRED Total Recoverable Metals (E200.7): Mn, Fe X Total Recoverable Metals: Mercury (E245.1) X 2,4,6 TSP 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E609) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Chloride (E300) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Surfactants (MBAS) (SM5540C/E425.1) BOD5 (20 degrees C) (E405.1(SM5210B, BODCalc)) TCDD (and all congeners) (E1613B) (E200.8), Cu, Pb, Cd, Se Total Recoverable Metals X										Comments Outfall 001 analyze for Fe and Mn
Sample Description Outfall001_20230111_Comp Outfall 001	Sample I.D. Outfall001_20230111_Comp 10730	Sampling Date/Time 1/11/2023 10730	Sample Matrix WM	Container Type 500 mL Poly 1 L Glass Amber 1L Poly 500 mL Poly 500 mL Poly 500 mL Poly 500 mL Poly 1 L Glass Amber 1 L Glass Amber 1L Poly 1 L Glass Amber 500 mL Poly 500 mL Poly 1 L Glass Amber 1 L Glass Amber	# of Cont. 1 2 1 2 2 1 1 2 2 1 2 1 2 2 2 2	Preservative HNO3 None None None None None H2SO4 None None None None None None None	Bottle # 90 110 115 120 130 150 160 170 180 185 110 120 130 170 180	MSMSD No No No No No No No No No No No No No No	Total Recoverable Metals (E200.7): Mn, Fe X Total Recoverable Metals: Mercury (E245.1) X 2,4,6 TSP 2,4 Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E609) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Chloride (E300) Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Surfactants (MBAS) (SM5540C/E425.1) BOD5 (20 degrees C) (E405.1(SM5210B, BODCalc)) TCDD (and all congeners) (E1613B) (E200.8), Cu, Pb, Cd, Se Total Recoverable Metals X	Comments Outfall 001 analyze for Fe and Mn 48 hours holding time for NO3 & NO2 48 hour holding time for turbidity Hold Hold Hold Hold Hold				
											Relinquished By Michelle Dallahlah Date/Time: 1/11/2023 1400 Company: H & A	Received By [Signature] Date/Time: 1/11/23 1910 Company: EC		
											Relinquished By [Signature] Date/Time: 1/11/23 1910 Company: EC	Received By [Signature] Date/Time: 1/11/23 1910 Company: EC		

2.3/2.3 1.7/1.7 2.1/2.1 SC11



CHAIN OF CUSTODY FORM

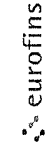
Eurofins Calsciense Irvine

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calsciense Irvine Contact: Christian Bondoc 17461 Deivan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001 002 011, 018] Outfall 001 Comp		ANALYSIS REQUIRED		Comments	
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Dissolved Metals (E200.7) Mn, Fe <input checked="" type="checkbox"/>		Filter and preserve with 24hrs of receipt at lab. Outfall 001 analyze for Fe and Mn.	
Preservative: None # of Cont: 1 Container Type: 1L Poly		MSMSD: No Bottle #: 200		Total Dissolved Metals (E245.1) <input checked="" type="checkbox"/>		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.	
Sampling Date/Time: 1/11/2023 Matrix: WM		Matrix: WM		Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA <input checked="" type="checkbox"/>		Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.	
Sample I.D.: Outfall001_20230111_Comp_F Container Type: borosilicate vials Matrix: WM		Matrix: WM		Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) <input checked="" type="checkbox"/>		Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA.	
Sample I.D.: Outfall001_20230111_Comp Container Type: 500 mL Poly Matrix: WM		Matrix: WM		Cyanide (SM4500-CN-E / E335.2) <input checked="" type="checkbox"/>			
Sample I.D.: Outfall001_20230111_Comp Container Type: 2.5 Gal Cube Matrix: WM		Matrix: WM		Total Dissolved Metals (E200.7) Zn, Pb, Cd, Se <input checked="" type="checkbox"/>			
Sample I.D.: Outfall001_20230111_Comp Container Type: 1 L Glass Amber Matrix: WM		Matrix: WM					
Sample I.D.: Outfall001_20230111_Comp Container Type: 1 Gal Cube Matrix: WM		Matrix: WM					
Relinquished By: Michelle Dallabala Date/Time: 1/11/2023 1400		Company: HAA		Received By: [Signature] Date/Time: 1/11/23 1400 EC		Turn-around time: (Check) 24 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 10 Day <input checked="" type="checkbox"/> 48 Hour <input type="checkbox"/> 5 Day <input type="checkbox"/> Normal <input type="checkbox"/>	
Relinquished By: [Signature] Date/Time: 1/15/23 1910 EC		Company: EC		Received By: [Signature] Date/Time: 1/15/23 1916		Sample Integrity (Check) Intact: <input type="checkbox"/> On Ice: <input type="checkbox"/> Store samples for 6 months. Data Requirements (Check) No Level IV: <input type="checkbox"/> All Level IV: <input checked="" type="checkbox"/>	

\* Hand-delivered to ABC labs with copy of CUC



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler Patel, Virendra	Lab PM Patel, Virendra	Carrier Tracking No(s) 570-203937 1	COC No. 570-203937 1
Client Contact: Shipping/Receiving		Phone: Virendra.Patel@eurofins.com	E-Mail: Virendra.Patel@eurofins.com	State of Origin California	Page Page 1 of 1
Company TestAmerica Laboratories Inc.		Accreditations Required (See note): State Program - California		Job #: 570-123650-3	Preservation Codes M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SSO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:
Address: 13715 Rider Trail North		Due Date Requested 2/13/2023	Analysis Requested		
City: Earth City	TAT Requested (days)	FO #:	901 1 Cs/111_Geo_0 K-40 and Csium-137	900 0/Evaporation Gross Alpha/Beta	903 0/PreSep_21 Radium-226
State, Zip: MO, 63045	Project #: 44024446	WO #:	904 0/PreSep_0 Radium-228	906 0/PreSep_7 Strontium-90	906 0/LSC_Dist_Susp Tritium
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	SSOW#:	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)	907 0/PreSep_21 Radium-226	907 0/PreSep_21 Radium-226	907 0/PreSep_21 Radium-226
Email:	Project Name: Boeing SSFL NPDES - Outfall 001 - Comp	Sample Type (C=Comp, G=grab)	907 0/PreSep_21 Radium-226	907 0/PreSep_21 Radium-226	907 0/PreSep_21 Radium-226
Site:	Site: Boeing SSFL NPDES - Outfall 001 - Comp	Sample Time	907 0/PreSep_21 Radium-226	907 0/PreSep_21 Radium-226	907 0/PreSep_21 Radium-226
Sample Identification - Client ID (Lab ID) Outfall001_20230111_Comp (570-123650-1)		Sample Date 1/11/23	Sample Time 07 30 Pacific	Preservation Code: Water	Special Instructions/Note: Boeing SSFL, DO NOT FILTER, use prep date from preservation
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		2	

Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2

Empty Kit Relinquished by:	Date	Time	Method of Shipment:
Relinquished by:	1/12/23	1311	Company
Relinquished by:			Company
Relinquished by:			Company

Custody Seals Intact:  Yes  No  
 Cooler Temperature(s) °C and Other Remarks:



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab P/I	Carrier Tracking No(s)	COC No. 570-203964 1
Client Contact: Shipping/Receiving		Patel Virendra	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - California		Job #: 570-123650-2	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Triama Z - other (specify)
Address: 880 Riverside Parkway, City: West Sacramento State: CA, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email:		Due Date Requested 1/27/2023 TAT Requested (days)	Analysis Requested		
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp		PO #:	Total Number of Containers		
Site: Boeing SSFL NPDES - Outfall 001 - Comp		WO #:	Perform MS/MSD (Yes or No)		
Project #: 44024446		Project #:	Field Filled Sample (Yes or No)		
Site: Boeing SSFL NPDES - Outfall 001 - Comp		SSOW#:	Special Instructions/Note:		
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code:
Outfall001_20230111_Comp (570-123650-1)		1/11/23	07:30 Pacific	Water	Water
Outfall001_20230111_Comp_Extra (570-123650-2)		1/11/23	07:30 Pacific	Water	Water
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.		Special Instructions/Note: See QAS Boeing_w/lu to zero ug/L, Use Boeing glassware. See QAS Boeing_w/lu to zero, ug/L, Use Boeing glassware.			
<b>Possible Hazard Identification</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
Unconfirmed		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months			
Deliverable Requested I II III IV Other (specify)		Special Instructions/QC Requirements			
Empty Kit Relinquished by:		Method of Shipment:			
Relinquished by: <i>NA Patel</i>		Date/Time:			
Relinquished by:		Date/Time:			
Relinquished by:		Date/Time:			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks:			



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-123650-4

**Login Number: 123650**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	







# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/4/2023 2:52:07 PM Revision 1

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-124243-1

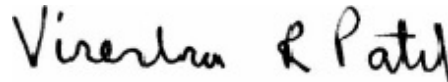
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/4/2023 2:52:07 PM  
Revision 1

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	33
Lab Chronicle . . . . .	38
Certification Summary . . . . .	40
Method Summary . . . . .	41
Sample Summary . . . . .	42
Chain of Custody . . . . .	43
Receipt Checklists . . . . .	46

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

---

## Job ID: 570-124243-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-124243-1

#### Comments

No additional comments.

#### Revision

The report being provided is a revision of the original report sent on 2/14/2023. The report (revision 1) is being revised due to: Level 2 revised to include NO2/NO3 results per Katherine Miller on 04/04/2023.

#### Receipt

The samples were received on 1/16/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.1° C, 0.3° C, 0.4° C, 0.7° C and 1.6° C.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### HPLC/IC

Method 300.0: Dilutions were performed for the following samples due to sample matrix properties: Outfall001\_20230115\_Comp (570-124243-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230115\_Comp\_F (570-124243-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230115\_Comp\_F (570-124243-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-296435. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 608

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-296476. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method:625.1 Sim

Method 625: The emulsions were broken up using sodium sulfate

Method:625 Sim

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

---

## Job ID: 570-124243-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Client Sample ID: Outfall001\_20230115\_Comp

## Lab Sample ID: 570-124243-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5.3		5.0	1.8	mg/L	5		300.0	Total/NA
Nitrate as N	1.0		0.50	0.098	mg/L	5		300.0	Total/NA
Sulfate	5.1		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	1.0		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	2.6		2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	1.1		1.0	0.12	ug/L	1		200.8	Total Recoverable
Iron	3600		20	3.7	ug/L	1		200.8	Total Recoverable
Zinc	8.1	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Manganese	40		1.0	0.41	ug/L	1		200.8	Total Recoverable
Turbidity	100		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	120		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	43		2.5	2.1	mg/L	1		SM 2540D	Total/NA
MBAS	0.069	J,DX	0.30	0.054	mg/L	1		SM 5540C	Total/NA

## Client Sample ID: Outfall001\_20230115\_Comp\_F

## Lab Sample ID: 570-124243-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.8	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Lead	0.14	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Iron	240	BU	20	3.7	ug/L	1		200.8	Dissolved
Manganese	2.6	BU	1.0	0.41	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230115\_Comp**

**Lab Sample ID: 570-124243-1**

**Date Collected: 01/15/23 08:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		01/17/23 13:55	01/26/23 16:54	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		01/17/23 13:55	01/26/23 16:54	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		01/17/23 13:55	01/26/23 16:54	1
N-Nitrosodimethylamine	ND		0.19	0.17	ug/L		01/17/23 13:55	01/26/23 16:54	1
Pentachlorophenol	ND		0.94	0.80	ug/L		01/17/23 13:55	01/26/23 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	53		31 - 120	01/17/23 13:55	01/26/23 16:54	1
Phenol-d6 (Surr)	22		10 - 120	01/17/23 13:55	01/26/23 16:54	1
p-Terphenyl-d14 (Surr)	60		45 - 120	01/17/23 13:55	01/26/23 16:54	1
2,4,6-Tribromophenol	82		28 - 127	01/17/23 13:55	01/26/23 16:54	1
2-Fluorophenol	32		17 - 120	01/17/23 13:55	01/26/23 16:54	1
Nitrobenzene-d5	63		27 - 120	01/17/23 13:55	01/26/23 16:54	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Outfall001\_20230115\_Comp**

**Date Collected: 01/15/23 08:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		01/17/23 12:18	01/19/23 15:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro- <i>m</i> -xylene	58		20 - 139				01/17/23 12:18	01/19/23 15:05	1
DCB Decachlorobiphenyl (Surr)	25		20 - 154				01/17/23 12:18	01/19/23 15:05	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230115\_Comp

Date Collected: 01/15/23 08:30

Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.3		5.0	1.8	mg/L			01/16/23 23:03	5
Nitrite as N	ND		0.50	0.22	mg/L			01/16/23 23:03	5
Nitrate as N	1.0		0.50	0.098	mg/L			01/16/23 23:03	5
Sulfate	5.1		5.0	1.2	mg/L			01/16/23 23:03	5

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230115\_Comp

Date Collected: 01/15/23 08:30

Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/19/23 23:03	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230115\_Comp

Date Collected: 01/15/23 08:30

Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.0		0.10	0.020	mg/L			01/17/23 16:16	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

**Client Sample ID: Outfall001\_20230115\_Comp**

**Date Collected: 01/15/23 08:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		01/19/23 09:12	01/19/23 13:22	1
<b>Copper</b>	<b>2.6</b>		2.0	0.32	ug/L		01/19/23 09:12	01/19/23 13:22	1
<b>Lead</b>	<b>1.1</b>		1.0	0.12	ug/L		01/19/23 09:12	01/19/23 13:22	1
Selenium	ND		2.0	0.52	ug/L		01/19/23 09:12	01/19/23 13:22	1
<b>Iron</b>	<b>3600</b>		20	3.7	ug/L		02/07/23 06:36	02/07/23 10:55	1
<b>Zinc</b>	<b>8.1</b>	<b>J,DX</b>	20	2.8	ug/L		01/19/23 09:12	01/19/23 13:22	1
<b>Manganese</b>	<b>40</b>		1.0	0.41	ug/L		01/19/23 09:12	01/19/23 13:22	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230115\_Comp\_F

Date Collected: 01/15/23 08:30

Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			01/18/23 11:17	1
<b>Copper</b>	<b>1.8</b>	<b>J,DX BU</b>	2.0	0.32	ug/L			01/18/23 11:17	1
<b>Lead</b>	<b>0.14</b>	<b>J,DX BU</b>	1.0	0.12	ug/L			01/18/23 11:17	1
Selenium	ND	BU	2.0	0.52	ug/L			01/18/23 11:17	1
<b>Iron</b>	<b>240</b>	<b>BU</b>	20	3.7	ug/L			01/18/23 11:17	1
Zinc	ND	BU	20	2.8	ug/L			01/18/23 11:17	1
<b>Manganese</b>	<b>2.6</b>	<b>BU</b>	1.0	0.41	ug/L			01/18/23 11:17	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230115\_Comp

Date Collected: 01/15/23 08:30

Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/18/23 18:51	01/19/23 17:26	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230115\_Comp\_F

Date Collected: 01/15/23 08:30

Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		01/18/23 19:30	01/19/23 18:25	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## General Chemistry

**Client Sample ID: Outfall001\_20230115\_Comp**

**Date Collected: 01/15/23 08:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		01/26/23 09:45	01/26/23 12:28	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			01/23/23 13:44	1
<b>Turbidity (SM 2130B)</b>	<b>100</b>		0.05	0.05	NTU			01/16/23 20:22	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>120</b>		10	8.7	mg/L			01/18/23 15:24	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>43</b>		2.5	2.1	mg/L			01/19/23 14:49	1
<b>MBAS (SM 5540C)</b>	<b>0.069</b>	<b>J,DX</b>	0.30	0.054	mg/L		01/16/23 21:15	01/16/23 22:29	1
Biochemical Oxygen Demand (SM5210B)	ND		2.0	1.0	mg/L			01/16/23 18:08	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-124243-1	Outfall001_20230115_Comp	53	22	60	82	32	63
LCS 570-296476/2-A	Lab Control Sample	81	44	105	109	63	81
LCSD 570-296476/3-A	Lab Control Sample Dup	80	45	106	106	63	80
MB 570-296476/1-A	Method Blank	55	26	76	69	40	64

### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (20-139)	DCB1 (20-154)
570-124243-1	Outfall001_20230115_Comp	58	25

### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX1 (20-139)	DCB2 (20-154)
LCS 570-296435/2-A	Lab Control Sample	85	88
LCSD 570-296435/3-A	Lab Control Sample Dup	85	88
MB 570-296435/1-A	Method Blank	90	89

### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-296476/1-A**  
**Matrix: Water**  
**Analysis Batch: 299094**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/17/23 13:55	01/27/23 11:45	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		01/17/23 13:55	01/27/23 11:45	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		01/17/23 13:55	01/27/23 11:45	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		01/17/23 13:55	01/27/23 11:45	1
Pentachlorophenol	ND		1.0	0.84	ug/L		01/17/23 13:55	01/27/23 11:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	55		31 - 120	01/17/23 13:55	01/27/23 11:45	1
Phenol-d6 (Surr)	26		10 - 120	01/17/23 13:55	01/27/23 11:45	1
p-Terphenyl-d14 (Surr)	76		45 - 120	01/17/23 13:55	01/27/23 11:45	1
2,4,6-Tribromophenol	69		28 - 127	01/17/23 13:55	01/27/23 11:45	1
2-Fluorophenol	40		17 - 120	01/17/23 13:55	01/27/23 11:45	1
Nitrobenzene-d5	64		27 - 120	01/17/23 13:55	01/27/23 11:45	1

**Lab Sample ID: LCS 570-296476/2-A**  
**Matrix: Water**  
**Analysis Batch: 298807**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	21.6		ug/L		108	52 - 129
2,4-Dinitrotoluene	20.0	24.7		ug/L		124	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	25.9		ug/L		130	29 - 137
N-Nitrosodimethylamine	20.0	12.3		ug/L		61	20 - 120
Pentachlorophenol	20.0	23.5		ug/L		118	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	81		31 - 120
Phenol-d6 (Surr)	44		10 - 120
p-Terphenyl-d14 (Surr)	105		45 - 120
2,4,6-Tribromophenol	109		28 - 127
2-Fluorophenol	63		17 - 120
Nitrobenzene-d5	81		27 - 120

**Lab Sample ID: LCSD 570-296476/3-A**  
**Matrix: Water**  
**Analysis Batch: 298807**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	21.2		ug/L		106	52 - 129	2	35
2,4-Dinitrotoluene	20.0	24.5		ug/L		122	48 - 127	1	25
Bis(2-ethylhexyl) phthalate	20.0	25.2		ug/L		126	29 - 137	3	50
N-Nitrosodimethylamine	20.0	12.4		ug/L		62	20 - 120	1	21
Pentachlorophenol	20.0	23.3		ug/L		116	38 - 152	1	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	80		31 - 120
Phenol-d6 (Surr)	45		10 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-296476/3-A**  
**Matrix: Water**  
**Analysis Batch: 298807**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296476**

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
p-Terphenyl-d14 (Surr)	106		45 - 120
2,4,6-Tribromophenol	106		28 - 127
2-Fluorophenol	63		17 - 120
Nitrobenzene-d5	80		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-296435/1-A**  
**Matrix: Water**  
**Analysis Batch: 296586**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 296435**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		01/17/23 12:18	01/18/23 20:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		20 - 139	01/17/23 12:18	01/18/23 20:08	1
DCB Decachlorobiphenyl (Surr)	89		20 - 154	01/17/23 12:18	01/18/23 20:08	1

**Lab Sample ID: LCS 570-296435/2-A**  
**Matrix: Water**  
**Analysis Batch: 296586**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 296435**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0278		ug/L		83	37 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	85		20 - 139
DCB Decachlorobiphenyl (Surr)	88		20 - 154

**Lab Sample ID: LCSD 570-296435/3-A**  
**Matrix: Water**  
**Analysis Batch: 296586**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296435**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	0.0333	0.0280		ug/L		84	37 - 140	1	36

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	85		20 - 139
DCB Decachlorobiphenyl (Surr)	88		20 - 154

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-295972/5**  
**Matrix: Water**  
**Analysis Batch: 295972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			01/16/23 07:41	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 570-295972/5**  
**Matrix: Water**  
**Analysis Batch: 295972**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.020	mg/L			01/16/23 07:41	1

**Lab Sample ID: LCS 570-295972/6**  
**Matrix: Water**  
**Analysis Batch: 295972**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.59		mg/L		104	90 - 110
Nitrate as N	5.00	5.08		mg/L		102	90 - 110

**Lab Sample ID: LCSD 570-295972/7**  
**Matrix: Water**  
**Analysis Batch: 295972**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.53		mg/L		101	90 - 110	2	15
Nitrate as N	5.00	5.02		mg/L		100	90 - 110	1	15

**Lab Sample ID: 570-123084-I-3 MS**  
**Matrix: Water**  
**Analysis Batch: 295972**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	0.49	J,DX	2.50	2.90		mg/L		96	80 - 120
Nitrate as N	0.25	J,DX	5.00	4.91		mg/L		93	80 - 120

**Lab Sample ID: 570-123084-I-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 295972**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	0.49	J,DX	2.50	2.77		mg/L		91	80 - 120	5	20
Nitrate as N	0.25	J,DX	5.00	4.82		mg/L		91	80 - 120	2	20

**Lab Sample ID: MB 570-295973/5**  
**Matrix: Water**  
**Analysis Batch: 295973**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/16/23 07:41	1
Sulfate	ND		1.0	0.24	mg/L			01/16/23 07:41	1

**Lab Sample ID: LCS 570-295973/6**  
**Matrix: Water**  
**Analysis Batch: 295973**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.0		mg/L		100	90 - 110
Sulfate	50.0	50.3		mg/L		101	90 - 110

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-295973/7  
 Matrix: Water  
 Analysis Batch: 295973

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	49.9		mg/L		100	90 - 110	0	15
Sulfate	50.0	50.0		mg/L		100	90 - 110	0	15

Lab Sample ID: 570-123084-I-3 MS  
 Matrix: Water  
 Analysis Batch: 295973

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	6.3		50.0	46.7		mg/L		81	80 - 120
Sulfate	6.4		50.0	52.5		mg/L		92	80 - 120

Lab Sample ID: 570-123084-I-3 MSD  
 Matrix: Water  
 Analysis Batch: 295973

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6.3		50.0	46.1		mg/L		80	80 - 120	1	20
Sulfate	6.4		50.0	51.6		mg/L		90	80 - 120	2	20

## Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-297005/7  
 Matrix: Water  
 Analysis Batch: 297005

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/19/23 14:46	1

Lab Sample ID: LCS 570-297005/8  
 Matrix: Water  
 Analysis Batch: 297005

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	23.2		ug/L		93	85 - 115

Lab Sample ID: LCSD 570-297005/9  
 Matrix: Water  
 Analysis Batch: 297005

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	23.0		ug/L		92	85 - 115	1	15

Lab Sample ID: 570-124594-D-2 MS  
 Matrix: Water  
 Analysis Batch: 297005

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	ND		50.0	49.7		ug/L		99	80 - 120

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 314.0 - Perchlorate (IC) (Continued)

**Lab Sample ID: 570-124594-D-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 297005**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	ND		50.0	51.2		ug/L		102	80 - 120	3	15

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-297004/1-A**  
**Matrix: Water**  
**Analysis Batch: 297141**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 297004**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		01/19/23 09:12	01/19/23 13:25	1
Copper	ND		2.0	0.32	ug/L		01/19/23 09:12	01/19/23 13:25	1
Lead	ND		1.0	0.12	ug/L		01/19/23 09:12	01/19/23 13:25	1
Selenium	ND		2.0	0.52	ug/L		01/19/23 09:12	01/19/23 13:25	1
Zinc	ND		20	2.8	ug/L		01/19/23 09:12	01/19/23 13:25	1
Manganese	ND		1.0	0.41	ug/L		01/19/23 09:12	01/19/23 13:25	1

**Lab Sample ID: LCS 570-297004/2-A**  
**Matrix: Water**  
**Analysis Batch: 297141**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 297004**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	80.4		ug/L		101	85 - 115
Copper	80.0	80.6		ug/L		101	85 - 115
Lead	80.0	80.0		ug/L		100	85 - 115
Selenium	80.0	82.6		ug/L		103	85 - 115
Zinc	80.0	80.6		ug/L		101	85 - 115
Manganese	80.0	83.0		ug/L		104	85 - 115

**Lab Sample ID: LCSD 570-297004/3-A**  
**Matrix: Water**  
**Analysis Batch: 297141**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 297004**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	79.2		ug/L		99	85 - 115	2	20
Copper	80.0	80.9		ug/L		101	85 - 115	0	20
Lead	80.0	79.6		ug/L		100	85 - 115	1	20
Selenium	80.0	78.4		ug/L		98	85 - 115	5	20
Zinc	80.0	80.6		ug/L		101	85 - 115	0	20
Manganese	80.0	81.3		ug/L		102	85 - 115	2	20

**Lab Sample ID: 570-124222-B-1-C MS**  
**Matrix: Water**  
**Analysis Batch: 297142**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 297004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	78.7		ug/L		98	80 - 120
Copper	13		80.0	86.6		ug/L		93	80 - 120
Lead	0.34	J,DX	80.0	76.2		ug/L		95	80 - 120
Selenium	0.77	J,DX	80.0	78.3		ug/L		97	80 - 120
Zinc	160		80.0	226		ug/L		84	80 - 120

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-124222-B-1-C MS**  
**Matrix: Water**  
**Analysis Batch: 297142**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 297004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	1.9		80.0	78.6		ug/L		96	80 - 120

**Lab Sample ID: 570-124222-B-1-D MSD**  
**Matrix: Water**  
**Analysis Batch: 297142**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 297004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Cadmium	ND		80.0	79.9		ug/L		100	80 - 120	1	20
Copper	13		80.0	88.3		ug/L		95	80 - 120	2	20
Lead	0.34	J,DX	80.0	78.3		ug/L		97	80 - 120	3	20
Selenium	0.77	J,DX	80.0	77.9		ug/L		96	80 - 120	0	20
Zinc	160		80.0	228		ug/L		86	80 - 120	1	20
Manganese	1.9		80.0	82.4		ug/L		101	80 - 120	5	20

**Lab Sample ID: MB 570-301651/1-A**  
**Matrix: Water**  
**Analysis Batch: 301811**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 301651**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		20	3.7	ug/L		02/07/23 06:36	02/07/23 10:36	1

**Lab Sample ID: LCS 570-301651/2-A**  
**Matrix: Water**  
**Analysis Batch: 301811**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 301651**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	800	828		ug/L		103	85 - 115

**Lab Sample ID: LCSD 570-301651/3-A**  
**Matrix: Water**  
**Analysis Batch: 301811**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 301651**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Iron	800	810		ug/L		101	85 - 115	2	20

**Lab Sample ID: 570-126592-A-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 301811**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 301651**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	250		800	1010		ug/L		95	80 - 120

**Lab Sample ID: 570-126592-A-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 301811**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 301651**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Iron	250		800	1020		ug/L		97	80 - 120	1	20



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 570-296510/1-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			01/18/23 10:06	1
Copper	ND		2.0	0.32	ug/L			01/18/23 10:06	1
Lead	ND		1.0	0.12	ug/L			01/18/23 10:06	1
Selenium	ND		2.0	0.52	ug/L			01/18/23 10:06	1
Iron	ND		20	3.7	ug/L			01/18/23 10:06	1
Zinc	ND		20	2.8	ug/L			01/18/23 10:06	1
Manganese	ND		1.0	0.41	ug/L			01/18/23 10:06	1

**Lab Sample ID: LCS 570-296510/2-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	73.6		ug/L		92	85 - 115
Copper	80.0	75.7		ug/L		95	85 - 115
Lead	80.0	75.5		ug/L		94	85 - 115
Selenium	80.0	72.7		ug/L		91	85 - 115
Iron	800	762		ug/L		95	85 - 115
Zinc	80.0	74.3		ug/L		93	85 - 115
Manganese	80.0	74.7		ug/L		93	85 - 115

**Lab Sample ID: LCSD 570-296510/3-A**  
**Matrix: Water**  
**Analysis Batch: 296754**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	75.7		ug/L		95	85 - 115	3	20
Copper	80.0	76.9		ug/L		96	85 - 115	2	20
Lead	80.0	77.0		ug/L		96	85 - 115	2	20
Selenium	80.0	73.1		ug/L		91	85 - 115	1	20
Iron	800	778		ug/L		97	85 - 115	2	20
Zinc	80.0	74.9		ug/L		94	85 - 115	1	20
Manganese	80.0	75.9		ug/L		95	85 - 115	2	20

**Lab Sample ID: 570-123631-C-2-B MS**  
**Matrix: Water**  
**Analysis Batch: 296758**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	70.4		ug/L		88	80 - 120
Copper	2.5		80.0	74.9		ug/L		91	80 - 120
Lead	0.20	J,DX	80.0	72.6		ug/L		90	80 - 120
Selenium	ND		80.0	71.5		ug/L		89	80 - 120
Iron	40		800	762		ug/L		90	80 - 120
Zinc	380		80.0	442	BB	ug/L		81	80 - 120
Manganese	11		80.0	84.0		ug/L		91	80 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-123631-C-2-C MSD**  
**Matrix: Water**  
**Analysis Batch: 296758**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Cadmium	ND		80.0	72.1		ug/L		90	80 - 120	2	20
Copper	2.5		80.0	76.0		ug/L		92	80 - 120	1	20
Lead	0.20	J,DX	80.0	74.3		ug/L		93	80 - 120	2	20
Selenium	ND		80.0	72.5		ug/L		91	80 - 120	1	20
Iron	40		800	770		ug/L		91	80 - 120	1	20
Zinc	380		80.0	443	BB	ug/L		83	80 - 120	0	20
Manganese	11		80.0	84.1		ug/L		91	80 - 120	0	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-296898/1-A**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 296898**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.20	0.12	ug/L		01/18/23 18:51	01/19/23 16:49	1

**Lab Sample ID: LCS 570-296898/2-A**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 296898**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Mercury	8.00	8.50		ug/L		106	85 - 115

**Lab Sample ID: LCSD 570-296898/3-A**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 296898**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD
		Result	Qualifier				Limits	RPD
Mercury	8.00	8.64		ug/L		108	85 - 115	2 10

**Lab Sample ID: 570-124050-A-1-E MS**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 296898**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Mercury	ND		8.00	8.45		ug/L		106	85 - 115

**Lab Sample ID: 570-124050-A-1-F MSD**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 296898**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Mercury	ND		8.00	8.44		ug/L		105	85 - 115	0 10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: MB 570-296900/1-B**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 296901**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/18/23 19:30	01/19/23 18:20	1

**Lab Sample ID: LCS 570-296900/2-B**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 296901**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.90		ug/L		111	85 - 115

**Lab Sample ID: LCSD 570-296900/3-B**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 296901**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.89		ug/L		111	85 - 115	0	10

**Lab Sample ID: 570-124243-3 MS**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Outfall001\_20230115\_Comp\_F**  
**Prep Type: Dissolved**  
**Prep Batch: 296901**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	8.00	8.84		ug/L		111	85 - 115

**Lab Sample ID: 570-124243-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 297225**

**Client Sample ID: Outfall001\_20230115\_Comp\_F**  
**Prep Type: Dissolved**  
**Prep Batch: 296901**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	BU	8.00	8.81		ug/L		110	85 - 115	0	10

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 570-298842/5-A**  
**Matrix: Water**  
**Analysis Batch: 298901**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 298842**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		01/26/23 09:45	01/26/23 12:10	1

**Lab Sample ID: LCS 570-298842/6-A**  
**Matrix: Water**  
**Analysis Batch: 298901**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 298842**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.517		mg/L		103	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: 350.1 - Nitrogen, Ammonia (Continued)

**Lab Sample ID: LCSD 570-298842/7-A**  
**Matrix: Water**  
**Analysis Batch: 298901**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 298842**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.515		mg/L		103	90 - 110	0	20

**Lab Sample ID: 570-124603-U-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 298901**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 298842**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		0.500	0.539		mg/L		108	90 - 110

**Lab Sample ID: 570-124603-U-1-B MSD**  
**Matrix: Water**  
**Analysis Batch: 298901**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 298842**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		0.500	0.506		mg/L		101	90 - 110	6	25

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

**Lab Sample ID: MB 570-297946/11**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			01/23/23 13:11	1

**Lab Sample ID: LCS 570-297946/14**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	267		ug/L		107	90 - 110

**Lab Sample ID: LCSD 570-297946/13**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	248		ug/L		99	90 - 110	7	20

**Lab Sample ID: MRL 570-297946/10**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	4.66	J,DX	ug/L		93	50 - 150

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

Lab Sample ID: 570-124243-1 MS  
 Matrix: Water  
 Analysis Batch: 297946

Client Sample ID: Outfall001\_20230115\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	ND		250	216		ug/L		86	70 - 130

Lab Sample ID: 570-124243-1 MSD  
 Matrix: Water  
 Analysis Batch: 297946

Client Sample ID: Outfall001\_20230115\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	ND		250	227		ug/L		91	70 - 130	5	30

## Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-296271/1  
 Matrix: Water  
 Analysis Batch: 296271

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		100.5	99.0 - 101.0

Lab Sample ID: LCSSRM 570-296271/2  
 Matrix: Water  
 Analysis Batch: 296271

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		99.7	99.0 - 101.0

Lab Sample ID: LCSSRM 570-296271/3  
 Matrix: Water  
 Analysis Batch: 296271

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Lab Sample ID: 570-124243-1 DU  
 Matrix: Water  
 Analysis Batch: 296271

Client Sample ID: Outfall001\_20230115\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	100		110		NTU		3	25

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-296842/1  
 Matrix: Water  
 Analysis Batch: 296842

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			01/18/23 15:24	1

Euofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

**Lab Sample ID: LCS 570-296842/2**  
**Matrix: Water**  
**Analysis Batch: 296842**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1040		mg/L		104	84 - 108

**Lab Sample ID: LCSD 570-296842/3**  
**Matrix: Water**  
**Analysis Batch: 296842**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1040		mg/L		104	84 - 108	1	10

**Lab Sample ID: 570-124247-H-1 DU**  
**Matrix: Water**  
**Analysis Batch: 296842**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	260		253		mg/L		0.8	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

**Lab Sample ID: MB 570-297140/1**  
**Matrix: Water**  
**Analysis Batch: 297140**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			01/19/23 14:49	1

**Lab Sample ID: LCS 570-297140/2**  
**Matrix: Water**  
**Analysis Batch: 297140**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	91.0		mg/L		91	77 - 116

**Lab Sample ID: LCSD 570-297140/3**  
**Matrix: Water**  
**Analysis Batch: 297140**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	88.0		mg/L		88	77 - 116	3	10

**Lab Sample ID: 570-124243-1 DU**  
**Matrix: Water**  
**Analysis Batch: 297140**

**Client Sample ID: Outfall001\_20230115\_Comp**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	43		45.0		mg/L		5	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-296465/5-A  
 Matrix: Water  
 Analysis Batch: 296287

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 296465

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.054	mg/L		01/16/23 21:15	01/16/23 22:24	1

Lab Sample ID: LCS 570-296465/6-A  
 Matrix: Water  
 Analysis Batch: 296287

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 296465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	1.00	1.02		mg/L		102	85 - 111

Lab Sample ID: LCSD 570-296465/7-A  
 Matrix: Water  
 Analysis Batch: 296287

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 296465

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	1.00	1.02		mg/L		102	85 - 111	1	7

Lab Sample ID: 570-124243-1 MS  
 Matrix: Water  
 Analysis Batch: 296287

Client Sample ID: Outfall001\_20230115\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 296465

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.069	J,DX	1.00	1.10		mg/L		103	75 - 125

Lab Sample ID: 570-124243-1 MSD  
 Matrix: Water  
 Analysis Batch: 296287

Client Sample ID: Outfall001\_20230115\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 296465

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.069	J,DX	1.00	1.08		mg/L		101	75 - 125	2	12

## Method: SM5210B - BOD, 5 Day

Lab Sample ID: USB 570-297648/2  
 Matrix: Water  
 Analysis Batch: 297648

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			01/16/23 11:59	1

Lab Sample ID: LCS 570-297648/4  
 Matrix: Water  
 Analysis Batch: 297648

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	196		mg/L		99	84.6 - 115.4

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Method: SM5210B - BOD, 5 Day (Continued)

Lab Sample ID: 570-124205-I-5 DU

Matrix: Water

Analysis Batch: 297648

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	ND		ND		mg/L		NC	25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## GC/MS Semi VOA

### Prep Batch: 296476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	625	
MB 570-296476/1-A	Method Blank	Total/NA	Water	625	
LCS 570-296476/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-296476/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 298807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-296476/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	296476
LCSD 570-296476/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	296476

### Analysis Batch: 298809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	625.1 SIM	296476

### Analysis Batch: 299094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-296476/1-A	Method Blank	Total/NA	Water	625.1 SIM	296476

## GC Semi VOA

### Prep Batch: 296435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	608	
MB 570-296435/1-A	Method Blank	Total/NA	Water	608	
LCS 570-296435/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-296435/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 296586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-296435/1-A	Method Blank	Total/NA	Water	608.3	296435
LCS 570-296435/2-A	Lab Control Sample	Total/NA	Water	608.3	296435
LCSD 570-296435/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	296435

### Analysis Batch: 296909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	608.3	296435

## HPLC/IC

### Analysis Batch: 295972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	300.0	
MB 570-295972/5	Method Blank	Total/NA	Water	300.0	
LCS 570-295972/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-295972/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-123084-I-3 MS	Matrix Spike	Total/NA	Water	300.0	
570-123084-I-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 295973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	300.0	
MB 570-295973/5	Method Blank	Total/NA	Water	300.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## HPLC/IC (Continued)

### Analysis Batch: 295973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-295973/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-295973/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-123084-I-3 MS	Matrix Spike	Total/NA	Water	300.0	
570-123084-I-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 296515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	NO2NO3 Calc	

### Analysis Batch: 297005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	314.0	
MB 570-297005/7	Method Blank	Total/NA	Water	314.0	
LCS 570-297005/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-297005/9	Lab Control Sample Dup	Total/NA	Water	314.0	
570-124594-D-2 MS	Matrix Spike	Total/NA	Water	314.0	
570-124594-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

## Metals

### Filtration Batch: 296510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-3	Outfall001_20230115_Comp_F	Dissolved	Water	Filtration	
MB 570-296510/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-296510/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-296510/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-123631-C-2-B MS	Matrix Spike	Dissolved	Water	Filtration	
570-123631-C-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

### Analysis Batch: 296754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-296510/1-A	Method Blank	Dissolved	Water	200.8	296510
LCS 570-296510/2-A	Lab Control Sample	Dissolved	Water	200.8	296510
LCSD 570-296510/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	296510

### Analysis Batch: 296758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-3	Outfall001_20230115_Comp_F	Dissolved	Water	200.8	296510
570-123631-C-2-B MS	Matrix Spike	Dissolved	Water	200.8	296510
570-123631-C-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	296510

### Prep Batch: 296898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	245.1	
MB 570-296898/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-296898/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-296898/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-124050-A-1-E MS	Matrix Spike	Total/NA	Water	245.1	
570-124050-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Metals

### Filtration Batch: 296900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-3	Outfall001_20230115_Comp_F	Dissolved	Water	Filtration	
MB 570-296900/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-296900/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-296900/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-124243-3 MS	Outfall001_20230115_Comp_F	Dissolved	Water	Filtration	
570-124243-3 MSD	Outfall001_20230115_Comp_F	Dissolved	Water	Filtration	

### Prep Batch: 296901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-3	Outfall001_20230115_Comp_F	Dissolved	Water	245.1	296900
MB 570-296900/1-B	Method Blank	Dissolved	Water	245.1	296900
LCS 570-296900/2-B	Lab Control Sample	Dissolved	Water	245.1	296900
LCSD 570-296900/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	296900
570-124243-3 MS	Outfall001_20230115_Comp_F	Dissolved	Water	245.1	296900
570-124243-3 MSD	Outfall001_20230115_Comp_F	Dissolved	Water	245.1	296900

### Prep Batch: 297004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total Recoverable	Water	200.8	
MB 570-297004/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-297004/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-297004/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-124222-B-1-C MS	Matrix Spike	Total Recoverable	Water	200.8	
570-124222-B-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 297141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-297004/1-A	Method Blank	Total Recoverable	Water	200.8	297004
LCS 570-297004/2-A	Lab Control Sample	Total Recoverable	Water	200.8	297004
LCSD 570-297004/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	297004

### Analysis Batch: 297142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total Recoverable	Water	200.8	297004
570-124222-B-1-C MS	Matrix Spike	Total Recoverable	Water	200.8	297004
570-124222-B-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	297004

### Analysis Batch: 297225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	245.1	296898
570-124243-3	Outfall001_20230115_Comp_F	Dissolved	Water	245.1	296901
MB 570-296898/1-A	Method Blank	Total/NA	Water	245.1	296898
MB 570-296900/1-B	Method Blank	Dissolved	Water	245.1	296901
LCS 570-296898/2-A	Lab Control Sample	Total/NA	Water	245.1	296898
LCS 570-296900/2-B	Lab Control Sample	Dissolved	Water	245.1	296901
LCSD 570-296898/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	296898
LCSD 570-296900/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	296901
570-124050-A-1-E MS	Matrix Spike	Total/NA	Water	245.1	296898
570-124050-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	296898
570-124243-3 MS	Outfall001_20230115_Comp_F	Dissolved	Water	245.1	296901
570-124243-3 MSD	Outfall001_20230115_Comp_F	Dissolved	Water	245.1	296901

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Metals

### Prep Batch: 301651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total Recoverable	Water	200.8	
MB 570-301651/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-301651/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-301651/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-126592-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	
570-126592-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 301811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total Recoverable	Water	200.8	301651
MB 570-301651/1-A	Method Blank	Total Recoverable	Water	200.8	301651
LCS 570-301651/2-A	Lab Control Sample	Total Recoverable	Water	200.8	301651
LCSD 570-301651/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	301651
570-126592-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	301651
570-126592-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	301651

## General Chemistry

### Analysis Batch: 296271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-296271/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-296271/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-296271/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-124243-1 DU	Outfall001_20230115_Comp	Total/NA	Water	SM 2130B	

### Analysis Batch: 296287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	SM 5540C	296465
MB 570-296465/5-A	Method Blank	Total/NA	Water	SM 5540C	296465
LCS 570-296465/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	296465
LCSD 570-296465/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	296465
570-124243-1 MS	Outfall001_20230115_Comp	Total/NA	Water	SM 5540C	296465
570-124243-1 MSD	Outfall001_20230115_Comp	Total/NA	Water	SM 5540C	296465

### Prep Batch: 296465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	SM 5540C	
MB 570-296465/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-296465/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-296465/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-124243-1 MS	Outfall001_20230115_Comp	Total/NA	Water	SM 5540C	
570-124243-1 MSD	Outfall001_20230115_Comp	Total/NA	Water	SM 5540C	

### Analysis Batch: 296842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	SM 2540C	
MB 570-296842/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-296842/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-296842/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-124247-H-1 DU	Duplicate	Total/NA	Water	SM 2540C	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## General Chemistry

### Analysis Batch: 297140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	SM 2540D	
MB 570-297140/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-297140/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-297140/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-124243-1 DU	Outfall001_20230115_Comp	Total/NA	Water	SM 2540D	

### Analysis Batch: 297648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	SM5210B	
USB 570-297648/2	Method Blank	Total/NA	Water	SM5210B	
LCS 570-297648/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-124205-I-5 DU	Duplicate	Total/NA	Water	SM5210B	

### Analysis Batch: 297946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	Kelada 01	
MB 570-297946/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-297946/14	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-297946/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-297946/10	Lab Control Sample	Total/NA	Water	Kelada 01	
570-124243-1 MS	Outfall001_20230115_Comp	Total/NA	Water	Kelada 01	
570-124243-1 MSD	Outfall001_20230115_Comp	Total/NA	Water	Kelada 01	

### Prep Batch: 298842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-298842/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-298842/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-298842/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-124603-U-1-A MS	Matrix Spike	Total/NA	Water	Distill/Ammonia	
570-124603-U-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 298901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	350.1	298842
MB 570-298842/5-A	Method Blank	Total/NA	Water	350.1	298842
LCS 570-298842/6-A	Lab Control Sample	Total/NA	Water	350.1	298842
LCSD 570-298842/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	298842
570-124603-U-1-A MS	Matrix Spike	Total/NA	Water	350.1	298842
570-124603-U-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	298842

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

**Client Sample ID: Outfall001\_20230115\_Comp**

**Lab Sample ID: 570-124243-1**

**Date Collected: 01/15/23 08:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1062.2 mL	2 mL	296476	01/17/23 13:55	UM1W	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	298809	01/26/23 16:54	ULLI	EET CAL 4
Instrument ID: GCMSEEE										
Total/NA	Prep	608			1500 mL	1 mL	296435	01/17/23 12:18	USUL	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	296909	01/19/23 15:05	N5Y3	EET CAL 4
Instrument ID: GC52A										
Total/NA	Analysis	300.0		5	4 mL	4 mL	295972	01/16/23 23:03	PS	EET CAL 4
Instrument ID: IC9										
Total/NA	Analysis	300.0		5	4 mL	4 mL	295973	01/16/23 23:03	PS	EET CAL 4
Instrument ID: IC9										
Total/NA	Analysis	314.0		1	4 mL	4 mL	297005	01/19/23 23:03	PS	EET CAL 4
Instrument ID: IC13										
Total/NA	Analysis	NO2NO3 Calc		1			296515	01/17/23 16:16	WH6J	EET CAL 4
Instrument ID: NOEQUIP										
Total Recoverable	Prep	200.8			50 mL	50 mL	297004	01/19/23 09:12	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			297142	01/19/23 13:22	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Total Recoverable	Prep	200.8			50 mL	50 mL	301651	02/07/23 06:36	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			301811	02/07/23 10:55	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Total/NA	Prep	245.1			25 mL	50 mL	296898	01/18/23 18:51	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			297225	01/19/23 17:26	C0YH	EET CAL 4
Instrument ID: HG8										
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	298842	01/26/23 09:45	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	298901	01/26/23 12:28	UXCH	EET CAL 4
Instrument ID: ACA2										
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	297946	01/23/23 13:44	GG0B	EET CAL 4
Instrument ID: LACHAT01										
Total/NA	Analysis	SM 2130B		1			296271	01/16/23 20:22	TXA8	EET CAL 4
Instrument ID: TUR4										
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	296842	01/18/23 15:24	ZL7L	EET CAL 4
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540D		1	400 mL	1000 mL	297140	01/19/23 14:49	BDH9	EET CAL 4
Instrument ID: NOEQUIP										
Total/NA	Prep	SM 5540C			100 mL	100 mL	296465	01/16/23 21:15	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	296287	01/16/23 22:29	TXA8	EET CAL 4
Instrument ID: UV9										
Total/NA	Analysis	SM5210B		1			297648	01/16/23 18:08	U7UR	EET CAL 4
Instrument ID: BOD3										

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

**Client Sample ID: Outfall001\_20230115\_Comp\_F**

**Lab Sample ID: 570-124243-3**

**Date Collected: 01/15/23 08:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	296510	01/17/23 15:47	W1BQ	EET CAL 4
Dissolved	Analysis	200.8		1			296758	01/18/23 11:17	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Dissolved	Filtration	Filtration			25 mL	25 mL	296900	01/18/23 18:53	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	296901	01/18/23 19:30	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			297225	01/19/23 18:25	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
SM5210B	BOD, 5 Day	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124243-1	Outfall001_20230115_Comp	Water	01/15/23 08:30	01/16/23 17:00
570-124243-3	Outfall001_20230115_Comp_F	Water	01/15/23 08:30	01/16/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

124243

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p>Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall 001, 002, 011 018J Outfall 001 Comp</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Sample Matrix: WM</p>		<p>Sample ID: Outfall001_20230115_Comp_F</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>Container Type: 1L Poly</p>		<p># of Cont.: 3</p>		<p>Preservative: None</p>		<p>Bottle #: 200</p>		<p>MS/MSD: Yes</p>		<p>Comments:</p>	
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Sample Matrix: WM</p>		<p>Sample ID: Outfall001_20230115_Comp</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>Container Type: borosilicate vials</p>		<p># of Cont.: 3</p>		<p>Preservative: None</p>		<p>Bottle #: 320</p>		<p>MS/MSD: Yes</p>		<p>Filter and preserve within 24hrs of receipt at lab. Outfall 001 analyze for Fe, Mn.</p>			
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Sample Matrix: WM</p>		<p>Sample ID: Outfall001_20230115_Comp</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>Container Type: 500 mL Poly</p>		<p># of Cont.: 3</p>		<p>Preservative: NaOH</p>		<p>Bottle #: 220</p>		<p>MS/MSD: Yes</p>		<p>Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.</p>			
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Sample Matrix: WM</p>		<p>Sample ID: Outfall001_20230115_Comp</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>Container Type: 2.5 Gall Cube</p>		<p># of Cont.: 3</p>		<p>Preservative: None</p>		<p>Bottle #: 225</p>		<p>MS/MSD: Yes</p>		<p>Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.</p>			
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Sample Matrix: WM</p>		<p>Sample ID: Outfall001_20230115_Comp</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>Container Type: 1 L Glass Amber</p>		<p># of Cont.: 3</p>		<p>Preservative: None</p>		<p>Bottle #: 230</p>		<p>MS/MSD: Yes</p>		<p>Only test 1st or second rain events of the year. Deliver to ABC Labs in Ventura, CA.</p>			
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Sample Matrix: WM</p>		<p>Sample ID: Outfall001_20230115_Comp</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>Container Type: 1 Gall Cube</p>		<p># of Cont.: 8</p>		<p>Preservative: None</p>		<p>Bottle #: 235</p>		<p>MS/MSD: No</p>		<p>Chronic toxicity not collected and not submitted. Removed from COC (MD 2/1/2023)</p>			

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By: <i>[Signature]</i>	Date/Time: 1-16-2023/14:30	Company: EC	Received By: <i>[Signature]</i>	Date/Time: 1-16-23 14:30	Company: EC	Turn-around Time: (Check) 24 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 10 Day <input checked="" type="checkbox"/> 36 Hour <input type="checkbox"/> 5 Day <input type="checkbox"/> Normal: <input type="checkbox"/>
Relinquished By: <i>[Signature]</i>	Date/Time: 1-16-23 17:00	Company: EC	Received By: <i>[Signature]</i>	Date/Time: 1-16-23 17:00	Company: EC	Sample Integrity: (Check) Intact: <input type="checkbox"/> On Ice: <input type="checkbox"/> Store samples for 6 months. Data Requirements: (Check) No Level IV: <input type="checkbox"/> All Level IV: <input checked="" type="checkbox"/>



1241243

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p>Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall #001, 002, 011 018] Outfall 001 Comp</p>		<p>ANALYSIS REQUIRED</p>										<p>Comments</p>										
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Total Recoverable Metals: (E200.7), Zn (E200.8), Cu, Pb, Cd, Se</p>	<p>TCPD (and all congeners) (E161B)</p>	<p>BOD5 (20 degrees C) (E405, (SM5210B, BODCalc))</p>	<p>Surfactants (MBAs) (SM5540C/E425, 1) (E300)</p>	<p>Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)</p>	<p>Turbidity TDS (SM2540C/E180, 1)</p>	<p>TSS (160.2 (SM2540D))</p>	<p>Ammonia-N (350.2)</p>	<p>alpha-BHC (E508)</p>	<p>2,4,6 TCP 2,4 Dinitrotoluene, Bis-2 ethylhexyl(phthalate, NDMA, PCP (SVOCs E625)</p>	<p>Total Recoverable Metals Mercury (E245, 1)</p>	<p>Total Recoverable Metals (E200.7) Mn, Fe</p>	<p>Outfall 001 analyze for Fe, Mn</p>								
<p>Sample Description</p>		<p>Sample I.D.</p>	<p>Sampling Date/Time</p>	<p>Sample Matrix</p>	<p>Container Type</p>	<p># of Cont.</p>	<p>Preservative</p>	<p>Bottle #</p>	<p>MS/MSD</p>	<p>Total Recoverable Metals: (E200.7), Zn (E200.8), Cu, Pb, Cd, Se</p>	<p>TCPD (and all congeners) (E161B)</p>	<p>BOD5 (20 degrees C) (E405, (SM5210B, BODCalc))</p>	<p>Surfactants (MBAs) (SM5540C/E425, 1) (E300)</p>	<p>Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)</p>	<p>Turbidity TDS (SM2540C/E180, 1)</p>	<p>TSS (160.2 (SM2540D))</p>	<p>Ammonia-N (350.2)</p>	<p>alpha-BHC (E508)</p>	<p>2,4,6 TCP 2,4 Dinitrotoluene, Bis-2 ethylhexyl(phthalate, NDMA, PCP (SVOCs E625)</p>	<p>Total Recoverable Metals Mercury (E245, 1)</p>	<p>Total Recoverable Metals (E200.7) Mn, Fe</p>	<p>Outfall 001 analyze for Fe, Mn</p>		
<p>Outfall001_20230115_Comp</p>		<p>1/15/2023</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>3</p>	<p>HNO3</p>	<p>90</p>	<p>Yes</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>
<p>Outfall001_20230115_Comp_Extra</p>		<p>1/15/2023</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>110</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>
<p>Outfall001_20230115_Comp_Extra</p>		<p>1/15/2023</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>2</p>	<p>None</p>	<p>120</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>



570-124243 Chain of Custody

Relinquished By: *[Signature]* Date/Time: 1-16-23 14:30  
 Relinquished By: *[Signature]* Date/Time: 1-16-23 17:00  
 Relinquished By: *[Signature]* Date/Time: 1-16-23 17:00

0.3/0.3 0.7/0.7 0.1/0.1 1.6/1.6 0.4/0.4 5011



124243

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p>Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall 001, 002, 011 018] Outfall 001 Comp</p>		<p>ANALYSIS REQUIRED</p>		<p>Comments</p>	
<p>Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Deitan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Total Dissolved Metals: (E200.7) Zn (E200.8) Cu, Pb, Cd, Se</p>		<p>Total Dissolved Metals: (E200.7) Mn, Fe</p>	
<p>Sampler: Adrian Mobeka</p>		<p>Sample Matrix</p>		<p>Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA</p>		<p>Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe, Mn.</p>	
<p>Sample ID: Outfall001_20230115_Comp_F</p>		<p>Sampling Date/Time: 1/15/2023</p>		<p>GS-17 (E901.0 or E901.1) Radium 226 (E904.0), Uranium (E908.0), K-40, Total Radium 226 (E903.0 or E903.1) &amp; Total Radium 228 (E903.0 or E903.1)</p>		<p>Sample receiving DO NOT OPEN BAG. Bag to be opened in laboratory Prep using clean procedures.</p>	
<p>Sample Description: Outfall001_20230115_Comp</p>		<p>1/15/2023</p>		<p>Gross Alpha (E900.0), Gross Beta (E900.0), Triium (I-131) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) &amp; Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)</p>		<p>Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.</p>	
<p>Sample Matrix: WM</p>		<p>1/15/2023</p>		<p>Cyanide (SM4500-CN-E / E335.2)</p>		<p>Only test 1st or second rain events of the year. Deliver to ABC Labs in Ventura, CA.</p>	
<p>Container Type: 1L Poly</p>		<p>3</p>		<p>MS/MSD</p>		<p></p>	
<p>Preservative: None</p>		<p>200</p>		<p>Yes</p>		<p></p>	
<p>Container Type: borosilicate vials</p>		<p>3</p>		<p>Yes</p>		<p></p>	
<p>Preservative: NaOH</p>		<p>220</p>		<p>Yes</p>		<p></p>	
<p>Container Type: 500 mL Poly</p>		<p>3</p>		<p>Yes</p>		<p></p>	
<p>Preservative: None</p>		<p>225</p>		<p>Yes</p>		<p></p>	
<p>Container Type: 2.5 Gall Cube</p>		<p>3</p>		<p>Yes</p>		<p></p>	
<p>Preservative: None</p>		<p>230</p>		<p>Yes</p>		<p></p>	
<p>Container Type: 1 L Glass Amber</p>		<p>3</p>		<p>No</p>		<p></p>	
<p>Preservative: None</p>		<p>235</p>		<p>No</p>		<p></p>	
<p>Container Type: 1 Gall Cube</p>		<p>6</p>		<p>No</p>		<p></p>	
<p>Preservative: None</p>		<p>6</p>		<p>No</p>		<p></p>	

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

<p>Relinquished By: <i>[Signature]</i> Date/Time: 1-16-2023/14:30 Company: HIA</p>	<p>Received By: <i>[Signature]</i> Date/Time: 1-16-23 14:30 Company: EC</p>	<p>Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal: _____</p>
<p>Relinquished By: <i>[Signature]</i> Date/Time: 1-16-23 17:00 Company: EC</p>	<p>Received By: <i>[Signature]</i> Date/Time: EC 1-16-23 17:00 Company: EC</p>	<p>Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV _____ All Level IV: _____ X</p>



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124243-1

**Login Number: 124243**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/14/2023 1:51:49 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-124243-2

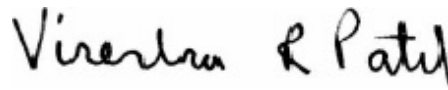
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/14/2023 1:51:49 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	24

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

---

**Job ID: 570-124243-2**

---

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-124243-2**

## Comments

No additional comments.

## Receipt

The samples were received on 1/16/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.1° C, 0.3° C, 0.4° C, 0.7° C and 1.6° C.

## Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall001\_20230115\_Comp (570-124243-1), (CCV 320-652285/2) and (MB 320-650862/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

**Client Sample ID: Outfall001\_20230115\_Comp**

**Lab Sample ID: 570-124243-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000053	J,DX MB q	0.000047	0.000002	ug/L	1		1613B	Total/NA
				5					
1,2,3,7,8-PeCDF	0.0000040	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				3					
2,3,4,7,8-PeCDF	0.0000031	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				6					
1,2,3,4,7,8-HxCDD	0.0000021	J,DX MB	0.000047	0.000001	ug/L	1		1613B	Total/NA
				8					
1,2,3,6,7,8-HxCDD	0.0000023	J,DX MB	0.000047	0.000001	ug/L	1		1613B	Total/NA
				9					
1,2,3,7,8,9-HxCDD	0.0000012	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				7					
1,2,3,4,7,8-HxCDF	0.0000076	J,DX MB	0.000047	0.000001	ug/L	1		1613B	Total/NA
				8					
1,2,3,6,7,8-HxCDF	0.0000061	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				7					
1,2,3,7,8,9-HxCDF	0.0000042	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				8					
2,3,4,6,7,8-HxCDF	0.0000065	J,DX MB	0.000047	0.000001	ug/L	1		1613B	Total/NA
				6					
1,2,3,4,6,7,8-HpCDD	0.000040	J,DX MB	0.000047	0.000007	ug/L	1		1613B	Total/NA
				2					
1,2,3,4,6,7,8-HpCDF	0.0000099	J,DX MB	0.000047	0.000004	ug/L	1		1613B	Total/NA
				1					
1,2,3,4,7,8,9-HpCDF	0.0000055	J,DX MB q	0.000047	0.000004	ug/L	1		1613B	Total/NA
				7					
OCDD	0.00030	MB	0.000094	0.000019	ug/L	1		1613B	Total/NA
OCDF	0.000029	J,DX MB	0.000094	0.000003	ug/L	1		1613B	Total/NA
				9					
Total TCDD	0.0000023	J,DX MB q	0.000094	0.000002	ug/L	1		1613B	Total/NA
				6					
Total PeCDD	0.0000011	J,DX MB q	0.000047	0.000002	ug/L	1		1613B	Total/NA
				5					
Total PeCDF	0.0000011	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				3					
Total HxCDD	0.000013	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				7					
Total HxCDF	0.0000088	J,DX MB q	0.000047	0.000001	ug/L	1		1613B	Total/NA
				6					
Total HpCDD	0.000070	J,DX MB	0.000047	0.000007	ug/L	1		1613B	Total/NA
				2					
Total HpCDF	0.000024	J,DX MB q	0.000047	0.000004	ug/L	1		1613B	Total/NA
				1					

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230115\_Comp**

**Date Collected: 01/15/23 08:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.0000002	ug/L		02/01/23 06:04	02/06/23 19:02	1
2,3,7,8-TCDF	ND		0.0000094	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,7,8-PeCDD</b>	<b>0.00000053</b>	<b>J,DX MB q</b>	0.000047	0.0000002	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,7,8-PeCDF</b>	<b>0.00000040</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>2,3,4,7,8-PeCDF</b>	<b>0.00000031</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.00000021</b>	<b>J,DX MB</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.00000023</b>	<b>J,DX MB</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.00000012</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.00000076</b>	<b>J,DX MB</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.00000061</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.00000042</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.00000065</b>	<b>J,DX MB</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.000040</b>	<b>J,DX MB</b>	0.000047	0.0000007	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.0000099</b>	<b>J,DX MB</b>	0.000047	0.0000004	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>1,2,3,4,7,8,9-HpCDF</b>	<b>0.00000055</b>	<b>J,DX MB q</b>	0.000047	0.0000004	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>OCDD</b>	<b>0.000030</b>	<b>MB</b>	0.000094	0.0000019	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>OCDF</b>	<b>0.000029</b>	<b>J,DX MB</b>	0.000094	0.0000003	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total TCDD</b>	<b>0.00000023</b>	<b>J,DX MB q</b>	0.0000094	0.0000002	ug/L		02/01/23 06:04	02/06/23 19:02	1
Total TCDF	ND		0.0000094	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total PeCDD</b>	<b>0.00000011</b>	<b>J,DX MB q</b>	0.000047	0.0000002	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total PeCDF</b>	<b>0.00000011</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total HxCDD</b>	<b>0.0000013</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total HxCDF</b>	<b>0.00000088</b>	<b>J,DX MB q</b>	0.000047	0.0000001	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total HpCDD</b>	<b>0.0000070</b>	<b>J,DX MB</b>	0.000047	0.0000007	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Total HpCDF</b>	<b>0.0000024</b>	<b>J,DX MB q</b>	0.000047	0.0000004	ug/L		02/01/23 06:04	02/06/23 19:02	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	63		25 - 164				02/01/23 06:04	02/06/23 19:02	1
13C-2,3,7,8-TCDF	64		24 - 169				02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,7,8-PeCDD	66		25 - 181				02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,7,8-PeCDF	66		24 - 185				02/01/23 06:04	02/06/23 19:02	1
13C-2,3,4,7,8-PeCDF	66		21 - 178				02/01/23 06:04	02/06/23 19:02	1

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230115\_Comp**

**Date Collected: 01/15/23 08:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**

**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,4,7,8-HxCDD	68		32 - 141	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,6,7,8-HxCDD	71		28 - 130	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,4,7,8-HxCDF	64		26 - 152	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,6,7,8-HxCDF	71		26 - 123	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,7,8,9-HxCDF	72		29 - 147	02/01/23 06:04	02/06/23 19:02	1
13C-2,3,4,6,7,8-HxCDF	73		28 - 136	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,4,6,7,8-HpCDD	68		23 - 140	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,4,6,7,8-HpCDF	66		28 - 143	02/01/23 06:04	02/06/23 19:02	1
13C-1,2,3,4,7,8,9-HpCDF	69		26 - 138	02/01/23 06:04	02/06/23 19:02	1
13C-OCDD	65		17 - 157	02/01/23 06:04	02/06/23 19:02	1
13C-OCDF	65		17 - 157	02/01/23 06:04	02/06/23 19:02	1
<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
37Cl4-2,3,7,8-TCDD	81		35 - 197	02/01/23 06:04	02/06/23 19:02	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-124243-1	Outfall001_20230115_Comp	81
MB 320-650862/1-A	Method Blank	82

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-650862/2-A	Lab Control Sample	83
LCSD 320-650862/3-A	Lab Control Sample Dup	79

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-124243-1	Outfall001_20230115_Comp	63	64	66	66	66	68	71	64
MB 320-650862/1-A	Method Blank	61	60	63	63	64	62	66	57

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-124243-1	Outfall001_20230115_Comp	71	72	73	68	66	69	65	65
MB 320-650862/1-A	Method Blank	66	66	67	62	59	62	61	60

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-650862/2-A	Lab Control Sample	60	59	60	61	55	54	57	49
LCSD 320-650862/3-A	Lab Control Sample Dup	62	60	64	65	62	62	64	58

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-650862/2-A	Lab Control Sample	57	66	65	62	55	63	62	62
LCSD 320-650862/3-A	Lab Control Sample Dup	65	69	70	65	62	67	65	64

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF

Eurofins Calscience



# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-650862/1-A

Matrix: Water

Analysis Batch: 652038

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 650862

Analyte	MB	MB	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2,3,7,8-TCDD	0.000000844	J,DX q	0.000010	0.0000003	ug/L		02/01/23 06:04	02/06/23 14:23	1
2,3,7,8-TCDF	0.000000804	J,DX q	0.000010	0.0000001	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,7,8-PeCDD	0.00000133	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,7,8-PeCDF	0.00000141	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
2,3,4,7,8-PeCDF	0.00000105	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,4,7,8-HxCDD	0.00000333	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,6,7,8-HxCDD	0.00000177	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,7,8,9-HxCDD	0.00000192	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,4,7,8-HxCDF	0.00000144	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,6,7,8-HxCDF	0.00000140	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,7,8,9-HxCDF	0.00000126	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
2,3,4,6,7,8-HxCDF	0.000000852	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,4,6,7,8-HpCDD	0.00000347	J,DX q	0.000050	0.0000001	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,4,6,7,8-HpCDF	0.00000196	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
1,2,3,4,7,8,9-HpCDF	0.00000202	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
OCDD	0.0000106	J,DX	0.00010	0.0000003	ug/L		02/01/23 06:04	02/06/23 14:23	1
OCDF	0.00000474	J,DX	0.00010	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total TCDD	0.00000670	J,DX q	0.000010	0.0000003	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total TCDF	0.000000804	J,DX q	0.000010	0.0000001	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total PeCDD	0.00000176	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total PeCDF	0.00000246	J,DX	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total HxCDD	0.00000809	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total HxCDF	0.00000495	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total HpCDD	0.00000606	J,DX q	0.000050	0.0000001	ug/L		02/01/23 06:04	02/06/23 14:23	1
Total HpCDF	0.00000398	J,DX q	0.000050	0.0000002	ug/L		02/01/23 06:04	02/06/23 14:23	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,7,8-TCDD	61		25 - 164	02/01/23 06:04	02/06/23 14:23	1
13C-2,3,7,8-TCDF	60		24 - 169	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,7,8-PeCDD	63		25 - 181	02/01/23 06:04	02/06/23 14:23	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-650862/1-A**  
**Matrix: Water**  
**Analysis Batch: 652038**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 650862**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDF	63		24 - 185	02/01/23 06:04	02/06/23 14:23	1
13C-2,3,4,7,8-PeCDF	64		21 - 178	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,4,7,8-HxCDD	62		32 - 141	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,6,7,8-HxCDD	66		28 - 130	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,4,7,8-HxCDF	57		26 - 152	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,6,7,8-HxCDF	66		26 - 123	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,7,8,9-HxCDF	66		29 - 147	02/01/23 06:04	02/06/23 14:23	1
13C-2,3,4,6,7,8-HxCDF	67		28 - 136	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,4,6,7,8-HpCDD	62		23 - 140	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,4,6,7,8-HpCDF	59		28 - 143	02/01/23 06:04	02/06/23 14:23	1
13C-1,2,3,4,7,8,9-HpCDF	62		26 - 138	02/01/23 06:04	02/06/23 14:23	1
13C-OCDD	61		17 - 157	02/01/23 06:04	02/06/23 14:23	1
13C-OCDF	60		17 - 157	02/01/23 06:04	02/06/23 14:23	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	82		35 - 197	02/01/23 06:04	02/06/23 14:23	1

**Lab Sample ID: LCS 320-650862/2-A**  
**Matrix: Water**  
**Analysis Batch: 652038**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 650862**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDF	0.000200	0.000228		ug/L		114	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00103		ug/L		103	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00104		ug/L		104	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.00102		ug/L		102	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00105		ug/L		105	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00116		ug/L		116	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.00104		ug/L		104	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00105		ug/L		105	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00103		ug/L		103	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00104		ug/L		104	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00105		ug/L		105	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00104		ug/L		104	78 - 138
OCDD	0.00200	0.00205		ug/L		103	78 - 144
OCDF	0.00200	0.00216		ug/L		108	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	60		20 - 175
13C-2,3,7,8-TCDF	59		22 - 152
13C-1,2,3,7,8-PeCDD	60		21 - 227
13C-1,2,3,7,8-PeCDF	61		21 - 192
13C-2,3,4,7,8-PeCDF	55		13 - 328
13C-1,2,3,4,7,8-HxCDD	54		21 - 193
13C-1,2,3,6,7,8-HxCDD	57		25 - 163

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-650862/2-A**  
**Matrix: Water**  
**Analysis Batch: 652038**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 650862**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,7,8-HxCDF	49		19 - 202
13C-1,2,3,6,7,8-HxCDF	57		21 - 159
13C-1,2,3,7,8,9-HxCDF	66		17 - 205
13C-2,3,4,6,7,8-HxCDF	65		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	62		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	55		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	63		20 - 186
13C-OCDD	62		13 - 199
13C-OCDF	62		13 - 199

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	83		31 - 191

**Lab Sample ID: LCSD 320-650862/3-A**  
**Matrix: Water**  
**Analysis Batch: 652038**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 650862**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000213		ug/L		106	67 - 158	2	50	
2,3,7,8-TCDF	0.000200	0.000223		ug/L		112	75 - 158	2	50	
1,2,3,7,8-PeCDD	0.00100	0.00102		ug/L		102	70 - 142	1	50	
1,2,3,7,8-PeCDF	0.00100	0.00102		ug/L		102	80 - 134	2	50	
2,3,4,7,8-PeCDF	0.00100	0.00104		ug/L		104	68 - 160	0	50	
1,2,3,4,7,8-HxCDD	0.00100	0.000996		ug/L		100	70 - 164	2	50	
1,2,3,6,7,8-HxCDD	0.00100	0.00105		ug/L		105	76 - 134	0	50	
1,2,3,7,8,9-HxCDD	0.00100	0.00105		ug/L		105	64 - 162	9	50	
1,2,3,4,7,8-HxCDF	0.00100	0.00101		ug/L		101	72 - 134	3	50	
1,2,3,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	84 - 130	1	50	
1,2,3,7,8,9-HxCDF	0.00100	0.00102		ug/L		102	78 - 130	2	50	
2,3,4,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	70 - 156	2	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.00103		ug/L		103	70 - 140	0	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.00104		ug/L		104	82 - 122	1	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.00103		ug/L		103	78 - 138	1	50	
OCDD	0.00200	0.00205		ug/L		102	78 - 144	0	50	
OCDF	0.00200	0.00213		ug/L		106	63 - 170	1	50	

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	62		20 - 175
13C-2,3,7,8-TCDF	60		22 - 152
13C-1,2,3,7,8-PeCDD	64		21 - 227
13C-1,2,3,7,8-PeCDF	65		21 - 192
13C-2,3,4,7,8-PeCDF	62		13 - 328
13C-1,2,3,4,7,8-HxCDD	62		21 - 193
13C-1,2,3,6,7,8-HxCDD	64		25 - 163
13C-1,2,3,4,7,8-HxCDF	58		19 - 202
13C-1,2,3,6,7,8-HxCDF	65		21 - 159
13C-1,2,3,7,8,9-HxCDF	69		17 - 205
13C-2,3,4,6,7,8-HxCDF	70		22 - 176

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-650862/3-A  
 Matrix: Water  
 Analysis Batch: 652038

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 650862

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,4,6,7,8-HpCDD	65		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	62		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	67		20 - 186
13C-OCDD	65		13 - 199
13C-OCDF	64		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	79		31 - 191

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

## Specialty Organics

### Prep Batch: 650862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	1613B	
MB 320-650862/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-650862/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-650862/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 652038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	1613B	650862
MB 320-650862/1-A	Method Blank	Total/NA	Water	1613B	650862
LCS 320-650862/2-A	Lab Control Sample	Total/NA	Water	1613B	650862
LCSD 320-650862/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	650862

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

**Client Sample ID: Outfall001\_20230115\_Comp**

**Lab Sample ID: 570-124243-1**

**Date Collected: 01/15/23 08:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1061.7 mL	20 uL	650862	02/01/23 06:04	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	652038	02/06/23 19:02	GRB	EET SAC

Instrument ID: 12D5

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-124243-2

Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-23 *
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
Utah	NELAP	CA000442021-12	02-28-23
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124243-1	Outfall001_20230115_Comp	Water	01/15/23 08:30	01/16/23 17:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

1241243

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p>Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall #001, 002, 011 018] Outfall 001 Comp</p>		<p>ANALYSIS REQUIRED</p>										<p>Comments</p>									
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Total Recoverable Metals: (E200.7), Zn (E200.8), Cu, Pb, Cd, Se</p>	<p>TCPD (and all congeners) (E161B)</p>	<p>BOD5 (20 degrees C) (E405, (SM5210B, BODCalc))</p>	<p>Surfactants (MBAs) (SM5540C/E425, 1) (E300)</p>	<p>Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300)</p>	<p>Turbidity TD5 (SM2540C/E180, 1)</p>	<p>TSS (160.2 (SM2540D))</p>	<p>Ammonia-N (350.2)</p>	<p>alpha-BHC (E508)</p>	<p>2,4,6 TCP, 2,4 Dinitrotoluene, Bis-2- ethylhexyl(phthalate, NDMA, PCP (SVOCs E625)</p>	<p>Total Recoverable Metals Mercury (E245, 1)</p>	<p>Total Recoverable Metals (E200.7) Mn, Fe</p>	<p>Outfall 001 analyze for Fe, Mn</p>							
<p>Sample Description</p>	<p>Sample I.D.</p>	<p>Sampling Date/Time</p>	<p>Sample Matrix</p>	<p>Container Type</p>	<p># of Cont.</p>	<p>Preservative</p>	<p>Bottle #</p>	<p>MS/MSD</p>	<p>Total Recoverable Metals: (E200.7), Zn (E200.8), Cu, Pb, Cd, Se</p>	<p>TCPD (and all congeners) (E161B)</p>	<p>BOD5 (20 degrees C) (E405, (SM5210B, BODCalc))</p>	<p>Surfactants (MBAs) (SM5540C/E425, 1) (E300)</p>	<p>Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300)</p>	<p>Turbidity TD5 (SM2540C/E180, 1)</p>	<p>TSS (160.2 (SM2540D))</p>	<p>Ammonia-N (350.2)</p>	<p>alpha-BHC (E508)</p>	<p>2,4,6 TCP, 2,4 Dinitrotoluene, Bis-2- ethylhexyl(phthalate, NDMA, PCP (SVOCs E625)</p>	<p>Total Recoverable Metals Mercury (E245, 1)</p>	<p>Total Recoverable Metals (E200.7) Mn, Fe</p>	<p>Outfall 001 analyze for Fe, Mn</p>		
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>3</p>	<p>HNO3</p>	<p>90</p>	<p>Yes</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>48 hours Holding Time NO3 &amp; NO2 48 hour holding time for turbidity</p>
<p>Outfall001_20230115_Comp_Extra</p>	<p>Outfall001_20230115_Comp_Extra</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>110</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>2</p>	<p>None</p>	<p>120</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>2</p>	<p>None</p>	<p>130</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>145</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>160</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>170</p>	<p>Yes</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>180</p>	<p>Yes</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>185</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>2</p>	<p>None</p>	<p>190</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>2</p>	<p>None</p>	<p>190</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>Hold</p>



570-124243 Chain of Custody

Relinquished By: *Mark Dominick* Date/Time: 1-16-23 14:30  
 Relinquished By: *EC* Date/Time: 1-16-23 17:00  
 Relinquished By: *EC* Date/Time: 1-16-23 17:00

0.3/0.3 0.7/0.7 0.1/0.1 1.6/1.6 0.4/0.4 5011



124243

CHAIN OF CUSTODY FORM

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 <b>Eurofins Calscience Irvine Contact:</b> Christian Bondoc 17461 Deitan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall 001, 002, 011 018] Outfall 001 Comp		<b>ANALYSIS REQUIRED</b>													
<b>Sampler:</b> Adrian Mobeka <small>TetraTech's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement# 2018-22-Resubmit by and between Tetra Tech, Inc. its subsidiaries and affiliates, and TetraAmerica Laboratories Inc.</small>		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		<b>Total Dissolved Metals:</b> (E200.7) Zn (E200.8) Cu, Pb, Cd, Se		Cyanide (SM4500-CN-E / E335.2)		Trilium (T-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & CS-137 (E901.0 or E901.1)		Chronic Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA		Total Dissolved Metals, Mercury (E245.1)		Total Dissolved Metals (E200.7) Mn, Fe		<b>Comments</b>	
Sample Description Outfall001_20230115_Comp_F	Sample ID Outfall001_20230115_Comp_F	Sampling Date/Time 1/15/2023 <i>10:30</i>	Sample Matrix WM	Container Type 1L Poly	# of Cont. 3	Preservative None	Bottle # 200	MS/MSD Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe, Mn.	
Sample Description Outfall001_20230115_Comp	Sample ID Outfall001_20230115_Comp	Sampling Date/Time 1/15/2023 <i>10:30</i>	Sample Matrix WM	Container Type 500 mL Poly 2.5 Gall Cube 1 L Glass Amber 1 Gall Cube	# of Cont. 3 3 6	Preservative None None None	Bottle # 220 225 230 235	MS/MSD Yes Yes Yes No	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample receiving DO NOT OPEN BAG. Bag to be opened in laboratory Prep using clean procedures.  Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.  Only test 1st or second rain events of the year. Deliver to ABC Labs in Ventura, CA.	

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By <i>Mark Dominick</i> Date/Time 1-16-23 17:00	Received By <i>EC</i> Date/Time 1-16-23 14:30	Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal: _____
Relinquished By <i>EC</i> Date/Time 1-16-23 17:00	Received By <i>EC</i> Date/Time 1-16-23 17:00	Sample integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV _____ All Level IV: X



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact:		Patel, Virendra	Patel, Virendra		570-204372.1
Shipping/Receiving		Phone:	E-Mail:	State of Origin:	Page
Company:		Virendra.Patel@et.eurofins.com	Virendra.Patel@et.eurofins.com	California	Page 1 of 1
Eurofins Environment Testing Northern Ca		Accreditations Required (See note):		Job #:	570-124243-2
Address:		Due Date Requested:		Preservation Codes:	
880 Riverside Parkway,		2/3/2023		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDA Other:	
City:		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA	
State, Zip:		PO #:		Total Number of containers	
CA, 95605		WO #:		2	
Phone:		Project #:		<b>Special Instructions/Note:</b>	
916-373-5600(Tel) 916-372-1059(Fax)		44024446			
Email:		SSOW#:		See OAS. Boeing_wlu to zero, ug/L, Use Boeing glassware.	
Project Name:		Sample Date		<input type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 1613B/1613B_Sox_Sep_P Standard List w/ Totals	
Boeing SSFL NPDES - Outfall 001 - Comp		1/15/23			
Site:		Sample Time		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Outfall001_20230115_Comp (570-124243-1)		08:30 Pacific			
Sample Identification - Client ID (Lab ID)		Sample Type (C=Comp, G=grab)		Special Instructions/QC Requirements:	
		Water			
Matrix (Water, Seawater, Orwash, Oil, Br-Tissue, A-Air)		Preservation Code:		<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	
Empty Kit Relinquished by:		Date:		Primary Deliverable Rank: 2 Date/Time: 6/17/23 13:00 Date/Time: 6/17/23 13:00 Date/Time:	
Relinquished by:		Date/Time:			
Relinquished by:		Date/Time:		Received by: [Signature] Received by: [Signature] Received by: [Signature]	
Custody Seals Intact: (Yes/No)		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 23u	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124243-2

**Login Number: 124243**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124243-2

**Login Number: 124243**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 01/18/23 12:00 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3c 3.2c 1.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/20/2023 2:52:50 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-124243-3



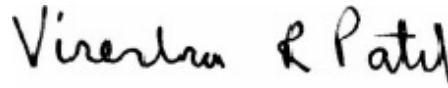
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/20/2023 2:52:50 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	23
Lab Chronicle . . . . .	25
Certification Summary . . . . .	26
Method Summary . . . . .	27
Sample Summary . . . . .	28
Chain of Custody . . . . .	29
Receipt Checklists . . . . .	32

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Job ID: 570-124243-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-124243-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/16/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.1° C, 0.3° C, 0.4° C, 0.7° C and 1.6° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of 2. The following samples were received with a pH of 6: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

Job #: 570-124247 R-1  
Job #: 570-124230 R-1,  
Job #: 570-124243 AP-1 and AR-1  
Job #: 570-124233 K-1  
Job #: 570-124239 J-1  
Job #: 570-123901 T-1, T-2, U-1, U-2  
Job #: 570-123902 J-1, J-2, K-1, K-2

#### RAD

Method 900.0: Gross Alpha and Gross Beta batch 598185

The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: (400-231975-E-8-A) and (400-231975-E-8-F DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 598185

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230115\_Comp (570-124243-1), (LCS 160-598185/2-A), (LCSB 160-598185/3-A), (MB 160-598185/1-A), (400-231975-E-8-A), (400-231975-E-8-F DU), (400-231975-E-8-B MS), (400-231975-E-8-D MSBT), (400-231975-E-8-E MSBTD) and (400-231975-E-8-C MSD)

Method 901.1: Gamma Prep Batch 160-597551

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Job ID: 570-124243-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230115\_Comp (570-124243-1), (570-124230-R-1-E) and (570-124230-R-1-F DU)

Method 903.0: Radium-226 prep batch 160-597480:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230115\_Comp (570-124243-1), (LCS 160-597480/2-A), (LCSD 160-597480/3-A) and (MB 160-597480/1-A)

Method 904.0: Radium-228 batch 597487

The LCS/LCSD recovered at (LCS 142% / LCSD 135%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS passes, no further action is required

(LCS 160-597487/2-A) and (LCSD 160-597487/3-A)

Method 904.0: Radium-228 batch 597487

The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: Outfall001\_20230115\_Comp (570-124243-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium-228 batch 597487

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230115\_Comp (570-124243-1), (LCS 160-597487/2-A), (LCSD 160-597487/3-A) and (MB 160-597487/1-A)

Method 905: Strontium-90 prep batch 160-597465:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230115\_Comp (570-124243-1), (LCS 160-597465/2-A), (LCSD 160-597465/3-A) and (MB 160-597465/1-A)

Method 906.0: Tritium 598269

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230115\_Comp (570-124243-1), (LCS 160-598269/2-A), (MB 160-598269/1-A), (160-48571-B-3-A), (160-48571-B-3-B DU), (160-48571-B-5-A) and (160-48571-B-5-B MS)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 597538

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

---

## Job ID: 570-124243-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230115\_Comp (570-124243-1), (LCS 160-597538/2-A), (MB 160-597538/1-A), (570-123671-T-2-E) and (570-123671-T-2-F DU)

Method ExtChrom: Uranium Prep Batch 160-597538

The following sample was prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001\_20230115\_Comp (570-124243-1).

Method LSC\_Dist\_Susp:

Method PrecSep\_0: Radium-228 Prep Batch 160-597487

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230115\_Comp (570-124243-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-597480

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230115\_Comp (570-124243-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-597465

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230115\_Comp (570-124243-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

**Client Sample ID: Outfall001\_20230115\_Comp**

**Lab Sample ID: 570-124243-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

**Client Sample ID: Outfall001\_20230115\_Comp**  
**Date Collected: 01/15/23 08:30**  
**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	3.75		1.64	1.70	3.00	2.19	pCi/L	01/25/23 14:57	02/10/23 14:52	1
Gross Beta	4.44		0.914	1.02	4.00	1.02	pCi/L	01/25/23 14:57	02/10/23 14:52	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230115\_Comp  
Date Collected: 01/15/23 08:30  
Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	2.64	U	6.41	6.41	20.0	7.49	pCi/L	01/19/23 15:59	02/16/23 19:52	1
Potassium-40	78.7		68.6	69.3		67.4	pCi/L	01/19/23 15:59	02/16/23 19:52	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230115\_Comp**  
**Date Collected: 01/15/23 08:30**  
**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**  
**Matrix: Water**

<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Radium-226	0.0144	U	0.200	0.200	1.00	0.408	pCi/L	01/19/23 11:31	02/10/23 07:43	1
<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>					<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Ba Carrier	80.9		40 - 110					01/19/23 11:31	02/10/23 07:43	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230115\_Comp**  
**Date Collected: 01/15/23 08:30**  
**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.32	U G	1.31	1.31	1.00	2.08	pCi/L	01/19/23 12:00	01/25/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.9		40 - 110					01/19/23 12:00	01/25/23 12:07	1
Y Carrier	79.3		40 - 110					01/19/23 12:00	01/25/23 12:07	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: EPA 905 - Strontium-90 (GFPC)

Client Sample ID: Outfall001\_20230115\_Comp  
 Date Collected: 01/15/23 08:30  
 Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.919	U	0.995	0.998	3.00	1.63	pCi/L	01/19/23 09:10	01/27/23 18:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	82.0		40 - 110					01/19/23 09:10	01/27/23 18:27	1
Y Carrier	73.3		40 - 110					01/19/23 09:10	01/27/23 18:27	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230115\_Comp  
Date Collected: 01/15/23 08:30  
Date Received: 01/16/23 17:00

Lab Sample ID: 570-124243-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	64.4	U	152	152	500	267	pCi/L	01/26/23 08:47	02/01/23 17:36	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230115\_Comp**  
**Date Collected: 01/15/23 08:30**  
**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124243-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.319	U	0.634	0.635	1.00	0.909	pCi/L	01/19/23 14:12	01/30/23 21:43	1
Tracer	%Yield	Qualifier	Limits							
Uranium-232	71.7		30 - 110	Prepared	Analyzed	Dil Fac				
				01/19/23 14:12	01/30/23 21:43	1				

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
570-124243-1	Outfall001_20230115_Comp	80.9	
LCS 160-597480/2-A	Lab Control Sample	84.6	
LCSD 160-597480/3-A	Lab Control Sample Dup	85.1	
MB 160-597480/1-A	Method Blank	86.9	

**Tracer/Carrier Legend**  
Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
570-124243-1	Outfall001_20230115_Comp	80.9	79.3
LCS 160-597487/2-A	Lab Control Sample	84.6	86.4
LCSD 160-597487/3-A	Lab Control Sample Dup	85.1	84.9
MB 160-597487/1-A	Method Blank	86.9	91.2

**Tracer/Carrier Legend**  
Ba = Ba Carrier  
Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (40-110)	Y (40-110)
570-124243-1	Outfall001_20230115_Comp	82.0	73.3
LCS 160-597465/2-A	Lab Control Sample	88.8	74.0
LCSD 160-597465/3-A	Lab Control Sample Dup	89.3	69.5
MB 160-597465/1-A	Method Blank	85.4	84.9

**Tracer/Carrier Legend**  
Sr = Sr Carrier  
Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	U-232 (30-110)	
570-123671-T-2-F DU	Duplicate	92.9	
570-124243-1	Outfall001_20230115_Comp	71.7	
LCS 160-597538/2-A	Lab Control Sample	80.5	
MB 160-597538/1-A	Method Blank	80.4	

**Tracer/Carrier Legend**  
U-232 = Uranium-232

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-598185/1-A**  
**Matrix: Water**  
**Analysis Batch: 600017**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Gross Alpha	-0.1914	U	0.499	0.499	3.00	1.02	pCi/L	01/25/23 14:57	02/10/23 07:53	1
Gross Beta	-0.2171	U	0.469	0.470	4.00	0.883	pCi/L	01/25/23 14:57	02/10/23 07:53	1

**Lab Sample ID: LCS 160-598185/2-A**  
**Matrix: Water**  
**Analysis Batch: 600017**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec
									Limits
Gross Alpha	50.5	58.85		8.27	3.00	2.12	pCi/L	116	75 - 125

**Lab Sample ID: LCSB 160-598185/3-A**  
**Matrix: Water**  
**Analysis Batch: 600017**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec
									Limits
Gross Beta	73.7	69.78		7.50	4.00	0.884	pCi/L	95	75 - 125

**Lab Sample ID: 400-231975-E-8-B MS**  
**Matrix: Water**  
**Analysis Batch: 600016**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec
											Limits
Gross Alpha	6.14	U G	181	147.4		24.6	3.00	12.2	pCi/L	78	60 - 140

**Lab Sample ID: 400-231975-E-8-C MSD**  
**Matrix: Water**  
**Analysis Batch: 600016**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Sample Result	Sample Qual	Spike Added	MSD Result	MSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec	RER	Limit
											Limits		
Gross Alpha	6.14	U G	181	198.6		30.6	3.00	11.8	pCi/L	106	60 - 140	0.93	1

**Lab Sample ID: 400-231975-E-8-D MSBT**  
**Matrix: Water**  
**Analysis Batch: 600016**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec
											Limits
Gross Beta	11.3		264	278.5		29.8	4.00	3.19	pCi/L	101	60 - 140



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity (Continued)

**Lab Sample ID: 400-231975-E-8-E MSBTD**  
**Matrix: Water**  
**Analysis Batch: 600016**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Sample Result	Sample Qual	Spike Added	MSBTD Result	MSBTD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	Limit
											Limits	RER		
Gross Beta	11.3		264	282.7		30.2	4.00	3.30	pCi/L	103	60 - 140	0.07	1	

**Lab Sample ID: 400-231975-E-8-F DU**  
**Matrix: Water**  
**Analysis Batch: 600016**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 598185**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	Limit
Gross Beta	11.3		12.57		3.02	4.00	2.98	pCi/L	0.21	1

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-597551/1-A**  
**Matrix: Water**  
**Analysis Batch: 600521**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597551**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								Start	End	Start	End	
Cesium-137	-4.559	U	10.2	10.2	20.0	12.1	pCi/L	01/19/23 15:59	02/15/23 20:28			1
Potassium-40	-34.61	U	91.2	91.3		128	pCi/L	01/19/23 15:59	02/15/23 20:28			1

**Lab Sample ID: LCS 160-597551/2-A**  
**Matrix: Water**  
**Analysis Batch: 600544**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597551**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec	
									Limits	RER
Americium-241	135000	137500		16400		299	pCi/L	102	75 - 125	
Cesium-137	40900	42210		5030	20.0	78.5	pCi/L	103	75 - 125	
Cobalt-60	18100	18870		2250		40.6	pCi/L	104	75 - 125	

**Lab Sample ID: 570-124230-R-1-F DU**  
**Matrix: Water**  
**Analysis Batch: 600538**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597551**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	Limit
Potassium-40	-15.0	U	44.22	U	79.5		91.6	pCi/L	0.38	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-597480/1-A**  
**Matrix: Water**  
**Analysis Batch: 600015**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597480**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.06048	U	0.0554	0.0557	1.00	0.0831	pCi/L	01/19/23 11:31	02/10/23 07:35	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	86.9		40 - 110			01/19/23 11:31	02/10/23 07:35	1		

**Lab Sample ID: LCS 160-597480/2-A**  
**Matrix: Water**  
**Analysis Batch: 600015**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597480**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.76		1.20	1.00	0.0976	pCi/L	104	75 - 125
Carrier	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac	
	%Yield	Qualifier							
Ba Carrier	84.6		40 - 110						

**Lab Sample ID: LCSD 160-597480/3-A**  
**Matrix: Water**  
**Analysis Batch: 600015**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 597480**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	11.34		1.16	1.00	0.0982	pCi/L	100	75 - 125	0.18	1
Carrier	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac			
	%Yield	Qualifier									
Ba Carrier	85.1		40 - 110								

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-597487/1-A**  
**Matrix: Water**  
**Analysis Batch: 598170**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597487**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.2403	U	0.449	0.450	1.00	0.921	pCi/L	01/19/23 12:00	01/25/23 17:30	1
Carrier	MB	MB	Limits			Prepared	Analyzed	Dil Fac		
	%Yield	Qualifier								
Ba Carrier	86.9		40 - 110			01/19/23 12:00	01/25/23 17:30	1		
Y Carrier	91.2		40 - 110			01/19/23 12:00	01/25/23 17:30	1		

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: 904.0 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-597487/2-A**  
**Matrix: Water**  
**Analysis Batch: 598170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597487**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Radium-228	8.25	11.73		1.52	1.00	0.521	pCi/L	142	75 - 125	
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	84.6		40 - 110							
Y Carrier	86.4		40 - 110							

**Lab Sample ID: LCSD 160-597487/3-A**  
**Matrix: Water**  
**Analysis Batch: 598170**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 597487**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		RER	RER Limit
Radium-228	8.25	11.12		1.47	1.00	0.576	pCi/L	135	75 - 125	0.20	1	
<b>LCSD LCSD</b>												
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	85.1		40 - 110									
Y Carrier	84.9		40 - 110									

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-597465/1-A**  
**Matrix: Water**  
**Analysis Batch: 598536**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 597465**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>MB MB</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>		<b>Prepared</b>		<b>Analyzed</b>		<b>Dil Fac</b>	
Sr Carrier	85.4		40 - 110		01/19/23 09:10		01/27/23 18:27		1	
Y Carrier	84.9		40 - 110		01/19/23 09:10		01/27/23 18:27		1	

**Lab Sample ID: LCS 160-597465/2-A**  
**Matrix: Water**  
**Analysis Batch: 598536**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597465**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Strontium-90	7.38	7.362		0.845	3.00	0.369	pCi/L	100	75 - 125	
<b>LCS LCS</b>										
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Sr Carrier	88.8		40 - 110							
Y Carrier	74.0		40 - 110							

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-597465/3-A  
 Matrix: Water  
 Analysis Batch: 598536

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 597465

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		RER	RER Limit												
									75 - 125	0.45	1													
Strontium-90	7.38	8.158		0.921	3.00	0.366	pCi/L	111	75 - 125	0.45		1												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCSD %Yield</th> <th>LCSD Qualifier</th> <th>LCSD Limits</th> </tr> </thead> <tbody> <tr> <td>Sr Carrier</td> <td>89.3</td> <td></td> <td>40 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>69.5</td> <td></td> <td>40 - 110</td> </tr> </tbody> </table>													Carrier	LCSD %Yield	LCSD Qualifier	LCSD Limits	Sr Carrier	89.3		40 - 110	Y Carrier	69.5		40 - 110
Carrier	LCSD %Yield	LCSD Qualifier	LCSD Limits																					
Sr Carrier	89.3		40 - 110																					
Y Carrier	69.5		40 - 110																					

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-598269/1-A  
 Matrix: Water  
 Analysis Batch: 599474

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 598269

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac

Lab Sample ID: LCS 160-598269/2-A  
 Matrix: Water  
 Analysis Batch: 599474

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 598269

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
									75 - 125	
Tritium	2110	2226		377	500	263	pCi/L	105	75 - 125	

Lab Sample ID: 160-48571-B-5-B MS  
 Matrix: Water  
 Analysis Batch: 599474

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 598269

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
											60 - 140	
Tritium	153	U	2140	2086		358	500	253	pCi/L	90	60 - 140	

Lab Sample ID: 160-48571-B-3-B DU  
 Matrix: Water  
 Analysis Batch: 599474

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 598269

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
										0.14
Tritium	102	U	145.0	U	161	500	263	pCi/L	0.14	1

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-597538/1-A  
 Matrix: Water  
 Analysis Batch: 598766

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 597538

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

<i>Tracer</i>	<i>MB MB</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Uranium-232	80.4		30 - 110	01/19/23 14:12	01/30/23 21:45	1

**Lab Sample ID: LCS 160-597538/2-A**  
**Matrix: Water**  
**Analysis Batch: 598767**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 597538**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Uranium-234	12.7	12.89		1.52	1.00	0.204	pCi/L	101	75 - 125
Uranium-238	13.0	12.29		1.47	1.00	0.135	pCi/L	94	75 - 125

<i>Tracer</i>	<i>LCS %Yield</i>	<i>LCS Qualifier</i>	<i>Limits</i>
Uranium-232	80.5		30 - 110

**Lab Sample ID: 570-123671-T-2-F DU**  
**Matrix: Water**  
**Analysis Batch: 598726**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 597538**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qual</i>	<i>DU Result</i>	<i>DU Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>RER</i>	<i>RER Limit</i>
Total Uranium	1.09		1.050		0.326	1.00	0.143	pCi/L	0.06	1

<i>Tracer</i>	<i>DU %Yield</i>	<i>DU Qualifier</i>	<i>Limits</i>
Uranium-232	92.9		30 - 110

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Rad

### Prep Batch: 597465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	PrecSep-7	
MB 160-597465/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-597465/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-597465/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

### Prep Batch: 597480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	PrecSep-21	
MB 160-597480/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-597480/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-597480/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 597487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	PrecSep_0	
MB 160-597487/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-597487/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-597487/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 597538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	ExtChrom	
MB 160-597538/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-597538/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-123671-T-2-F DU	Duplicate	Total/NA	Water	ExtChrom	

### Prep Batch: 597551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-597551/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-597551/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-124230-R-1-F DU	Duplicate	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 598185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	Evaporation	
MB 160-598185/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-598185/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-598185/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
400-231975-E-8-B MS	Matrix Spike	Total/NA	Water	Evaporation	
400-231975-E-8-C MSD	Matrix Spike Duplicate	Total/NA	Water	Evaporation	
400-231975-E-8-D MSBT	Matrix Spike	Total/NA	Water	Evaporation	
400-231975-E-8-E MSBTD	Matrix Spike Duplicate	Total/NA	Water	Evaporation	
400-231975-E-8-F DU	Duplicate	Total/NA	Water	Evaporation	

### Prep Batch: 598269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124243-1	Outfall001_20230115_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-598269/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-598269/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
160-48571-B-5-B MS	Matrix Spike	Total/NA	Water	LSC_Dist_Susp	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

## Rad (Continued)

### Prep Batch: 598269 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-48571-B-3-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

**Client Sample ID: Outfall001\_20230115\_Comp**

**Lab Sample ID: 570-124243-1**

**Date Collected: 01/15/23 08:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.00 mL	1.0 g	598185	01/25/23 14:57	MST	EET SL
Total/NA	Analysis	900.0		1			600017	02/10/23 14:52	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	597551	01/19/23 15:59	JML	EET SL
Total/NA	Analysis	901.1		1			600540	02/16/23 19:52	SCB	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			249.42 mL	1.0 g	597480	01/19/23 11:31	DJP	EET SL
Total/NA	Analysis	903.0		1			600016	02/10/23 07:43	SCB	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			249.42 mL	1.0 g	597487	01/19/23 12:00	DJP	EET SL
Total/NA	Analysis	904.0		1	1.0 mL	1.0 mL	598172	01/25/23 12:07	SCB	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep-7			245.61 mL	1.0 g	597465	01/19/23 09:10	DJP	EET SL
Total/NA	Analysis	905		1			598536	01/27/23 18:27	SCB	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	LSC_Dist_Susp			95.50 mL	1.0 g	598269	01/26/23 08:47	SEH	EET SL
Total/NA	Analysis	906.0		1			599474	02/01/23 17:36	REV	EET SL
Instrument ID: LSCBROWN										
Total/NA	Prep	ExtChrom			100.55 mL	1.0 mL	597538	01/19/23 14:12	SAC	EET SL
Total/NA	Analysis	A-01-R		1			598735	01/30/23 21:43	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-124243-3

Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	04-01-23
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124243-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124243-1	Outfall001_20230115_Comp	Water	01/15/23 08:30	01/16/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

1241243

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

<p>Client Name/Address: Haley &amp; Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108</p>		<p>Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall #001, 002, 011 018 Outfall 001 Comp</p>		<p>ANALYSIS REQUIRED</p>										<p>Comments</p>								
<p>Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel. 949-260-3218</p>		<p>Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)</p>		<p>Total Recoverable Metals: (E200.7), Zn (E200.8), Cu, Pb, Cd, Se</p>	<p>TCPD (and all congeners) (E161B)</p>	<p>BOD5 (20 degrees C) (E405, (SM5210B, BODCalc))</p>	<p>Surfactants (MBAs) (SM5540C/E425, 1) (E300)</p>	<p>Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)</p>	<p>Turbidity TD5 (SM2540C/E180, 1)</p>	<p>TSS (160.2 (SM2540D))</p>	<p>Ammonia-N (350.2)</p>	<p>alpha-BHC (E508)</p>	<p>2,4,6 TCP 2,4 Dinitrotoluene, Bis-2 ethylhexyl(phthalate, NDMA, PCP (SVOCs E625)</p>	<p>Total Recoverable Metals Mercury (E245, 1)</p>	<p>Total Recoverable Metals (E200.7) Mn, Fe</p>	<p>Outfall 001 analyze for Fe, Mn</p>						
<p>Sample Description</p>	<p>Sample I.D.</p>	<p>Sampling Date/Time</p>	<p>Sample Matrix</p>	<p>Container Type</p>	<p># of Cont.</p>	<p>Preservative</p>	<p>Bottle #</p>	<p>MS/MSD</p>	<p>Total Recoverable Metals: (E200.7), Zn (E200.8), Cu, Pb, Cd, Se</p>	<p>TCPD (and all congeners) (E161B)</p>	<p>BOD5 (20 degrees C) (E405, (SM5210B, BODCalc))</p>	<p>Surfactants (MBAs) (SM5540C/E425, 1) (E300)</p>	<p>Cl- SO4 Nitrate-N Nitrite-N NO3+NO2-N Perchlorate (E300)</p>	<p>Turbidity TD5 (SM2540C/E180, 1)</p>	<p>TSS (160.2 (SM2540D))</p>	<p>Ammonia-N (350.2)</p>	<p>alpha-BHC (E508)</p>	<p>2,4,6 TCP 2,4 Dinitrotoluene, Bis-2 ethylhexyl(phthalate, NDMA, PCP (SVOCs E625)</p>	<p>Total Recoverable Metals Mercury (E245, 1)</p>	<p>Total Recoverable Metals (E200.7) Mn, Fe</p>	<p>Outfall 001 analyze for Fe, Mn</p>	
<p>Outfall001_20230115_Comp</p>	<p>Outfall001_20230115_Comp</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>500 mL Poly</p>	<p>3</p>	<p>HNO3</p>	<p>90</p>	<p>Yes</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>48 hours holding time for turbidity</p>
<p>Outfall001_20230115_Comp_Extra</p>	<p>Outfall001_20230115_Comp_Extra</p>	<p>1/15/2023 1030</p>	<p>WM</p>	<p>1 L Glass Amber</p>	<p>2</p>	<p>None</p>	<p>110</p>	<p>No</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>X</p>	<p>48 hours holding time for turbidity</p>



570-124243 Chain of Custody

Relinquished By: *Mark Dominick* Date/Time: 1-16-23 17:00 Company: *EA*

Relinquished By: *RF EC* Date/Time: 1-16-23 17:00 Company: *EA*

Relinquished By: *RF EC* Date/Time: 1-16-23 17:00 Company: *EA*

0.3/0.3 0.7/0.7 0.1/0.1 1.6/1.6 0.4/0.4 5011



124243

### CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

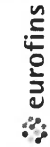
<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 <b>Eurofins Calscience Irvine Contact:</b> Christian Bondoc 17461 Deitan Ave Suite #100 Irvine CA 92614 Tel. 949-260-3218		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall 001, 002, 011 018] Outfall 001 Comp		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		<b>Analyses Required:</b> Total Dissolved Metals: (E200.7) Zn (E200.8) Cu, Pb, Cd, Se Cyanide (SM4500-CN-E / E335.2) Chromium Toxicity Selenium (EPA-821-R-02-013) ABC Labs in Ventura, CA Total Dissolved Metals: Mercury (E245.1) Total Dissolved Metals: (E200.7) Mn, Fe		<b>Comments:</b> Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe, Mn. Sample receiving DO NOT OPEN BAG. Bag to be opened in laboratory Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD. Only test 1st or second rain events of the year. Deliver to ABC Labs in Ventura, CA.												
Sample Description	Sample ID	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	R		R		R		R		R		C	
Outfall001_20230115_Comp_F		1/15/2023	WM	1L Poly	3	None	200	Yes	X											
Outfall001_20230115_Comp		1/15/2023	WM	bioscinate vials	3	None	320	Yes	X											
			WM	500 mL Poly	3	NaOH	220	Yes	X											
			WM	2.5 Gall Cube	3	None	225	Yes												
			WM	1 L Glass Amber	3	None	230	Yes												
			WM	1 Gall Cube	6	None	235	No												

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By	Date/Time	Received By	Date/Time	Turn-around time: (Check)
<i>Mark Dominick</i>	1-16-23 17:00	<i>EC</i>	1-16-23 14:30	24 Hour _____ 72 Hour _____ 10 Day _____ X
Relinquished By	Date/Time	Received By	Date/Time	Sample integrity: (Check)
<i>EC</i>	1-16-23 17:00	<i>EC</i>	1-16-23 17:00	Intact: _____ On Ice: _____
Relinquished By	Date/Time	Received By	Date/Time	Store samples for 6 months.
				Data Requirements: (Check)
				No Level IV _____ All Level IV _____ X



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Patel, Virendra	Carrier Tracking No(s): 570-204388.1												
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofins.com	Page: Page 1 of 1												
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - California	Job #: 570-124243-3												
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 2/23/2023	<b>Analysis Requested</b>												
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		TAT Requested (days):													
Email:		FO #:	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA L - EDA Other:												
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp		WO #:													
Site:		Project #: 44024446	<b>Special Instructions/Note:</b> Boeing SSFL: DO NOT FILTER; use prep date from preservation												
SSOW#:		SSOW#:													
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Swab, On-water, etc.)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1 Ca/Fill_Geo_0 K-40 and Csium-137	A01R_UV/ExtChrom_Actin Total Uranium	900.0/Evaporation Gross Alpha/Beta	903.0/PreSep_21 Radium-226	904.0/PreSep_0 Radium-228	905.0/Sr90/PreSep_7 Strontium-90	906.0/LC_Sep_Diet_Susp Tritium	Total Number of Containers
Outfall001_20230115_Comp (570-124243-1)	1/15/23	08:30 Pacific		Water		X	X	X	X	X	X	X	X	X	6

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements:

Empty Kit Requisitioned by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact:  Yes  No  Δ  No  Δ  No  
 Custody Seal No.:

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124243-3

**Login Number: 124243**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124243-3

**Login Number: 124243**

**List Number: 2**

**Creator: Sharkey-Gonzalez, Briana L**

**List Source: Eurofins St. Louis**

**List Creation: 01/18/23 12:01 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	







# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/3/2023 3:21:46 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - GRAB

## JOB NUMBER

570-124244-1

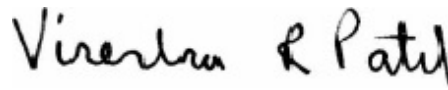
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
2/3/2023 3:21:46 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

---

## Job ID: 570-124244-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-124244-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/16/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

#### Receipt Exceptions

Method SM 2540F: The following sample was received outside of holding time for SS: Outfall001\_20230114\_Grab (570-124244-1).

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-296446.

Method SM 2540F: The following sample was received outside of holding time: Outfall001\_20230114\_Grab (570-124244-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-296834.

Method: 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-124244-1

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

**Client Sample ID: Outfall001\_20230114\_Grab**

**Lab Sample ID: 570-124244-1**

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	140		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230114**

**Lab Sample ID: 570-124244-3**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230114\_Grab**

**Date Collected: 01/14/23 11:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124244-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/17/23 03:15	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/17/23 03:15	1
Trichloroethene	ND		0.50	0.17	ug/L			01/17/23 03:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					01/17/23 03:15	1
Toluene-d8 (Surr)	98		60 - 140					01/17/23 03:15	1

**Client Sample ID: TB-20230114**

**Date Collected: 01/14/23 11:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124244-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/17/23 00:36	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/17/23 00:36	1
Trichloroethene	ND		0.50	0.17	ug/L			01/17/23 00:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		60 - 140					01/17/23 00:36	1
Toluene-d8 (Surr)	98		60 - 140					01/17/23 00:36	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## General Chemistry

**Client Sample ID: Outfall001\_20230114\_Grab**

**Date Collected: 01/14/23 11:30**

**Date Received: 01/16/23 17:00**

**Lab Sample ID: 570-124244-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease (1664A)	ND		0.97	0.50	mg/L		01/18/23 15:01	01/19/23 17:07	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Specific Conductance (SM 2510B)</b>	<b>140</b>		1.0	1.0	umhos/cm			01/27/23 17:00	1
Settleable Solids (SM 2540F)	ND	BU BV	0.10	0.10	mL/L			01/17/23 12:53	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL
		(60-140)	(60-140)
570-124244-1	Outfall001_20230114_Grab	97	98
570-124244-1 MS	Outfall001_20230114_Grab	99	100
570-124244-1 MSD	Outfall001_20230114_Grab	101	102
570-124244-3	TB-20230114	100	98
LCS 570-296226/1003	Lab Control Sample	99	100
LCSD 570-296226/4	Lab Control Sample Dup	102	100
MB 570-296226/6	Method Blank	97	101

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-296226/6**  
**Matrix: Water**  
**Analysis Batch: 296226**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/16/23 19:20	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/16/23 19:20	1
Trichloroethene	ND		0.50	0.17	ug/L			01/16/23 19:20	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac	
%Recovery	Qualifier								
4-Bromofluorobenzene (Surr)	97		60 - 140				01/16/23 19:20	1	
Toluene-d8 (Surr)	101		60 - 140				01/16/23 19:20	1	

**Lab Sample ID: LCS 570-296226/1003**  
**Matrix: Water**  
**Analysis Batch: 296226**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
								1,1-Dichloroethene
1,2-Dichloroethane	10.0	11.7		ug/L		117	70 - 130	
Trichloroethene	10.0	12.0		ug/L		120	65 - 135	
Surrogate	LCS LCS		Limits			Prepared	Analyzed	Dil Fac
%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	99		60 - 140				01/16/23 19:20	1
Toluene-d8 (Surr)	100		60 - 140				01/16/23 19:20	1

**Lab Sample ID: LCSD 570-296226/4**  
**Matrix: Water**  
**Analysis Batch: 296226**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,2-Dichloroethane	10.0	11.9		ug/L		119	70 - 130	2	49
Trichloroethene	10.0	11.2		ug/L		112	65 - 135	7	48
Surrogate	LCSD LCSD		Limits			Prepared	Analyzed	Dil Fac	
%Recovery	Qualifier								
4-Bromofluorobenzene (Surr)	102		60 - 140				01/16/23 19:20	1	
Toluene-d8 (Surr)	100		60 - 140				01/16/23 19:20	1	

**Lab Sample ID: 570-124244-1 MS**  
**Matrix: Water**  
**Analysis Batch: 296226**

**Client Sample ID: Outfall001\_20230114\_Grab**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloroethane	ND		10.0	11.1		ug/L		111	49 - 155
Trichloroethene	ND		10.0	10.9		ug/L		109	70 - 157
Surrogate	MS MS		Limits			Prepared	Analyzed	Dil Fac	
%Recovery	Qualifier								
4-Bromofluorobenzene (Surr)	99		60 - 140				01/16/23 19:20	1	
Toluene-d8 (Surr)	100		60 - 140				01/16/23 19:20	1	

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 570-124244-1 MSD  
 Matrix: Water  
 Analysis Batch: 296226

Client Sample ID: Outfall001\_20230114\_Grab  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	ND		10.0	10.1		ug/L		101	1 - 234	10	32
1,2-Dichloroethane	ND		10.0	9.87		ug/L		99	49 - 155	12	49
Trichloroethene	ND		10.0	9.81		ug/L		98	70 - 157	11	48
<b>Surrogate</b>	<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
4-Bromofluorobenzene (Surr)	101		60 - 140								
Toluene-d8 (Surr)	102		60 - 140								

## Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 570-296834/1-A  
 Matrix: Water  
 Analysis Batch: 297188

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 296834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/18/23 15:01	01/19/23 17:07	1

Lab Sample ID: LCS 570-296834/2-A  
 Matrix: Water  
 Analysis Batch: 297188

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 296834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM: Oil and Grease	40.0	36.1		mg/L		90	78 - 114

Lab Sample ID: LCSD 570-296834/3-A  
 Matrix: Water  
 Analysis Batch: 297188

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 296834

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM: Oil and Grease	40.0	38.4		mg/L		96	78 - 114	6	18

## Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 570-299286/9  
 Matrix: Water  
 Analysis Batch: 299286

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/27/23 16:01	1

Lab Sample ID: 570-125266-A-4 DU  
 Matrix: Water  
 Analysis Batch: 299286

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	7300		7300		umhos/cm		0	25

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## GC/MS VOA

### Analysis Batch: 296226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124244-1	Outfall001_20230114_Grab	Total/NA	Water	624.1	
570-124244-3	TB-20230114	Total/NA	Water	624.1	
MB 570-296226/6	Method Blank	Total/NA	Water	624.1	
LCS 570-296226/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-296226/4	Lab Control Sample Dup	Total/NA	Water	624.1	
570-124244-1 MS	Outfall001_20230114_Grab	Total/NA	Water	624.1	
570-124244-1 MSD	Outfall001_20230114_Grab	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 296446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124244-1	Outfall001_20230114_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 296834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124244-1	Outfall001_20230114_Grab	Total/NA	Water	1664A	
MB 570-296834/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-296834/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-296834/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 297188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124244-1	Outfall001_20230114_Grab	Total/NA	Water	1664A	296834
MB 570-296834/1-A	Method Blank	Total/NA	Water	1664A	296834
LCS 570-296834/2-A	Lab Control Sample	Total/NA	Water	1664A	296834
LCSD 570-296834/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	296834

### Analysis Batch: 299286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124244-1	Outfall001_20230114_Grab	Total/NA	Water	SM 2510B	
MB 570-299286/9	Method Blank	Total/NA	Water	SM 2510B	
570-125266-A-4 DU	Duplicate	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

**Client Sample ID: Outfall001\_20230114\_Grab**

**Lab Sample ID: 570-124244-1**

**Date Collected: 01/14/23 11:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	296226	01/17/23 03:15	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			1026 mL	1000 mL	296834	01/18/23 15:01	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			297188	01/19/23 17:07	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			299286	01/27/23 17:00	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	296446	01/17/23 12:53	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230114**

**Lab Sample ID: 570-124244-3**

**Date Collected: 01/14/23 11:30**

**Matrix: Water**

**Date Received: 01/16/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	296226	01/17/23 00:36	A1W	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-124244-1

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124244-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124244-1	Outfall001_20230114_Grab	Water	01/14/23 11:30	01/16/23 17:00
570-124244-3	TB-20230114	Water	01/14/23 11:30	01/16/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

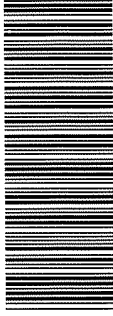
14

15



124244

CHAIN OF CUSTODY FORM



570-124244 Chain of Custody

TRACERT 913

Client Name/Address:		Project:		Field Readings (Include units)		Meter serial #						
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Boeing-SSFL NPDES Permit 2023 Routine Outfall 001, 002, 011 018 Outfall 001 Grab		Time of Readings: 1130								
Eurofins Calscience Irvine Contact: Christian Bondoc 17461 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)		DO 29.00 mg/L								
Testimonials: services under this CoC shall be performed in accordance with the T&Cs with Blanket Service Agreement # 2019-22-TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		pH 7.58 pH unit								
Sampler: Adrian Mobeka				Temp 50.0°C (E)								
Sample Description	Sample ID	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / E120 1)	Comments
① Outfall 001	Outfall001_20230114_Grab	1/14/2023 1130	WM	1 L Glass Amber	2	HCl	15	No	X			
② Outfall 001	Outfall001_20230114_Grab_Extra	1/14/2023 1130	WM	40 mL VOA	9	HCl	30	Yes				
③ Trip Blanks	TB-20230114	1/14/2023 1130	WM	1 L Poly	1	None	70	No		X		
			WM	500 mL Poly	1	None	75	No			X	
			WM	1 L Glass Amber	2	HCl	15	No	H			Hold
			WM	40 mL VOA	3	HCl	30	No	H			Hold
			WM	500 mL Poly	1	None	75	No			H	Hold
			WC	40 mL VOA	3	HCl	30	No	X			Hold

Relinquished By	Date/Time	Company	Received By	Date/Time	Company
<i>[Signature]</i>	1-16-2023/1430 MIA	Company	<i>[Signature]</i>	1-16-23 14:30	EC
<i>[Signature]</i>	1-16-23 17:00	Company	<i>[Signature]</i>	1-16-23 17:00	EC

Legend: R=Routine

Turn-around time: (Check) 24 Hour \_\_\_ 72 Hour \_\_\_ 10 Day \_\_\_ X \_\_\_  
 48 Hour \_\_\_ 5 Day \_\_\_ Normal: \_\_\_

Sample Integrity (Check) Intact: \_\_\_ On Ice: \_\_\_  
 Store samples for 6 months. Data Requirements: (Check) No Level IV: \_\_\_ X \_\_\_ All Level IV: \_\_\_ X \_\_\_



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124244-1

**Login Number: 124244**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/3/2023 3:34:10 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - GRAB

## JOB NUMBER

570-124865-1

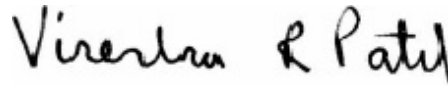
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/3/2023 3:34:10 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-124865-1

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

---

**Job ID: 570-124865-1**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative**  
**570-124865-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 1/20/2023 6:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

**GC/MS VOA**

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-297633. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-297620.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**VOA Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-124865-1

Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

**Client Sample ID: Outfall001\_20230120\_Grab**

**Lab Sample ID: 570-124865-1**

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	140		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230120**

**Lab Sample ID: 570-124865-3**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230120\_Grab**

**Date Collected: 01/20/23 08:55**

**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124865-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/21/23 21:00	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/21/23 21:00	1
Trichloroethene	ND		0.50	0.17	ug/L			01/21/23 21:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		60 - 140					01/21/23 21:00	1
Toluene-d8 (Surr)	100		60 - 140					01/21/23 21:00	1

**Client Sample ID: TB-20230120**

**Date Collected: 01/20/23 08:55**

**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124865-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/21/23 19:53	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/21/23 19:53	1
Trichloroethene	ND		0.50	0.17	ug/L			01/21/23 19:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		60 - 140					01/21/23 19:53	1
Toluene-d8 (Surr)	97		60 - 140					01/21/23 19:53	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## General Chemistry

**Client Sample ID: Outfall001\_20230120\_Grab**  
**Date Collected: 01/20/23 08:55**  
**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124865-1**  
**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM: Oil and Grease (1664A)	ND		0.98	0.50	mg/L		01/25/23 10:26	01/25/23 14:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Specific Conductance (SM 2510B)</b>	<b>140</b>		1.0	1.0	umhos/cm			01/30/23 16:18	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			01/21/23 09:59	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL
		(60-140)	(60-140)
570-124865-1	Outfall001_20230120_Grab	96	100
570-124865-3	TB-20230120	101	97
LCS 570-297633/1003	Lab Control Sample	102	99
LCSD 570-297633/4	Lab Control Sample Dup	100	101
MB 570-297633/6	Method Blank	98	97

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-297633/6**  
**Matrix: Water**  
**Analysis Batch: 297633**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50	0.33	ug/L			01/21/23 12:23	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			01/21/23 12:23	1
Trichloroethene	ND		0.50	0.17	ug/L			01/21/23 12:23	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	98		60 - 140					01/21/23 12:23	1
Toluene-d8 (Surr)	97		60 - 140					01/21/23 12:23	1

**Lab Sample ID: LCS 570-297633/1003**  
**Matrix: Water**  
**Analysis Batch: 297633**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethene	10.0	9.90		ug/L		99	50 - 150		
1,2-Dichloroethane	10.0	9.77		ug/L		98	70 - 130		
Trichloroethene	10.0	10.0		ug/L		100	65 - 135		
Surrogate	LCS	LCS	Limits			D	%Rec	Limits	RPD
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	102		60 - 140						
Toluene-d8 (Surr)	99		60 - 140						

**Lab Sample ID: LCSD 570-297633/4**  
**Matrix: Water**  
**Analysis Batch: 297633**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,1-Dichloroethene	10.0	9.59		ug/L		96	50 - 150	3	32
1,2-Dichloroethane	10.0	9.76		ug/L		98	70 - 130	0	49
Trichloroethene	10.0	9.34		ug/L		93	65 - 135	7	48
Surrogate	LCSD	LCSD	Limits			D	%Rec	Limits	RPD
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	100		60 - 140						
Toluene-d8 (Surr)	101		60 - 140						

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-298462/1-A**  
**Matrix: Water**  
**Analysis Batch: 298584**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 298462**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
HEM: Oil and Grease	ND		1.0	0.51	mg/L		01/25/23 10:26	01/25/23 14:44	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## Method: 1664A - HEM and SGT-HEM (Continued)

**Lab Sample ID: LCS 570-298462/2-A**  
**Matrix: Water**  
**Analysis Batch: 298584**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 298462**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM: Oil and Grease	40.0	38.5		mg/L		96	78 - 114

**Lab Sample ID: LCSD 570-298462/3-A**  
**Matrix: Water**  
**Analysis Batch: 298584**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 298462**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
HEM: Oil and Grease	40.0	37.3		mg/L		93	78 - 114	3	18

**Lab Sample ID: 570-124849-F-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 298584**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 298462**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
HEM: Oil and Grease	ND		39.7	36.3		mg/L		92	78 - 114

**Lab Sample ID: 570-124849-F-1-B MSD**  
**Matrix: Water**  
**Analysis Batch: 298584**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 298462**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
HEM: Oil and Grease	ND		39.6	37.6		mg/L		95	78 - 114	3	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-299719/7**  
**Matrix: Water**  
**Analysis Batch: 299719**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			01/30/23 15:46	1

**Lab Sample ID: 570-124688-K-4 DU**  
**Matrix: Water**  
**Analysis Batch: 299719**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Specific Conductance	630		640		umhos/cm		1	25

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## GC/MS VOA

### Analysis Batch: 297633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124865-1	Outfall001_20230120_Grab	Total/NA	Water	624.1	
570-124865-3	TB-20230120	Total/NA	Water	624.1	
MB 570-297633/6	Method Blank	Total/NA	Water	624.1	
LCS 570-297633/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-297633/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 297620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124865-1	Outfall001_20230120_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 298462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124865-1	Outfall001_20230120_Grab	Total/NA	Water	1664A	
MB 570-298462/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-298462/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-298462/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	
570-124849-F-1-A MS	Matrix Spike	Total/NA	Water	1664A	
570-124849-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	

### Analysis Batch: 298584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124865-1	Outfall001_20230120_Grab	Total/NA	Water	1664A	298462
MB 570-298462/1-A	Method Blank	Total/NA	Water	1664A	298462
LCS 570-298462/2-A	Lab Control Sample	Total/NA	Water	1664A	298462
LCSD 570-298462/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	298462
570-124849-F-1-A MS	Matrix Spike	Total/NA	Water	1664A	298462
570-124849-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	1664A	298462

### Analysis Batch: 299719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124865-1	Outfall001_20230120_Grab	Total/NA	Water	SM 2510B	
MB 570-299719/7	Method Blank	Total/NA	Water	SM 2510B	
570-124688-K-4 DU	Duplicate	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

**Client Sample ID: Outfall001\_20230120\_Grab**

**Lab Sample ID: 570-124865-1**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	297633	01/21/23 21:00	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			1017 mL	1000 mL	298462	01/25/23 10:26	UWEZ	EET CAL 4
Total/NA	Analysis	1664A		1			298584	01/25/23 14:44	L6IE	EET CAL 4
Instrument ID: NO EQUIP										
Total/NA	Analysis	SM 2510B		1			299719	01/30/23 16:18	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	297620	01/21/23 09:59	ZVB7	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230120**

**Lab Sample ID: 570-124865-3**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	297633	01/21/23 19:53	A1W	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

- 1664A = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - GRAB

Job ID: 570-124865-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124865-1	Outfall001_20230120_Grab	Water	01/20/23 08:55	01/20/23 18:30
570-124865-3	TB-20230120	Water	01/20/23 08:55	01/20/23 18:30

1

2

3

4

5

6

7

8

9

10

11

12

13

14


15

124865  
Page 1 of 1

**CHAIN OF CUSTODY FORM**

Eurofins Calscience Irvine

TRAFFET 98

<b>Client Name/Address:</b> Haly & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108  Eurofins Calscience Irvine Contact: Christian Bondoc 17481 Derian Ave Suite #100 Irvine CA 92614 Tel 949-260-3218				<b>Project:</b> Boeing-S3FL NPDES Permit 2023 Routine Outfall (001, 002, 011, 018) Outfall 001 Grab				<b>Field Readings (Include units)</b> Time of Readings: 0855 DO 18.01 mg/L pH 7.87 pH unit Temp 14.6 °C				Meter serial #			
<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell)				<b>Field readings QC</b> Checked by: <i>[Signature]</i> Date/Time: 1-20-2023/0855											
<b>Sampler:</b> Adrian Mobeka				<b>Field readings QC</b> Checked by: <i>[Signature]</i> Date/Time: 1-20-2023/0855											
Test method's services under this CoC shall be performed in accordance with the TACs with Blanket Service Agreement 2019-22: TestAmerica by and between Haly & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.															
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	M5 (MSD)	Oil & Grease (E1664A-HEM)	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM2540F))	Conductivity (SM2510B / T201)	Field Readings	Meter serial #	
	Outfall001_0220120_Grab	1/20/2023 0855	WM	1 L Glass Amber	2	HCl	15	No	X						
	Outfall001_20230120_Grab_Extra	1/20/2023 0855	WM	40 mL VOA	3	HCl	30	No	X						
			WM	1L Poly	1	None	70	No		X					
			WM	500 mL Poly	1	None	75	No			X				
			WM					No							
			WM	40 mL VOA	3	HCl	30	No	H						
			WM	500 mL Poly	1	None	75	No		H					
	Trip Blanks	1/20/2023 0855	WQ	40 mL VOA	3	HCl	30	No	X						
Comments:															
570-124865 Chain of Custody															
															
Relinquished By: <i>[Signature]</i> Date/Time: 1-20-2023/1310 Company: HIA															
Relinquished By: <i>[Signature]</i> Date/Time: 1-20-2023/1830 Company: Ec															
Relinquished By: <i>[Signature]</i> Date/Time: 1-20-2023/1830 Company: Ec															



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124865-1

**Login Number: 124865**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/14/2023 2:41:22 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-124868-1

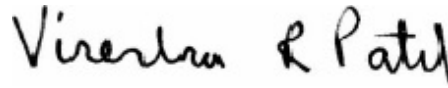
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/14/2023 2:41:22 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	32
Lab Chronicle . . . . .	37
Certification Summary . . . . .	39
Method Summary . . . . .	40
Sample Summary . . . . .	41
Chain of Custody . . . . .	42
Receipt Checklists . . . . .	46

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
EY	Result exceeds normal dynamic range; reported as a min. est.
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

### Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
IB	CCV recovery above limit; analyte not detected
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

---

## Job ID: 570-124868-1

---

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-124868-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/20/2023 6:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### HPLC/IC

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-297603 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride and Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300.0: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-297603 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-297602 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Nitrate as N in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Nitrite as N for analytical batch 570-297602 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 200.7 Rev 4.4: The matrix spike (MS) recoveries of Iron for preparation batch 570-298189 and analytical batch 570-298286 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.8: The method blank for preparation batch 570-300272 and analytical batch 570-300379 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 245.1: The continuing calibration verification (CCV) associated with batch 570-298644 recovered above the upper control limit for Mercury. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 570-298459/9-A).

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230120\_Comp\_F (570-124868-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

---

## Job ID: 570-124868-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-297984. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 608.1

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-298062. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 625 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Client Sample ID: Outfall001\_20230120\_Comp

## Lab Sample ID: 570-124868-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4.5		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.88		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	6.6		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.88		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	3.5		2.0	0.32	ug/L	1		200.8	Total Recoverable
Lead	0.27	J,DX MB	1.0	0.12	ug/L	1		200.8	Total Recoverable
Iron	240		20	3.7	ug/L	1		200.8	Total Recoverable
Zinc	4.2	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Manganese	8.9	MB	1.0	0.41	ug/L	1		200.8	Total Recoverable
Ammonia	0.035	J,DX	0.075	0.032	mg/L	1		350.1	Total/NA
Turbidity	9.0		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	120		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.4		1.0	0.83	mg/L	1		SM 2540D	Total/NA
MBAS	0.069	J,DX	0.30	0.054	mg/L	1		SM 5540C	Total/NA

## Client Sample ID: Outfall001\_20230120\_Comp\_F

## Lab Sample ID: 570-124868-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.4	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Lead	0.13	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Iron	100	BU	20	3.7	ug/L	1		200.8	Dissolved
Zinc	6.4	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved
Manganese	3.1	BU	1.0	0.41	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230120\_Comp**

**Lab Sample ID: 570-124868-1**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/24/23 08:32	02/02/23 20:27	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		01/24/23 08:32	02/02/23 20:27	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		01/24/23 08:32	02/02/23 20:27	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		01/24/23 08:32	02/02/23 20:27	1
Pentachlorophenol	ND		1.0	0.84	ug/L		01/24/23 08:32	02/02/23 20:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	58		31 - 120	01/24/23 08:32	02/02/23 20:27	1
Phenol-d6 (Surr)	30		10 - 120	01/24/23 08:32	02/02/23 20:27	1
p-Terphenyl-d14 (Surr)	63		45 - 120	01/24/23 08:32	02/02/23 20:27	1
2,4,6-Tribromophenol	79		28 - 127	01/24/23 08:32	02/02/23 20:27	1
2-Fluorophenol	47		17 - 120	01/24/23 08:32	02/02/23 20:27	1
Nitrobenzene-d5	69		27 - 120	01/24/23 08:32	02/02/23 20:27	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 40CFR136A 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001\_20230120\_Comp

Lab Sample ID: 570-124868-1

Date Collected: 01/20/23 08:55

Matrix: Water

Date Received: 01/20/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		01/23/23 18:56	01/31/23 15:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	62		20 - 139				01/23/23 18:56	01/31/23 15:08	1
DCB Decachlorobiphenyl (Surr)	40		20 - 154				01/23/23 18:56	01/31/23 15:08	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230120\_Comp

Date Collected: 01/20/23 08:55

Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.5		1.0	0.36	mg/L			01/21/23 11:16	1
Nitrite as N	ND		0.10	0.043	mg/L			01/21/23 11:16	1
Nitrate as N	0.88		0.10	0.020	mg/L			01/21/23 11:16	1
Sulfate	6.6		1.0	0.24	mg/L			01/21/23 11:16	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230120\_Comp  
Date Collected: 01/20/23 08:55  
Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/27/23 03:43	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230120\_Comp

Lab Sample ID: 570-124868-1

Date Collected: 01/20/23 08:55

Matrix: Water

Date Received: 01/20/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.88		0.10	0.020	mg/L			01/24/23 12:20	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230120\_Comp

Date Collected: 01/20/23 08:55

Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		01/24/23 09:53	01/24/23 14:19	1
<b>Copper</b>	<b>3.5</b>		2.0	0.32	ug/L		01/24/23 09:53	01/24/23 14:19	1
<b>Lead</b>	<b>0.27</b>	<b>J,DX MB</b>	1.0	0.12	ug/L		01/24/23 09:53	01/24/23 14:19	1
Selenium	ND		2.0	0.52	ug/L		01/24/23 09:53	01/24/23 14:19	1
<b>Iron</b>	<b>240</b>		20	3.7	ug/L		01/24/23 09:53	01/24/23 14:19	1
<b>Zinc</b>	<b>4.2</b>	<b>J,DX</b>	20	2.8	ug/L		01/24/23 09:53	01/24/23 14:19	1
<b>Manganese</b>	<b>8.9</b>	<b>MB</b>	1.0	0.41	ug/L		02/01/23 11:07	02/01/23 14:19	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230120\_Comp\_F

Date Collected: 01/20/23 08:55

Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			01/25/23 14:39	1
Copper	3.4	BU	2.0	0.32	ug/L			01/25/23 14:39	1
Lead	0.13	J,DX BU	1.0	0.12	ug/L			01/25/23 14:39	1
Selenium	ND	BU	2.0	0.52	ug/L			01/25/23 14:39	1
Iron	100	BU	20	3.7	ug/L			01/25/23 14:39	1
Zinc	6.4	J,DX BU	20	2.8	ug/L			01/25/23 14:39	1
Manganese	3.1	BU	1.0	0.41	ug/L			01/25/23 14:39	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230120\_Comp  
Date Collected: 01/20/23 08:55  
Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	IB	0.20	0.12	ug/L		01/24/23 17:46	01/25/23 15:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230120\_Comp\_F  
Date Collected: 01/20/23 08:55  
Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-3  
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		01/24/23 18:15	01/25/23 15:29	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## General Chemistry

Client Sample ID: Outfall001\_20230120\_Comp

Lab Sample ID: 570-124868-1

Date Collected: 01/20/23 08:55

Matrix: Water

Date Received: 01/20/23 18:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Ammonia (EPA 350.1)</b>	<b>0.035</b>	<b>J,DX</b>	0.075	0.032	mg/L		01/30/23 12:27	01/30/23 14:31	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			01/23/23 14:58	1
<b>Turbidity (SM 2130B)</b>	<b>9.0</b>		0.05	0.05	NTU			01/21/23 14:57	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>120</b>		10	8.7	mg/L			01/24/23 18:23	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>4.4</b>		1.0	0.83	mg/L			01/23/23 16:51	1
<b>MBAS (SM 5540C)</b>	<b>0.069</b>	<b>J,DX</b>	0.30	0.054	mg/L		01/21/23 15:20	01/21/23 16:43	1
Biochemical Oxygen Demand (SM5210B)	ND		2.0	1.0	mg/L			01/21/23 13:52	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-124868-1	Outfall001_20230120_Comp	58	30	63	79	47	69
LCS 570-298062/2-A	Lab Control Sample	74	37	84	89	57	72
LCSD 570-298062/3-A	Lab Control Sample Dup	77	39	87	94	61	75
MB 570-298062/1-A	Method Blank	67	34	82	83	54	80

#### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX1 (20-139)	DCB1 (20-154)
570-124868-1	Outfall001_20230120_Comp	62	40
LCS 570-297984/2-A	Lab Control Sample	101	110
LCSD 570-297984/3-A	Lab Control Sample Dup	92	96
MB 570-297984/1-A	Method Blank	70	86

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-298062/1-A**  
**Matrix: Water**  
**Analysis Batch: 300591**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 298062**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		01/24/23 08:32	02/02/23 14:02	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		01/24/23 08:32	02/02/23 14:02	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		01/24/23 08:32	02/02/23 14:02	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		01/24/23 08:32	02/02/23 14:02	1
Pentachlorophenol	ND		1.0	0.84	ug/L		01/24/23 08:32	02/02/23 14:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	67		31 - 120	01/24/23 08:32	02/02/23 14:02	1
Phenol-d6 (Surr)	34		10 - 120	01/24/23 08:32	02/02/23 14:02	1
p-Terphenyl-d14 (Surr)	82		45 - 120	01/24/23 08:32	02/02/23 14:02	1
2,4,6-Tribromophenol	83		28 - 127	01/24/23 08:32	02/02/23 14:02	1
2-Fluorophenol	54		17 - 120	01/24/23 08:32	02/02/23 14:02	1
Nitrobenzene-d5	80		27 - 120	01/24/23 08:32	02/02/23 14:02	1

**Lab Sample ID: LCS 570-298062/2-A**  
**Matrix: Water**  
**Analysis Batch: 300591**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 298062**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	18.2		ug/L		91	52 - 129
2,4-Dinitrotoluene	20.0	19.8		ug/L		99	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		97	29 - 137
N-Nitrosodimethylamine	20.0	11.8		ug/L		59	20 - 120
Pentachlorophenol	20.0	16.5		ug/L		83	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	74		31 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	84		45 - 120
2,4,6-Tribromophenol	89		28 - 127
2-Fluorophenol	57		17 - 120
Nitrobenzene-d5	72		27 - 120

**Lab Sample ID: LCSD 570-298062/3-A**  
**Matrix: Water**  
**Analysis Batch: 300591**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 298062**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	19.0		ug/L		95	52 - 129	5	35
2,4-Dinitrotoluene	20.0	20.3		ug/L		102	48 - 127	3	25
Bis(2-ethylhexyl) phthalate	20.0	20.2		ug/L		101	29 - 137	4	50
N-Nitrosodimethylamine	20.0	12.3		ug/L		62	20 - 120	5	21
Pentachlorophenol	20.0	18.1		ug/L		91	38 - 152	9	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	77		31 - 120
Phenol-d6 (Surr)	39		10 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-298062/3-A**  
**Matrix: Water**  
**Analysis Batch: 300591**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 298062**

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
p-Terphenyl-d14 (Surr)	87		45 - 120
2,4,6-Tribromophenol	94		28 - 127
2-Fluorophenol	61		17 - 120
Nitrobenzene-d5	75		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-297984/1-A**  
**Matrix: Water**  
**Analysis Batch: 299101**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 297984**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		01/23/23 18:55	01/27/23 15:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		20 - 139	01/23/23 18:55	01/27/23 15:42	1
DCB Decachlorobiphenyl (Surr)	86		20 - 154	01/23/23 18:55	01/27/23 15:42	1

**Lab Sample ID: LCS 570-297984/2-A**  
**Matrix: Water**  
**Analysis Batch: 299101**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 297984**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0307		ug/L		92	37 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	101		20 - 139
DCB Decachlorobiphenyl (Surr)	110		20 - 154

**Lab Sample ID: LCSD 570-297984/3-A**  
**Matrix: Water**  
**Analysis Batch: 299101**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 297984**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	0.0333	0.0304		ug/L		91	37 - 140	1	36

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Tetrachloro-m-xylene	92		20 - 139
DCB Decachlorobiphenyl (Surr)	96		20 - 154

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-297602/5**  
**Matrix: Water**  
**Analysis Batch: 297602**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			01/21/23 09:01	1

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 570-297602/5**  
**Matrix: Water**  
**Analysis Batch: 297602**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.020	mg/L			01/21/23 09:01	1

**Lab Sample ID: LCS 570-297602/6**  
**Matrix: Water**  
**Analysis Batch: 297602**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.48		mg/L		99	90 - 110
Nitrate as N	5.00	5.00		mg/L		100	90 - 110

**Lab Sample ID: LCSD 570-297602/7**  
**Matrix: Water**  
**Analysis Batch: 297602**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.52		mg/L		101	90 - 110	2	15
Nitrate as N	5.00	4.93		mg/L		99	90 - 110	1	15

**Lab Sample ID: 570-124951-A-3 MS**  
**Matrix: Water**  
**Analysis Batch: 297602**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.2		2.50	4.08	LN	mg/L		76	80 - 120
Nitrate as N	7.2		5.00	12.9	EY	mg/L		113	80 - 120

**Lab Sample ID: 570-124951-A-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 297602**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.2		2.50	4.00	LN	mg/L		73	80 - 120	2	20
Nitrate as N	7.2		5.00	12.9	EY	mg/L		113	80 - 120	0	20

**Lab Sample ID: MB 570-297603/5**  
**Matrix: Water**  
**Analysis Batch: 297603**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			01/21/23 09:01	1
Sulfate	ND		1.0	0.24	mg/L			01/21/23 09:01	1

**Lab Sample ID: LCS 570-297603/6**  
**Matrix: Water**  
**Analysis Batch: 297603**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.6		mg/L		101	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 570-297603/7  
 Matrix: Water  
 Analysis Batch: 297603

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	50.1		mg/L		100	90 - 110	1	15
Sulfate	50.0	50.2		mg/L		100	90 - 110	0	15

Lab Sample ID: 570-124951-A-3 MS  
 Matrix: Water  
 Analysis Batch: 297603

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	450	EY	50.0	498	EY BB	mg/L		104	80 - 120
Sulfate	1000	EY	50.0	1090	EY BB	mg/L		88	80 - 120

Lab Sample ID: 570-124951-A-3 MSD  
 Matrix: Water  
 Analysis Batch: 297603

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	450	EY	50.0	497	EY BB	mg/L		103	80 - 120	0	20
Sulfate	1000	EY	50.0	1090	EY BB	mg/L		85	80 - 120	0	20

## Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-298791/7  
 Matrix: Water  
 Analysis Batch: 298791

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			01/27/23 01:50	1

Lab Sample ID: LCS 570-298791/8  
 Matrix: Water  
 Analysis Batch: 298791

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	24.7		ug/L		99	85 - 115

Lab Sample ID: LCSD 570-298791/9  
 Matrix: Water  
 Analysis Batch: 298791

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	25.4		ug/L		102	85 - 115	3	15

Lab Sample ID: 570-125345-D-2 MS  
 Matrix: Water  
 Analysis Batch: 298791

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	41		50.0	94.2		ug/L		107	80 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 314.0 - Perchlorate (IC) (Continued)

**Lab Sample ID: 570-125345-D-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 298791**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	41		50.0	93.8		ug/L		106	80 - 120	0	15

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-298096/1-A**  
**Matrix: Water**  
**Analysis Batch: 298201**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298096**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		01/24/23 09:53	01/24/23 13:19	1
Copper	ND		2.0	0.32	ug/L		01/24/23 09:53	01/24/23 13:19	1
Lead	0.142	J,DX	1.0	0.12	ug/L		01/24/23 09:53	01/24/23 13:19	1
Selenium	ND		2.0	0.52	ug/L		01/24/23 09:53	01/24/23 13:19	1
Iron	ND		20	3.7	ug/L		01/24/23 09:53	01/24/23 13:19	1
Zinc	ND		20	2.8	ug/L		01/24/23 09:53	01/24/23 13:19	1

**Lab Sample ID: LCS 570-298096/2-A**  
**Matrix: Water**  
**Analysis Batch: 298201**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298096**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	81.9		ug/L		102	85 - 115
Copper	80.0	79.1		ug/L		99	85 - 115
Lead	80.0	80.5		ug/L		101	85 - 115
Selenium	80.0	80.1		ug/L		100	85 - 115
Iron	800	839		ug/L		105	85 - 115
Zinc	80.0	79.8		ug/L		100	85 - 115

**Lab Sample ID: LCSD 570-298096/3-A**  
**Matrix: Water**  
**Analysis Batch: 298201**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298096**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	80.8		ug/L		101	85 - 115	1	20
Copper	80.0	78.9		ug/L		99	85 - 115	0	20
Lead	80.0	81.6		ug/L		102	85 - 115	1	20
Selenium	80.0	77.8		ug/L		97	85 - 115	3	20
Iron	800	829		ug/L		104	85 - 115	1	20
Zinc	80.0	79.8		ug/L		100	85 - 115	0	20

**Lab Sample ID: 570-124890-D-1-C MS**  
**Matrix: Water**  
**Analysis Batch: 298201**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298096**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		80.0	81.0		ug/L		101	80 - 120
Copper	1.4	J,DX	80.0	80.8		ug/L		99	80 - 120
Lead	ND		80.0	81.5		ug/L		102	80 - 120
Selenium	ND		80.0	78.3		ug/L		98	80 - 120
Iron	21		800	849		ug/L		103	80 - 120

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-124890-D-1-C MS**  
**Matrix: Water**  
**Analysis Batch: 298201**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298096**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Zinc	ND		80.0	81.4		ug/L		102	80 - 120

**Lab Sample ID: 570-124890-D-1-D MSD**  
**Matrix: Water**  
**Analysis Batch: 298201**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 298096**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Cadmium	ND		80.0	82.1		ug/L		103	80 - 120	1	20
Copper	1.4	J,DX	80.0	82.9		ug/L		102	80 - 120	3	20
Lead	ND		80.0	82.5		ug/L		103	80 - 120	1	20
Selenium	ND		80.0	79.0		ug/L		99	80 - 120	1	20
Iron	21		800	878		ug/L		107	80 - 120	3	20
Zinc	ND		80.0	82.0		ug/L		102	80 - 120	1	20

**Lab Sample ID: MB 570-300272/1-A**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 300272**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.520	J,DX	1.0	0.41	ug/L		02/01/23 11:07	02/01/23 14:06	1

**Lab Sample ID: LCS 570-300272/2-A**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 300272**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	80.0	80.2		ug/L		100	85 - 115

**Lab Sample ID: LCSD 570-300272/3-A**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 300272**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Manganese	80.0	80.4		ug/L		101	85 - 115	0	20

**Lab Sample ID: 570-124873-F-1-E MS**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total Recoverable**  
**Prep Batch: 300272**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	4.7	MB	80.0	83.8		ug/L		99	80 - 120

**Lab Sample ID: 570-124873-F-1-F MSD**  
**Matrix: Water**  
**Analysis Batch: 300379**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total Recoverable**  
**Prep Batch: 300272**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Manganese	4.7	MB	80.0	85.3		ug/L		101	80 - 120	2	20

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: MB 570-298550/1-A**  
**Matrix: Water**  
**Analysis Batch: 298597**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			01/25/23 14:41	1
Copper	ND		2.0	0.32	ug/L			01/25/23 14:41	1
Lead	ND		1.0	0.12	ug/L			01/25/23 14:41	1
Selenium	ND		2.0	0.52	ug/L			01/25/23 14:41	1
Iron	ND		20	3.7	ug/L			01/25/23 14:41	1
Zinc	ND		20	2.8	ug/L			01/25/23 14:41	1
Manganese	ND		1.0	0.41	ug/L			01/25/23 14:41	1

**Lab Sample ID: LCS 570-298550/2-A**  
**Matrix: Water**  
**Analysis Batch: 298597**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	77.8		ug/L		97	85 - 115
Copper	80.0	72.8		ug/L		91	85 - 115
Lead	80.0	78.4		ug/L		98	85 - 115
Selenium	80.0	77.7		ug/L		97	85 - 115
Iron	800	783		ug/L		98	85 - 115
Zinc	80.0	74.9		ug/L		94	85 - 115
Manganese	80.0	78.8		ug/L		98	85 - 115

**Lab Sample ID: LCSD 570-298550/3-A**  
**Matrix: Water**  
**Analysis Batch: 298597**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	77.6		ug/L		97	85 - 115	0	20
Copper	80.0	73.5		ug/L		92	85 - 115	1	20
Lead	80.0	78.0		ug/L		97	85 - 115	1	20
Selenium	80.0	74.9		ug/L		94	85 - 115	4	20
Iron	800	768		ug/L		96	85 - 115	2	20
Zinc	80.0	75.4		ug/L		94	85 - 115	1	20
Manganese	80.0	78.5		ug/L		98	85 - 115	0	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-298289/1-A**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 298289**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/24/23 17:46	01/25/23 15:38	1

**Lab Sample ID: LCS 570-298289/2-A**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 298289**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.65		ug/L		108	85 - 115

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCSD 570-298289/3-A**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 298289**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.61		ug/L		108	85 - 115	0	10

**Lab Sample ID: MB 570-298285/1-B**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 298287**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		01/24/23 18:15	01/25/23 15:14	1

**Lab Sample ID: LCS 570-298285/2-B**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 298287**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.38		ug/L		105	85 - 115

**Lab Sample ID: LCSD 570-298285/3-B**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 298287**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.19		ug/L		102	85 - 115	2	10

**Lab Sample ID: 570-124873-A-3-E MS**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**  
**Prep Batch: 298287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	8.36		ug/L		105	85 - 115

**Lab Sample ID: 570-124873-A-3-F MSD**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**  
**Prep Batch: 298287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.47		ug/L		106	85 - 115	1	10

**Lab Sample ID: 570-124653-L-2-D MS**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Matrix Spike**  
**Prep Type: Dissolved**  
**Prep Batch: 298289**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	8.55		ug/L		107	85 - 115

**Lab Sample ID: 570-124653-L-2-E MSD**  
**Matrix: Water**  
**Analysis Batch: 298644**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Dissolved**  
**Prep Batch: 298289**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.52	IB	ug/L		106	85 - 115	0	10

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-299646/5-A  
 Matrix: Water  
 Analysis Batch: 299684

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 299646

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		01/30/23 12:27	01/30/23 13:57	1

Lab Sample ID: LCS 570-299646/6-A  
 Matrix: Water  
 Analysis Batch: 299684

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 299646

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.475		mg/L		95	90 - 110

Lab Sample ID: LCSD 570-299646/7-A  
 Matrix: Water  
 Analysis Batch: 299684

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 299646

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.482		mg/L		96	90 - 110	1	20

Lab Sample ID: 570-124924-X-1-A MS  
 Matrix: Water  
 Analysis Batch: 299684

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 299646

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		0.500	0.495		mg/L		99	90 - 110

Lab Sample ID: 570-124924-X-1-B MSD  
 Matrix: Water  
 Analysis Batch: 299684

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 299646

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		0.500	0.493		mg/L		99	90 - 110	1	25

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-297946/11  
 Matrix: Water  
 Analysis Batch: 297946

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			01/23/23 13:11	1

Lab Sample ID: LCS 570-297946/14  
 Matrix: Water  
 Analysis Batch: 297946

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	267		ug/L		107	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

**Lab Sample ID: LCSD 570-297946/13**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	248		ug/L		99	90 - 110	7	20

**Lab Sample ID: MRL 570-297946/10**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	5.00	4.66	J,DX	ug/L		93	50 - 150		

**Lab Sample ID: 570-124243-S-1 MS**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	ND		250	216		ug/L		86	70 - 130		

**Lab Sample ID: 570-124243-S-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 297946**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	ND		250	227		ug/L		91	70 - 130	5	30

## Method: SM 2130B - Turbidity

**Lab Sample ID: LCSSRM 570-297650/1**  
**Matrix: Water**  
**Analysis Batch: 297650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	1000	1000		NTU		101.0	99.0 - 101.0		

**Lab Sample ID: LCSSRM 570-297650/2**  
**Matrix: Water**  
**Analysis Batch: 297650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0		

**Lab Sample ID: LCSSRM 570-297650/3**  
**Matrix: Water**  
**Analysis Batch: 297650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0		

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: SM 2130B - Turbidity (Continued)

Lab Sample ID: 570-124868-1 DU  
 Matrix: Water  
 Analysis Batch: 297650

Client Sample ID: Outfall001\_20230120\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	9.0		9.0		NTU		0.1	25

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-298303/1  
 Matrix: Water  
 Analysis Batch: 298303

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			01/24/23 18:23	1

Lab Sample ID: LCS 570-298303/2  
 Matrix: Water  
 Analysis Batch: 298303

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1000		mg/L		100	84 - 108

Lab Sample ID: LCSD 570-298303/3  
 Matrix: Water  
 Analysis Batch: 298303

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1020		mg/L		102	84 - 108	2	10

Lab Sample ID: 570-124934-C-2 DU  
 Matrix: Water  
 Analysis Batch: 298303

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	100000		101000		mg/L		3	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-297947/1  
 Matrix: Water  
 Analysis Batch: 297947

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			01/23/23 16:51	1

Lab Sample ID: LCS 570-297947/2  
 Matrix: Water  
 Analysis Batch: 297947

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	92.0		mg/L		92	77 - 116

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCSD 570-297947/3  
 Matrix: Water  
 Analysis Batch: 297947

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	93.0		mg/L		93	77 - 116	1	10

Lab Sample ID: 590-19662-B-1 DU  
 Matrix: Water  
 Analysis Batch: 297947

Client Sample ID: Duplicate  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	2300		2060		mg/L		10	10

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-297652/5-A  
 Matrix: Water  
 Analysis Batch: 297651

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 297652

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.30	0.054	mg/L		01/21/23 15:20	01/21/23 16:36	1

Lab Sample ID: LCS 570-297652/6-A  
 Matrix: Water  
 Analysis Batch: 297651

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 297652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	1.00	1.06		mg/L		106	85 - 111

Lab Sample ID: LCSD 570-297652/7-A  
 Matrix: Water  
 Analysis Batch: 297651

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 297652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	1.00	1.06		mg/L		106	85 - 111	0	7

Lab Sample ID: 570-124873-A-1-A MS  
 Matrix: Water  
 Analysis Batch: 297651

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 297652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	ND		1.00	1.16		mg/L		116	75 - 125

Lab Sample ID: 570-124873-A-1-B MSD  
 Matrix: Water  
 Analysis Batch: 297651

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 297652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	ND		1.00	1.15		mg/L		115	75 - 125	1	12

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Method: SM5210B - BOD, 5 Day

**Lab Sample ID: USB 570-298979/2**  
**Matrix: Water**  
**Analysis Batch: 298979**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			01/21/23 09:22	1

**Lab Sample ID: LCS 570-298979/4**  
**Matrix: Water**  
**Analysis Batch: 298979**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	218		mg/L		110	84.6 - 115.4

**Lab Sample ID: 570-124873-I-1 DU**  
**Matrix: Water**  
**Analysis Batch: 298979**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Biochemical Oxygen Demand	ND		ND		mg/L		NC	25

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## GC/MS Semi VOA

### Prep Batch: 298062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	625	
MB 570-298062/1-A	Method Blank	Total/NA	Water	625	
LCS 570-298062/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-298062/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 300591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	625.1 SIM	298062
MB 570-298062/1-A	Method Blank	Total/NA	Water	625.1 SIM	298062
LCS 570-298062/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	298062
LCSD 570-298062/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	298062

## GC Semi VOA

### Prep Batch: 297984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	608	
MB 570-297984/1-A	Method Blank	Total/NA	Water	608	
LCS 570-297984/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-297984/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 299101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-297984/1-A	Method Blank	Total/NA	Water	608.3	297984
LCS 570-297984/2-A	Lab Control Sample	Total/NA	Water	608.3	297984
LCSD 570-297984/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	297984

### Analysis Batch: 299773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	608.3	297984

## HPLC/IC

### Analysis Batch: 297602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	300.0	
MB 570-297602/5	Method Blank	Total/NA	Water	300.0	
LCS 570-297602/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-297602/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-124951-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
570-124951-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 297603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	300.0	
MB 570-297603/5	Method Blank	Total/NA	Water	300.0	
LCS 570-297603/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-297603/7	Lab Control Sample Dup	Total/NA	Water	300.0	
570-124951-A-3 MS	Matrix Spike	Total/NA	Water	300.0	
570-124951-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## HPLC/IC

### Analysis Batch: 298163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	NO2NO3 Calc	

### Analysis Batch: 298791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	314.0	
MB 570-298791/7	Method Blank	Total/NA	Water	314.0	
LCS 570-298791/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-298791/9	Lab Control Sample Dup	Total/NA	Water	314.0	
570-125345-D-2 MS	Matrix Spike	Total/NA	Water	314.0	
570-125345-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	314.0	

## Metals

### Prep Batch: 298096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total Recoverable	Water	200.8	
MB 570-298096/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-298096/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-298096/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-124890-D-1-C MS	Matrix Spike	Total Recoverable	Water	200.8	
570-124890-D-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 298201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-298096/1-A	Method Blank	Total Recoverable	Water	200.8	298096
LCS 570-298096/2-A	Lab Control Sample	Total Recoverable	Water	200.8	298096
LCSD 570-298096/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	298096
570-124890-D-1-C MS	Matrix Spike	Total Recoverable	Water	200.8	298096
570-124890-D-1-D MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	298096

### Analysis Batch: 298215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total Recoverable	Water	200.8	298096

### Filtration Batch: 298285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-3	Outfall001_20230120_Comp_F	Dissolved	Water	Filtration	
MB 570-298285/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-298285/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-298285/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-124873-A-3-E MS	Matrix Spike	Dissolved	Water	Filtration	
570-124873-A-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

### Prep Batch: 298287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-3	Outfall001_20230120_Comp_F	Dissolved	Water	245.1	298285
MB 570-298285/1-B	Method Blank	Dissolved	Water	245.1	298285
LCS 570-298285/2-B	Lab Control Sample	Dissolved	Water	245.1	298285
LCSD 570-298285/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	298285
570-124873-A-3-E MS	Matrix Spike	Dissolved	Water	245.1	298285
570-124873-A-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	298285

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Metals

### Prep Batch: 298289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	245.1	
MB 570-298289/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-298289/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-298289/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-124653-L-2-D MS	Matrix Spike	Dissolved	Water	245.1	
570-124653-L-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	

### Filtration Batch: 298550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-3	Outfall001_20230120_Comp_F	Dissolved	Water	Filtration	
MB 570-298550/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-298550/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-298550/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	

### Analysis Batch: 298596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-3	Outfall001_20230120_Comp_F	Dissolved	Water	200.8	298550

### Analysis Batch: 298597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-298550/1-A	Method Blank	Dissolved	Water	200.8	298550
LCS 570-298550/2-A	Lab Control Sample	Dissolved	Water	200.8	298550
LCSD 570-298550/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	298550

### Analysis Batch: 298644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	245.1	298289
570-124868-3	Outfall001_20230120_Comp_F	Dissolved	Water	245.1	298287
MB 570-298285/1-B	Method Blank	Dissolved	Water	245.1	298287
MB 570-298289/1-A	Method Blank	Total/NA	Water	245.1	298289
LCS 570-298285/2-B	Lab Control Sample	Dissolved	Water	245.1	298287
LCS 570-298289/2-A	Lab Control Sample	Total/NA	Water	245.1	298289
LCSD 570-298285/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	298287
LCSD 570-298289/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	298289
570-124653-L-2-D MS	Matrix Spike	Dissolved	Water	245.1	298289
570-124653-L-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	298289
570-124873-A-3-E MS	Matrix Spike	Dissolved	Water	245.1	298287
570-124873-A-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	245.1	298287

### Prep Batch: 300272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total Recoverable	Water	200.8	
MB 570-300272/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-300272/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-300272/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-124873-F-1-E MS	Matrix Spike	Total Recoverable	Water	200.8	
570-124873-F-1-F MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

### Analysis Batch: 300379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total Recoverable	Water	200.8	300272

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Metals (Continued)

### Analysis Batch: 300379 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-300272/1-A	Method Blank	Total Recoverable	Water	200.8	300272
LCS 570-300272/2-A	Lab Control Sample	Total Recoverable	Water	200.8	300272
LCSD 570-300272/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	300272
570-124873-F-1-E MS	Matrix Spike	Total Recoverable	Water	200.8	300272
570-124873-F-1-F MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	300272

## General Chemistry

### Analysis Batch: 297650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-297650/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-297650/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-297650/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-124868-1 DU	Outfall001_20230120_Comp	Total/NA	Water	SM 2130B	

### Analysis Batch: 297651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	SM 5540C	297652
MB 570-297652/5-A	Method Blank	Total/NA	Water	SM 5540C	297652
LCS 570-297652/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	297652
LCSD 570-297652/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	297652
570-124873-A-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	297652
570-124873-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	297652

### Prep Batch: 297652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	SM 5540C	
MB 570-297652/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-297652/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-297652/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-124873-A-1-A MS	Matrix Spike	Total/NA	Water	SM 5540C	
570-124873-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5540C	

### Analysis Batch: 297946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	Kelada 01	
MB 570-297946/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-297946/14	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-297946/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-297946/10	Lab Control Sample	Total/NA	Water	Kelada 01	
570-124243-S-1 MS	Matrix Spike	Total/NA	Water	Kelada 01	
570-124243-S-1 MSD	Matrix Spike Duplicate	Total/NA	Water	Kelada 01	

### Analysis Batch: 297947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	SM 2540D	
MB 570-297947/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-297947/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-297947/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
590-19662-B-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## General Chemistry

### Analysis Batch: 298303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	SM 2540C	
MB 570-298303/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-298303/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-298303/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-124934-C-2 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 298979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	SM5210B	
USB 570-298979/2	Method Blank	Total/NA	Water	SM5210B	
LCS 570-298979/4	Lab Control Sample	Total/NA	Water	SM5210B	
570-124873-I-1 DU	Duplicate	Total/NA	Water	SM5210B	

### Prep Batch: 299646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-299646/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-299646/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-299646/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-124924-X-1-A MS	Matrix Spike	Total/NA	Water	Distill/Ammonia	
570-124924-X-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 299684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	350.1	299646
MB 570-299646/5-A	Method Blank	Total/NA	Water	350.1	299646
LCS 570-299646/6-A	Lab Control Sample	Total/NA	Water	350.1	299646
LCSD 570-299646/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	299646
570-124924-X-1-A MS	Matrix Spike	Total/NA	Water	350.1	299646
570-124924-X-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	299646



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

**Client Sample ID: Outfall001\_20230120\_Comp**

**Lab Sample ID: 570-124868-1**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1003.1 mL	2 mL	298062	01/24/23 08:32	OAJ3	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	300591	02/02/23 20:27	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	297984	01/23/23 18:56	USUL	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	299773	01/31/23 15:08	N5Y3	EET CAL 4
		Instrument ID: GC52A								
Total/NA	Analysis	300.0		1	4 mL	4 mL	297602	01/21/23 11:16	PS	EET CAL 4
		Instrument ID: IC7								
Total/NA	Analysis	300.0		1	4 mL	4 mL	297603	01/21/23 11:16	PS	EET CAL 4
		Instrument ID: IC7								
Total/NA	Analysis	314.0		1	4 mL	4 mL	298791	01/27/23 03:43	PS	EET CAL 4
		Instrument ID: IC13								
Total/NA	Analysis	NO2NO3 Calc		1			298163	01/24/23 12:20	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	298096	01/24/23 09:53	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			298215	01/24/23 14:19	Y2WS	EET CAL 4
		Instrument ID: ICPMS09								
Total Recoverable	Prep	200.8			50 mL	50 mL	300272	02/01/23 11:07	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			300379	02/01/23 14:19	Y2WS	EET CAL 4
		Instrument ID: ICPMS10								
Total/NA	Prep	245.1			25 mL	50 mL	298289	01/24/23 17:46	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			298644	01/25/23 15:56	C0YH	EET CAL 4
		Instrument ID: HG8								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	299646	01/30/23 12:27	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	299684	01/30/23 14:31	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	297946	01/23/23 14:58	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			297650	01/21/23 14:57	ZVB7	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	298303	01/24/23 18:23	ZL7L	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	297947	01/23/23 16:51	UWCT	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Prep	SM 5540C			100 mL	100 mL	297652	01/21/23 15:20	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	297651	01/21/23 16:43	ZVB7	EET CAL 4
		Instrument ID: UV9								
Total/NA	Analysis	SM5210B		1			298979	01/21/23 13:52	U7UR	EET CAL 4
		Instrument ID: BOD3								

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

**Client Sample ID: Outfall001\_20230120\_Comp\_F**

**Lab Sample ID: 570-124868-3**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	298550	01/25/23 13:28	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			298596	01/25/23 14:39	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Dissolved	Filtration	Filtration			25 mL	25 mL	298285	01/24/23 17:42	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	298287	01/24/23 18:15	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			298644	01/25/23 15:29	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	40CFR136A	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
SM5210B	BOD, 5 Day	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	EET CAL 4
625	Liquid-Liquid Extraction	40CFR136A	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

#### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.  
 EPA = US Environmental Protection Agency  
 None = None  
 SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124868-1	Outfall001_20230120_Comp	Water	01/20/23 08:55	01/20/23 18:30
570-124868-3	Outfall001_20230120_Comp_F	Water	01/20/23 08:55	01/20/23 18:30

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



Eurofins Calscience Irvine

570-124868 Chain of Custody

CHAIN OF CUSTODY FORM

124868  
Page 1 of 2

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall 001 002, 011, 014 Outfall 001 Comp		<b>Project Manager:</b> Katherine Miller 520.219.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		<b>ANALYSIS REQUIRED</b> Total Recoverable Metals (E200.7) Mn, Fe Total Recoverable Metals, Mercury (E245.1) 2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E608) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Ferric Chloride (E350) Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, NO <sub>3</sub> <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> Surfactants (MBAS) (SM5540C/E425.1) BOD <sub>5</sub> (20 degrees C) (E405.1 (SM5210B, BODCal)) COD (and all congeners) (E1613B) Total Recoverable Metals (E200.7) Zn, Cu, Pb, Cd, Se		<b>Comments</b> Outfall 001 analyze for Fe, Mn.	
<b>Sample Description:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 500 mL Poly		<b>Preservative:</b> HNO <sub>3</sub>		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 1		<b>Number of Containers:</b> 1		<b>Number of Containers:</b> 1		<b>Number of Containers:</b> 1	
<b>Sample ID:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 1 L Glass Amber		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 2		<b>Container Type:</b> 1 L Poly		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sample ID:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 500 mL Poly		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 2		<b>Container Type:</b> 500 mL Poly		<b>Preservative:</b> H <sub>2</sub> SO <sub>4</sub>		<b>MS/MSD:</b> No	
<b>Sample ID:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 1 L Glass Amber		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 2		<b>Container Type:</b> 1 L Glass Amber		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sample ID:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 1 L Poly		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 2		<b>Container Type:</b> 1 L Glass Amber		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sample ID:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 500 mL Poly		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 2		<b>Container Type:</b> 500 mL Poly		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sample ID:</b> Outfall001_20230120_Comp		<b>Sample Matrix:</b> WM		<b>Container Type:</b> 1 L Glass Amber		<b>Preservative:</b> None		<b>MS/MSD:</b> No	
<b>Sampling Date/Time:</b> 1/20/2023 6:55		<b>Number of Containers:</b> 2		<b>Container Type:</b> 1 L Glass Amber		<b>Preservative:</b> None		<b>MS/MSD:</b> No	



CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

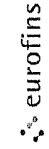
Client Name/Address:		Project:		ANALYSIS REQUIRED		Comments						
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Boeing-SSFL NPDES Permit 2023 Routine: Outfall 001, 002, 011, 011J Outfall 001 Comp		F R R R R C								
Eurofins Calscience Irvine Contact: Christian Bondoc 1746 Deilan Ave Suite #100 Irvine CA 92614 Tel 949-260-3218		Project Manager: Katherine Miller 520.239.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		R C								
Sample for: Adrian Mobeka		EPA-821-R-02-013 ABC Labs in Ventura, CA CS-137 (E901.0 or E901.1) Radium 228 (E904.0) Uranium (E908.0), K-40, Combined Radium 226 (E903.0 or E903.1) & Thium (H-3) (E906.0) Sr-90 (E905.0), Total Gross Alpha (E900.0), Gross Beta (E900.0), Cyanide (SM4500-CN-E / E335.2) Total Dissolved Metals: (E200.7), Zn, Pb, Cd, Se		R R R C								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont	Preservative	Bott #	MS/MSD	Total Dissolved Metals: (E200.7), Zn, Pb, Cd, Se	Total Dissolved Metals: (E200.7), Mn, Fe	Total Dissolved Metals: (E200.7), Mn, Fe	
Outfall001_20230120_Comp_F		1/20/2023 10:55	WM	1L Poly	1	None	203	No	X	X	X	Filter and preserve within 24hrs of receipt at lab. Outfall 011 analyze for Fe, Mn.
Outfall001_20230120_Comp		1/20/2023 10:55	WM	bore-silicate vials	1	None	323	No	X	X	X	Sample, keep DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
			WM	500 mL Poly	1	NaOH	223	No				
			WM	2.5 Gall Cube	1	None	225	No	X			Unfiltered and unpreserved analysis. Separ rate RAD onto another workorder. Analyze duplicate not MS/MSD
			WM	1L Glass Amber	1	None	233	No				Only has 1st or second rain events of the type Delivered: ABC Labs in Ventura, CA
			WM	1 Gall Cube	0	None	203	No				

Released By	Date/Time	Received By	Date/Time	Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual
<i>M. Dominick</i>	1-20-2023/1310	<i>M. Dominick</i>	1/20/23 1310 EC	TU Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal: _____
<i>Samy</i>	1/20/23 1830 EC	<i>Samy</i>	1/20/23 1830	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) NC Level IV: _____ All Level IV: _____ X



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM: Patel Virendra	Carrier Tracking No(s): 570-204882 1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California
Company: TestAmerica Laboratories, Inc.		Page: 1 of 1	
Address: 13715 Rider Trail North, Earth City, MO, 63045		Job #: 570-124868-3	
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		<b>Preservation Codes</b>	
Email:		A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp		<b>Analysis Requested</b>	
Site:		901.0/Evaporation Gross Alpha/Beta	
Due Date Requested: 2/24/2023		900.0/PreSep_21 Radium-226	
TAT Requested (days):		904.0/PreSep_0 Radium-228	
PO #:		905.5/PreSep_7 Strontium-90	
WO #:		906.0/SC_Dist_Susp Tritium	
Project #: 44024446		907.1/Cs/Fill_Geo_0-K-40 and Csium-137	
SSOW#:		908.0/PreSep_21 Radium-226	
Sample Date: 1/20/23		909.0/PreSep_0 Radium-228	
Sample Time: 08:55 Pacific		910.0/PreSep_7 Strontium-90	
Sample ID (Lab ID): Outfall001_20230120_Comp (570-124868-1)		911.0/PreSep_0 Radium-226	
Sample Type (C=Comp, G=grab):		912.0/PreSep_0 Radium-226	
Sample Preservation Code: Water		913.0/PreSep_0 Radium-226	
Matrix (W=water, S=solid, O=oil, BI=Tissue, A=AU):		914.0/PreSep_0 Radium-226	
Field Filtered Sample (Yes or No):		915.0/PreSep_0 Radium-226	
Perform M/MSD (Yes or No):		916.0/PreSep_0 Radium-226	
Total Number of Containers: 2		917.0/PreSep_0 Radium-226	
Special Instructions/Note: Boeing SSFL, DO NOT FILTER, use prep date from preservation		918.0/PreSep_0 Radium-226	
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.		919.0/PreSep_0 Radium-226	
<b>Possible Hazard Identification</b>		920.0/PreSep_0 Radium-226	
Unconfirmed		921.0/PreSep_0 Radium-226	
Deliverable Requested: I, II, III, IV, Other (specify)		922.0/PreSep_0 Radium-226	
Empty Kit Relinquished by:		923.0/PreSep_0 Radium-226	
Relinquished by:		924.0/PreSep_0 Radium-226	
Relinquished by:		925.0/PreSep_0 Radium-226	
Relinquished by:		926.0/PreSep_0 Radium-226	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		927.0/PreSep_0 Radium-226	
Custody Seal No.:		928.0/PreSep_0 Radium-226	
Cooler Temperature(s) °C and Other Remarks:		929.0/PreSep_0 Radium-226	
Primary Deliverable Rank: 2		930.0/PreSep_0 Radium-226	
Date: 1/23/23 13:55		931.0/PreSep_0 Radium-226	
Date/Time:		932.0/PreSep_0 Radium-226	
Date/Time:		933.0/PreSep_0 Radium-226	
Date/Time:		934.0/PreSep_0 Radium-226	
Company:		935.0/PreSep_0 Radium-226	
Company:		936.0/PreSep_0 Radium-226	
Company:		937.0/PreSep_0 Radium-226	
Custody Seal No.:		938.0/PreSep_0 Radium-226	







# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124868-1

**Login Number: 124868**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/14/2023 2:47:02 PM

## JOB DESCRIPTION

Boeing SSFL NPDES - Outfall 001 - Comp

## JOB NUMBER

570-124868-2

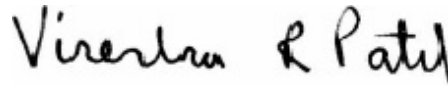
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/14/2023 2:47:02 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	10
Isotope Dilution Summary . . . . .	11
QC Sample Results . . . . .	13
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	18
Certification Summary . . . . .	19
Method Summary . . . . .	20
Sample Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	27

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

---

**Job ID: 570-124868-2**

---

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-124868-2**

## Comments

No additional comments.

## Receipt

The samples were received on 1/20/2023 6:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

## Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 11D2 exceeded this criteria: Outfall001\_20230120\_Comp (570-124868-1) and (CCV 320-652595/2). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

**Client Sample ID: Outfall001\_20230120\_Comp**

**Lab Sample ID: 570-124868-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.00000045	J,DX q	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				8					
1,2,3,7,8-PeCDF	0.00000042	J,DX MB q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				5					
2,3,4,7,8-PeCDF	0.00000042	J,DX q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				7					
1,2,3,4,7,8-HxCDD	0.00000020	J,DX MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				7					
1,2,3,6,7,8-HxCDD	0.00000070	J,DX MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				6					
1,2,3,7,8,9-HxCDD	0.00000058	J,DX MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				4					
1,2,3,4,7,8-HxCDF	0.00000054	J,DX MB q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				7					
1,2,3,6,7,8-HxCDF	0.00000046	J,DX MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				5					
1,2,3,7,8,9-HxCDF	0.00000052	J,DX MB q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				6					
2,3,4,6,7,8-HxCDF	0.00000044	J,DX MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				4					
1,2,3,4,6,7,8-HpCDD	0.00000065	J,DX MB	0.000048	0.0000004	ug/L	1		1613B	Total/NA
				5					
1,2,3,4,6,7,8-HpCDF	0.00000036	J,DX MB q	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				4					
1,2,3,4,7,8,9-HpCDF	0.00000048	J,DX MB	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				6					
OCDD	0.00000059	J,DX MB	0.000096	0.0000006	ug/L	1		1613B	Total/NA
				3					
OCDF	0.00000048	J,DX MB	0.000096	0.0000002	ug/L	1		1613B	Total/NA
				4					
Total TCDD	0.00000013	J,DX q	0.0000096	0.0000005	ug/L	1		1613B	Total/NA
				6					
Total TCDF	0.00000027	J,DX q	0.0000096	0.0000001	ug/L	1		1613B	Total/NA
				9					
Total PeCDD	0.00000045	J,DX q	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				8					
Total PeCDF	0.00000012	J,DX MB q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				5					
Total HxCDD	0.00000064	J,DX MB q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				4					
Total HxCDF	0.00000039	J,DX MB q	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				4					
Total HpCDD	0.00000014	J,DX MB	0.000048	0.0000004	ug/L	1		1613B	Total/NA
				5					
Total HpCDF	0.00000068	J,DX MB q	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				4					

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall001\_20230120\_Comp

Lab Sample ID: 570-124868-1

Date Collected: 01/20/23 08:55

Matrix: Water

Date Received: 01/20/23 18:30

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000096	0.0000005	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,7,8-PeCDD	0.00000045	J,DX q	0.000048	0.0000002	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,7,8-PeCDF	0.00000042	J,DX MB q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
2,3,4,7,8-PeCDF	0.00000042	J,DX q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,4,7,8-HxCDD	0.0000020	J,DX MB	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,6,7,8-HxCDD	0.00000070	J,DX MB	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,7,8,9-HxCDD	0.00000058	J,DX MB	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,4,7,8-HxCDF	0.00000054	J,DX MB q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,6,7,8-HxCDF	0.00000046	J,DX MB	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,7,8,9-HxCDF	0.00000052	J,DX MB q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
2,3,4,6,7,8-HxCDF	0.00000044	J,DX MB	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,4,6,7,8-HpCDD	0.0000065	J,DX MB	0.000048	0.0000004	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,4,6,7,8-HpCDF	0.0000036	J,DX MB q	0.000048	0.0000002	ug/L		02/03/23 10:06	02/07/23 19:18	1
1,2,3,4,7,8,9-HpCDF	0.00000048	J,DX MB	0.000048	0.0000002	ug/L		02/03/23 10:06	02/07/23 19:18	1
OCDD	0.000059	J,DX MB	0.000096	0.0000006	ug/L		02/03/23 10:06	02/07/23 19:18	1
OCDF	0.0000048	J,DX MB	0.000096	0.0000002	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total TCDD	0.0000013	J,DX q	0.0000096	0.0000005	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total TCDF	0.00000027	J,DX q	0.0000096	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total PeCDD	0.00000045	J,DX q	0.000048	0.0000002	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total PeCDF	0.0000012	J,DX MB q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total HxCDD	0.0000064	J,DX MB q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total HxCDF	0.0000039	J,DX MB q	0.000048	0.0000001	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total HpCDD	0.000014	J,DX MB	0.000048	0.0000004	ug/L		02/03/23 10:06	02/07/23 19:18	1
Total HpCDF	0.0000068	J,DX MB q	0.000048	0.0000002	ug/L		02/03/23 10:06	02/07/23 19:18	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	76		25 - 164				02/03/23 10:06	02/07/23 19:18	1
13C-2,3,7,8-TCDF	74		24 - 169				02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,7,8-PeCDD	77		25 - 181				02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,7,8-PeCDF	77		24 - 185				02/03/23 10:06	02/07/23 19:18	1
13C-2,3,4,7,8-PeCDF	75		21 - 178				02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,4,7,8-HxCDD	75		32 - 141				02/03/23 10:06	02/07/23 19:18	1

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230120\_Comp**  
**Date Collected: 01/20/23 08:55**  
**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124868-1**  
**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,4,7,8-HxCDF	69		26 - 152	02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,6,7,8-HxCDF	82		26 - 123	02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	02/03/23 10:06	02/07/23 19:18	1
13C-2,3,4,6,7,8-HxCDF	83		28 - 136	02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,4,6,7,8-HpCDD	77		23 - 140	02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	02/03/23 10:06	02/07/23 19:18	1
13C-1,2,3,4,7,8,9-HpCDF	77		26 - 138	02/03/23 10:06	02/07/23 19:18	1
13C-OCDD	77		17 - 157	02/03/23 10:06	02/07/23 19:18	1
13C-OCDF	77		17 - 157	02/03/23 10:06	02/07/23 19:18	1
<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
37Cl4-2,3,7,8-TCDD	86		35 - 197	02/03/23 10:06	02/07/23 19:18	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) - RA

**Client Sample ID: Outfall001\_20230120\_Comp**

**Date Collected: 01/20/23 08:55**

**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124868-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDF	ND		0.0000096	0.0000003	ug/L		02/03/23 10:06	02/08/23 21:10	1
				4					
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C-2,3,7,8-TCDF	70		24 - 169				02/03/23 10:06	02/08/23 21:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
37Cl4-2,3,7,8-TCDD	99		35 - 197				02/03/23 10:06	02/08/23 21:10	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-124868-1	Outfall001_20230120_Comp	86
570-124868-1 - RA	Outfall001_20230120_Comp	99
MB 320-651610/1-A	Method Blank	91

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-651610/2-A	Lab Control Sample	89
LCSD 320-651610/3-A	Lab Control Sample Dup	91

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-124868-1	Outfall001_20230120_Comp	76	74	77	77	75	75	80	69
570-124868-1 - RA	Outfall001_20230120_Comp		70						
MB 320-651610/1-A	Method Blank	71	69	72	72	65	65	69	58

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-124868-1	Outfall001_20230120_Comp	82	83	83	77	73	77	77	77
570-124868-1 - RA	Outfall001_20230120_Comp								
MB 320-651610/1-A	Method Blank	70	78	78	71	64	72	71	70

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-651610/2-A	Lab Control Sample	67	66	70	69	68	67	72	62
LCSD 320-651610/3-A	Lab Control Sample Dup	71	69	74	73	69	65	74	62

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-651610/2-A	Lab Control Sample	71	75	74	69	66	70	71	70
LCSD 320-651610/3-A	Lab Control Sample Dup	73	78	78	73	67	74	76	74

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD

Eurofins Calscience

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-124868-2

Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

HxCDF = 13C-1,2,3,4,7,8-HxCDF

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-651610/1-A**  
**Matrix: Water**  
**Analysis Batch: 652417**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 651610**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000011	ug/L		02/03/23 10:06	02/07/23 14:39	1
2,3,7,8-TCDF	ND		0.000010	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000004	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,7,8-PeCDF	0.000000524	J,DX	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,4,7,8-HxCDD	0.00000235	J,DX	0.000050	0.0000003	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,6,7,8-HxCDD	0.000000472	J,DX	0.000050	0.0000003	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,7,8,9-HxCDD	0.000000555	J,DX q	0.000050	0.0000003	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,4,7,8-HxCDF	0.000000363	J,DX q	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,6,7,8-HxCDF	0.000000299	J,DX q	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,7,8,9-HxCDF	0.000000640	J,DX	0.000050	0.0000001	ug/L		02/03/23 10:06	02/07/23 14:39	1
2,3,4,6,7,8-HxCDF	0.000000315	J,DX q	0.000050	0.0000001	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,4,6,7,8-HpCDD	0.00000160	J,DX	0.000050	0.0000001	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,4,6,7,8-HpCDF	0.00000125	J,DX q	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
1,2,3,4,7,8,9-HpCDF	0.000000762	J,DX	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
OCDD	0.00000491	J,DX	0.00010	0.0000003	ug/L		02/03/23 10:06	02/07/23 14:39	1
OCDF	0.00000107	J,DX q	0.00010	0.0000005	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total TCDD	ND		0.000010	0.0000011	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total TCDF	ND		0.000010	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total PeCDD	ND		0.000050	0.0000004	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total PeCDF	0.000000524	J,DX	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total HxCDD	0.00000337	J,DX q	0.000050	0.0000003	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total HxCDF	0.00000162	J,DX q	0.000050	0.0000001	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total HpCDD	0.00000368	J,DX	0.000050	0.0000001	ug/L		02/03/23 10:06	02/07/23 14:39	1
Total HpCDF	0.00000201	J,DX q	0.000050	0.0000002	ug/L		02/03/23 10:06	02/07/23 14:39	1
	<b>MB</b>	<b>MB</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	71		25 - 164				02/03/23 10:06	02/07/23 14:39	1
13C-2,3,7,8-TCDF	69		24 - 169				02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,7,8-PeCDD	72		25 - 181				02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,7,8-PeCDF	72		24 - 185				02/03/23 10:06	02/07/23 14:39	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-651610/1-A**  
**Matrix: Water**  
**Analysis Batch: 652417**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 651610**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-2,3,4,7,8-PeCDF	65		21 - 178	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,4,7,8-HxCDD	65		32 - 141	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,6,7,8-HxCDD	69		28 - 130	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,4,7,8-HxCDF	58		26 - 152	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,6,7,8-HxCDF	70		26 - 123	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,7,8,9-HxCDF	78		29 - 147	02/03/23 10:06	02/07/23 14:39	1
13C-2,3,4,6,7,8-HxCDF	78		28 - 136	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,4,6,7,8-HpCDD	71		23 - 140	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,4,6,7,8-HpCDF	64		28 - 143	02/03/23 10:06	02/07/23 14:39	1
13C-1,2,3,4,7,8,9-HpCDF	72		26 - 138	02/03/23 10:06	02/07/23 14:39	1
13C-OCDD	71		17 - 157	02/03/23 10:06	02/07/23 14:39	1
13C-OCDF	70		17 - 157	02/03/23 10:06	02/07/23 14:39	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	91		35 - 197	02/03/23 10:06	02/07/23 14:39	1

**Lab Sample ID: LCS 320-651610/2-A**  
**Matrix: Water**  
**Analysis Batch: 652417**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 651610**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,3,7,8-TCDF	0.000200	0.000226		ug/L		113	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00106		ug/L		106	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00107	MB	ug/L		107	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00107		ug/L		107	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.00104	MB	ug/L		104	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00110	MB	ug/L		110	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00109	MB	ug/L		109	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.00107	MB	ug/L		107	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00109	MB	ug/L		109	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00108	MB	ug/L		108	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00109	MB	ug/L		109	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00108	MB	ug/L		108	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00110	MB	ug/L		110	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00109	MB	ug/L		109	78 - 138
OCDD	0.00200	0.00214	MB	ug/L		107	78 - 144
OCDF	0.00200	0.00227	MB	ug/L		113	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	66		22 - 152
13C-1,2,3,7,8-PeCDD	70		21 - 227
13C-1,2,3,7,8-PeCDF	69		21 - 192
13C-2,3,4,7,8-PeCDF	68		13 - 328
13C-1,2,3,4,7,8-HxCDD	67		21 - 193
13C-1,2,3,6,7,8-HxCDD	72		25 - 163
13C-1,2,3,4,7,8-HxCDF	62		19 - 202



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCS 320-651610/2-A

Matrix: Water

Analysis Batch: 652417

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 651610

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,6,7,8-HxCDF	71		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	74		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	69		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	66		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	70		20 - 186
13C-OCDD	71		13 - 199
13C-OCDF	70		13 - 199

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	89		31 - 191

Lab Sample ID: LCSD 320-651610/3-A

Matrix: Water

Analysis Batch: 652417

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 651610

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000220		ug/L		110	67 - 158	1	50	
2,3,7,8-TCDF	0.000200	0.000235		ug/L		117	75 - 158	4	50	
1,2,3,7,8-PeCDD	0.00100	0.00109		ug/L		109	70 - 142	3	50	
1,2,3,7,8-PeCDF	0.00100	0.00111	MB	ug/L		111	80 - 134	4	50	
2,3,4,7,8-PeCDF	0.00100	0.00111		ug/L		111	68 - 160	3	50	
1,2,3,4,7,8-HxCDD	0.00100	0.00115	MB	ug/L		115	70 - 164	10	50	
1,2,3,6,7,8-HxCDD	0.00100	0.00108	MB	ug/L		108	76 - 134	1	50	
1,2,3,7,8,9-HxCDD	0.00100	0.00118	MB	ug/L		118	64 - 162	8	50	
1,2,3,4,7,8-HxCDF	0.00100	0.00114	MB	ug/L		114	72 - 134	6	50	
1,2,3,6,7,8-HxCDF	0.00100	0.00111	MB	ug/L		111	84 - 130	1	50	
1,2,3,7,8,9-HxCDF	0.00100	0.00111	MB	ug/L		111	78 - 130	3	50	
2,3,4,6,7,8-HxCDF	0.00100	0.00112	MB	ug/L		112	70 - 156	3	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.00112	MB	ug/L		112	70 - 140	4	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.00114	MB	ug/L		114	82 - 122	3	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.00112	MB	ug/L		112	78 - 138	3	50	
OCDD	0.00200	0.00221	MB	ug/L		111	78 - 144	3	50	
OCDF	0.00200	0.00234	MB	ug/L		117	63 - 170	3	50	

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	69		22 - 152
13C-1,2,3,7,8-PeCDD	74		21 - 227
13C-1,2,3,7,8-PeCDF	73		21 - 192
13C-2,3,4,7,8-PeCDF	69		13 - 328
13C-1,2,3,4,7,8-HxCDD	65		21 - 193
13C-1,2,3,6,7,8-HxCDD	74		25 - 163
13C-1,2,3,4,7,8-HxCDF	62		19 - 202
13C-1,2,3,6,7,8-HxCDF	73		21 - 159
13C-1,2,3,7,8,9-HxCDF	78		17 - 205
13C-2,3,4,6,7,8-HxCDF	78		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	73		26 - 166

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-651610/3-A

Matrix: Water

Analysis Batch: 652417

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 651610

<u>Isotope Dilution</u>	<i>LCSD LCSD</i>		<u>Limits</u>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,4,6,7,8-HpCDF	67		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	74		20 - 186
13C-OCDD	76		13 - 199
13C-OCDF	74		13 - 199

<u>Surrogate</u>	<i>LCSD LCSD</i>		<u>Limits</u>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	91		31 - 191

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Specialty Organics

### Prep Batch: 651610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1 - RA	Outfall001_20230120_Comp	Total/NA	Water	1613B	
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	1613B	
MB 320-651610/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-651610/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-651610/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 652417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	1613B	651610
MB 320-651610/1-A	Method Blank	Total/NA	Water	1613B	651610
LCS 320-651610/2-A	Lab Control Sample	Total/NA	Water	1613B	651610
LCSD 320-651610/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	651610

### Analysis Batch: 652595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1 - RA	Outfall001_20230120_Comp	Total/NA	Water	1613B	651610

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

**Client Sample ID: Outfall001\_20230120\_Comp**

**Lab Sample ID: 570-124868-1**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B	RA		1046.3 mL	20.0 uL	651610	02/03/23 10:06	CGB	EET SAC
Total/NA	Analysis	1613B	RA	1	1 uL	1 uL	652595	02/08/23 21:10	DB	EET SAC
Instrument ID: 11D2										
Total/NA	Prep	1613B			1046.3 mL	20.0 uL	651610	02/03/23 10:06	CGB	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	652417	02/07/23 19:18	GRB	EET SAC
Instrument ID: 12D5										

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-23 *
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
Utah	NELAP	CA000442021-12	02-28-23
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124868-1	Outfall001_20230120_Comp	Water	01/20/23 08:55	01/20/23 18:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

124868

CHAIN OF CUSTODY FORM



570-124868 Chain of Custody

Eurofins Calscience Irvine

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall 001 002, 011, 014 Outfall 001 Comp		<b>Project Manager:</b> Katherine Miller 520.219.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		<b>ANALYSIS REQUIRED</b> Total Recoverable Metals (E200.7) Mn, Fe Total Recoverable Metals, Mercury (E245.1) 2,4,6-TCP, 2,4-Dinitrotoluene, Bis-2-ethylhexylphthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E608) Ammonia-N (350.2) TSS (160.2 (SM2540D)) Turbidity TDS (SM2540C/E180.1) Ferric Chloride (E330) Cl- SO <sub>4</sub> Nitrate-N Nitrite-N NO <sub>3</sub> +NO <sub>2</sub> -N Surfactants (MBAS) (SM5540C/E425.1) BOD <sub>5</sub> (20 degrees C) (E405.1 (SM5210B, BODCal)) COD (and all congeners) (E1613B) Total Recoverable Metals (E200.7) Zn (E200.8) Cu, Pb, Cd, Se		<b>Comments</b> Outfall 001 analyze for Fe, Mn.								
<b>Sample Description</b> Outfall001_20230120_Comp	<b>Sample ID</b> Outfall001_20230120_Comp	<b>Sample Matrix</b> WM	<b>Sampling Date/Time</b> 1/20/2023 6:55	<b>Container Type</b> 500 mL Poly	<b># of Cont.</b> 1	<b>Preservative</b> HNO <sub>3</sub>	<b>Bottle #</b> 60	<b>MS/MSD</b> No	<b>Total Recoverable Metals (E200.7) Zn (E200.8) Cu, Pb, Cd, Se</b> X	<b>Turbidity TDS (SM2540C/E180.1)</b> X	<b>Ammonia-N (350.2)</b> X	<b>alpha-BHC (E608)</b> X	<b>2,4,6-TCP, 2,4-Dinitrotoluene, Bis-2-ethylhexylphthalate, NDMA, PCP (SVOCs E625)</b> X	<b>Total Recoverable Metals, Mercury (E245.1)</b> X	<b>Total Recoverable Metals (E200.7) Mn, Fe</b> X	<b>Comments</b> 48-hour holding time for turbidity
<b>Sample Description</b> Outfall001_20230120_Comp_Extra	<b>Sample ID</b> Outfall001_20230120_Comp_Extra	<b>Sample Matrix</b> WM	<b>Sampling Date/Time</b> 1/20/2023 6:55	<b>Container Type</b> 1L Glass Amber	<b># of Cont.</b> 2	<b>Preservative</b> None	<b>Bottle #</b> 100	<b>MS/MSD</b> No	<b>Total Recoverable Metals (E200.7) Zn (E200.8) Cu, Pb, Cd, Se</b> X	<b>Turbidity TDS (SM2540C/E180.1)</b> X	<b>Ammonia-N (350.2)</b> X	<b>alpha-BHC (E608)</b> X	<b>2,4,6-TCP, 2,4-Dinitrotoluene, Bis-2-ethylhexylphthalate, NDMA, PCP (SVOCs E625)</b> X	<b>Total Recoverable Metals, Mercury (E245.1)</b> X	<b>Total Recoverable Metals (E200.7) Mn, Fe</b> X	<b>Comments</b> 48-hour holding time for turbidity

Relinquished By: *[Signature]* Date/Time: 1/20/2023 13:10  
 Relinquished By: *[Signature]* Date/Time: 1/20/23 18:30  
 Relinquished By: *[Signature]* Date/Time: 1/20/23 18:30

Company: H-A  
 Company: EC  
 Company: EC

Legend: C=Confidential, R=Routine  
 Received By: *[Signature]* Date/Time: 1/20/23 13:10  
 Received By: *[Signature]* Date/Time: 1/20/23 18:30  
 Received By: *[Signature]* Date/Time: 1/20/23 18:30

Turn-around time: (Check)  
 2 Hour  72 Hour  10 Day   
 4 Hour  5 Day  Normal:

Simple Integrity (Check)  
 In act:  On Ice:   
 Store samples for 6 months. Data Requirements (Check)  
 No Level IV  At Level IV

2.1/2.1 2.6/2.6 5.1/1





CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address:		Project:		F		R		R		C		ANALYSIS REQUIRED		Comments
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Boeing-SSFL NPDES Permit 2023 Routing: Outfall 001, 002, 011, 011J Outfall 001 Comp		Total Dissolved Metals (E200.7): Cu, Pb, Cd, Se		Cyanide (SM4500-CN-E / E335.2)		Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E905.0), Sr-90 (E905.0), Total Radium 228 (E904.0) Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)		Total Dissolved Metals, Mercury (E245.1)		Total Dissolved Metals (E200.7): Mn, Fe		
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel: 949-260-3218		Project Manager: Katherine Miller 520.239.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Preservative		Bottles #		MS/MSD		EPA-821-R-02-013 ABC Labs in Ventura, CA		Filter and preserve within 24hrs of receipt at lab. Outfall 011 analyze for Fe, Mn.		
Sample ID: Adrian Mobeka		Sample Matrix		# of Cont		Container Type		MS/MSD		Sample seeking DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.		Unfiltered and unpreserved analysis. Separ rate RAD onto another workorder. Analyze duplicate not MS/MSD		
Sample Description		Sampling Date/Time		Sample Matrix		Container Type		MS/MSD		Only test if first or second rain events of the year Deliver to ABC Labs in Ventura, CA		Sample Integrity (Check) Intact: _____ Store samples for 6 months. Data Requirements: (Check) NC Level IV: _____ X		
Outfall001_20230120_Comp_F	WM	1/20/2023 10:55	1L Poly	1	None	20	No	X						
Outfall001_20230120_Comp	WM	1/20/2023 10:55	borecillate vials	1	None	32	No	X						
	WM		500 mL Poly	1	NaOH	22	No							
	WM		2.5 Gall Cube	1	None	225	No							
	WM		1L Glass Amber	1	None	23	No							
	WM		1 Gall Cube	0	None	200	No							

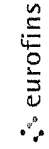
Relinquished By: <i>M. Dominick</i>	Date/Time: 1-20-2023/1310	Received By: <i>H.A.</i>	Date/Time: 1/20/23 1310	EC
Relinquished By: <i>Bondoc</i>	Date/Time: 1/20/23 1830	Received By: <i>M. Dominick</i>	Date/Time: 1/20/23 1830	EC

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

TU Turn-around time: (Check)  
 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal: \_\_\_\_\_



**Chain of Custody Record**



<b>Client Information (Sub Contract Lab)</b> Client Contact: Patel Virendra Shipping/Receiving: Virendra.Patel@et.eurofins.com Company: TestAmerica Laboratories, Inc. Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Lab PM: Patel Virendra E-Mail: Virendra.Patel@et.eurofins.com Accreditations Required (See note): State Program - California	Carrier Tracking No(s): 570-204882 1 State of Origin: California Page: Page 1 of 1 Job #: 570-124868-3
Due Date Requested: 2/24/2023 TAT Requested (days): PO #: WO #: Project #: 44024446 SSOW#:	Analysis Requested 901 Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 904 R_U/Evaporation Gross Alpha/Beta <input checked="" type="checkbox"/> 901 Cs/Fill_Geo_K-40 and Csium-137 <input checked="" type="checkbox"/> 900 R_U/Evaporation Gross Alpha/Beta <input checked="" type="checkbox"/> 903 R_PrecSep_21 Radium-226 <input checked="" type="checkbox"/> 904 R_PrecSep_0 Radium-228 <input checked="" type="checkbox"/> 905 S_90/PrecSep_7 Strontium-90 <input checked="" type="checkbox"/> 906 R_Sc_Dist_Susp Tritium <input checked="" type="checkbox"/>		
Sample Identification - Client ID (Lab ID) Outfall001_20230120_Comp (570-124868-1)	Sample Date: 1/20/23 Sample Time: 08:55 Pacific	Sample Type (C=Comp, G=grab) Preservation Code: Water	Matrix (W=water, S=solid, O=wastewater, BI=tissue, A=air)
Note: Since laboratory accreditations are subject to change Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.			
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2			
Empty Kit Relinquished by: <i>[Signature]</i> Date: 1/23/23 13:55 Relinquished by: Company Relinquished by: Company Relinquished by: Company			
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks:			





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Client Contact: Shipping/Receiving Company: Eurofins Environment Testing Northern Ca Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) E-mail: Project Name: Boeing SSFL NPDES - Outfall 001 - Comp Site:	Lab PM: Patel, Virendra E-Mail: Virendra.Patel@et.eurofins.com Accreditations Required (See note): State Program - California	Carrier Tracking No(s): State of Origin: California	COC No: 570-204885.1 Page: Page 1 of 1 Job #: 570-124868-2
<b>Analysis Requested</b>			
Due Date Requested: 2/9/2023 TAT Requested (days): PO #: WO #: Project #: 44024446 SSOW#:	Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>	Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>	1613B/1613B_Sox_Sep_P Standard List w/ Totals
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)
1/20/23	08:55 Pacific	Water	Water
1/20/23	08:55 Pacific	Water	Water
<b>Sample Identification - Client ID (Lab ID)</b>			
Outfall001_20230120_Comp (570-124868-1)	1/20/23	08:55 Pacific	Water
Outfall001_20230120_Comp_Extra (570-124868-2)	1/20/23	08:55 Pacific	Water
<b>Special Instructions/Note:</b>			
See QAS, Boeing_wlu to zero, ug/L; Use Boeing glassware.			
See QAS, Boeing_wlu to zero, ug/L; Use Boeing glassware.			

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
Unconfirmed  
Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_

Primary Deliverable Rank: 2

Relinquished by:	Date:	Time:
Relinquished by:	1/23/23	1412
Relinquished by:		
Relinquished by:		

Custody Seal Intact:  Yes  No  
Custody Seal No.: \_\_\_\_\_



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124868-2

**Login Number: 124868**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124868-2

**Login Number: 124868**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 01/24/23 11:32 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is < /= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8c 1.6c 2.0c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 2/23/2023 1:16:15 PM

**JOB DESCRIPTION**

Boeing SSFL NPDES - Outfall 001 - Comp

**JOB NUMBER**

570-124868-3

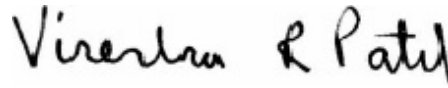
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
2/23/2023 1:16:15 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	22
Lab Chronicle . . . . .	23
Certification Summary . . . . .	24
Method Summary . . . . .	25
Sample Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	32

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Job ID: 570-124868-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-124868-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/20/2023 6:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 2.6° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of 2. The following samples were received with a pH of 6. The samples were adjusted to the appropriate pH in the laboratory.

Job#: 570-124887 R-1  
Job#: 570-124898 R-1  
Job #: 570-124868 R-1  
Job #: 570-124873 R-1  
Job #: 570-124890 K-1  
Job #: 570-124891 J-1

#### RAD

Method 900.0: Gross Alpha and Gross Beta batch 598963

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230120\_Comp (570-124868-1), (LCS 160-598963/2-A), (LCSB 160-598963/3-A), (MB 160-598963/1-A), (570-124887-R-1-G), (570-124887-R-1-J DU), (570-124887-R-1-H MS) and (570-124887-R-1-I MSBT)

Method 900.0: Gross Alpha Beta prep batch 160-598963:

The matrix spike (MS) recoveries for preparation batch 160-598963 and analytical batch 160-600333 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.(570-124887-R-1-H MS)

Method 901.1: Gamma Prep Batch 160-598560

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Job ID: 570-124868-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230120\_Comp (570-124868-1) and (570-124868-R-1-F DU)

Methods 903.0, 9315: Radium-226 prep batch 160-598272:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230120\_Comp (570-124868-1), (LCS 160-598272/2-A), (LCSD 160-598272/3-A) and (MB 160-598272/1-A)

Methods 904.0, 9320: Radium-228 batch 598275

The LCS/LCSD recovered at (LCS 131% / LCSD 129%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS passes, no further action is required

(LCS 160-598275/2-A) and (LCSD 160-598275/3-A)

Methods 904.0, 9320: Gamma prep batch 160-598275:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230120\_Comp (570-124868-1), (LCS 160-598275/2-A), (LCSD 160-598275/3-A) and (MB 160-598275/1-A)

Method 905: Strontium-90 prep batch 160-598546:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230120\_Comp (570-124868-1)

Methods 900.0, 905: Gross Alpha Beta prep batch 160-598892:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. (LCS 160-598546/2-A), (LCSD 160-598546/3-A) and (MB 160-598546/1-A)

Method 906.0: Tritium 598717

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230120\_Comp (570-124868-1), (LCS 160-598717/2-A), (MB 160-598717/1-A), (570-124392-Q-1-A), (570-124392-Q-1-B DU) and (570-124868-Q-1-B MS)

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Job ID: 570-124868-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Method A-01-R: Isotopic Uranium batch 598317

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230120\_Comp (570-124868-1), (LCS 160-598317/2-A), (MB 160-598317/1-A), (570-124898-R-1-C) and (570-124898-R-1-D DU)

Method ExtChrom: Uranium Prep Batch 160-598317:

The following sample was prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001\_20230120\_Comp (570-124868-1).

Method PrecSep\_0: Radium-228 Prep Batch 160-598275

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230120\_Comp (570-124868-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep\_0: Radium-228 Prep Batch 160-598275

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall001\_20230120\_Comp (570-124868-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-598272

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230120\_Comp (570-124868-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-598272

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall001\_20230120\_Comp (570-124868-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-598546

Insufficient sample volume was available to perform a sample duplicate for the following samples: Outfall001\_20230120\_Comp (570-124868-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 160-598546

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230120\_Comp (570-124868-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

**Client Sample ID: Outfall001\_20230120\_Comp**

**Lab Sample ID: 570-124868-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230120\_Comp

Date Collected: 01/20/23 08:55

Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2 $\sigma$ +/-)	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.363	U	0.868	0.869	3.00	1.55	pCi/L	02/02/23 12:38	02/14/23 19:55	1
<b>Gross Beta</b>	<b>2.21</b>		0.714	0.747	4.00	0.938	pCi/L	02/02/23 12:38	02/14/23 19:55	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230120\_Comp  
 Date Collected: 01/20/23 08:55  
 Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-1.28	U	7.40	7.40	20.0	8.69	pCi/L	01/27/23 16:27	02/22/23 11:30	1
Potassium-40	35.2	U	64.1	64.2		65.8	pCi/L	01/27/23 16:27	02/22/23 11:30	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230120\_Comp**  
**Date Collected: 01/20/23 08:55**  
**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124868-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0764	U	0.0676	0.0680	1.00	0.100	pCi/L	01/26/23 09:36	02/21/23 17:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.7		30 - 110					01/26/23 09:36	02/21/23 17:55	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230120\_Comp**  
**Date Collected: 01/20/23 08:55**  
**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124868-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.806</b>		0.461	0.467	1.00	0.662	pCi/L	01/26/23 09:50	02/01/23 12:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.7		30 - 110					01/26/23 09:50	02/01/23 12:07	1
Y Carrier	84.5		30 - 110					01/26/23 09:50	02/01/23 12:07	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230120\_Comp**  
**Date Collected: 01/20/23 08:55**  
**Date Received: 01/20/23 18:30**

**Lab Sample ID: 570-124868-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.311	U	0.368	0.369	3.00	0.607	pCi/L	01/27/23 12:54	02/08/23 16:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	89.9		30 - 110					01/27/23 12:54	02/08/23 16:07	1
Y Carrier	80.0		30 - 110					01/27/23 12:54	02/08/23 16:07	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230120\_Comp  
 Date Collected: 01/20/23 08:55  
 Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	123	U	169	169	500	281	pCi/L	01/31/23 12:11	02/02/23 01:40	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall001\_20230120\_Comp  
Date Collected: 01/20/23 08:55  
Date Received: 01/20/23 18:30

Lab Sample ID: 570-124868-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.756		0.367	0.369	1.00	0.322	pCi/L	01/26/23 16:02	02/13/23 13:57	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	
570-124868-1	Outfall001_20230120_Comp	97.7	
LCS 160-598272/2-A	Lab Control Sample	101	
LCSD 160-598272/3-A	Lab Control Sample Dup	105	
MB 160-598272/1-A	Method Blank	96.9	
<b>Tracer/Carrier Legend</b>			
Ba = Ba Carrier			

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
570-124868-1	Outfall001_20230120_Comp	97.7	84.5
LCS 160-598275/2-A	Lab Control Sample	101	85.6
LCSD 160-598275/3-A	Lab Control Sample Dup	105	86.4
MB 160-598275/1-A	Method Blank	96.9	85.6
<b>Tracer/Carrier Legend</b>			
Ba = Ba Carrier			
Y = Y Carrier			

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)
570-124868-1	Outfall001_20230120_Comp	89.9	80.0
LCS 160-598546/2-A	Lab Control Sample	85.4	87.5
LCSD 160-598546/3-A	Lab Control Sample Dup	88.3	86.4
MB 160-598546/1-A	Method Blank	87.1	87.1
<b>Tracer/Carrier Legend</b>			
Sr = Sr Carrier			
Y = Y Carrier			

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	U-232 (30-110)	
570-124898-R-1-D DU	Duplicate	83.0	
LCS 160-598317/2-A	Lab Control Sample	82.4	
MB 160-598317/1-A	Method Blank	86.3	
<b>Tracer/Carrier Legend</b>			
U-232 = Uranium-232			

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-598963/1-A**  
**Matrix: Water**  
**Analysis Batch: 600139**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598963**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Gross Alpha	0.09917	U	0.402	0.402	3.00	0.768	pCi/L	02/02/23 12:38	02/13/23 20:06	1
Gross Beta	-0.06316	U	0.387	0.387	4.00	0.721	pCi/L	02/02/23 12:38	02/13/23 20:06	1

**Lab Sample ID: LCS 160-598963/2-A**  
**Matrix: Water**  
**Analysis Batch: 600139**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598963**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	47.32		7.04	3.00	1.92	pCi/L	94	75 - 125

**Lab Sample ID: LCSB 160-598963/3-A**  
**Matrix: Water**  
**Analysis Batch: 600139**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598963**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.7	69.87		7.52	4.00	0.802	pCi/L	95	75 - 125

**Lab Sample ID: 570-124887-R-1-H MS**  
**Matrix: Water**  
**Analysis Batch: 600333**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 598963**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
						Uncert. (2σ+/-)					
Gross Alpha	0.648	U	50.5	21.15	F1	4.07	3.00	2.28	pCi/L	41	60 - 140

**Lab Sample ID: 570-124887-R-1-I MSBT**  
**Matrix: Water**  
**Analysis Batch: 600333**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 598963**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
						Uncert. (2σ+/-)					
Gross Beta	1.93		73.7	72.66		7.82	4.00	0.963	pCi/L	96	60 - 140

**Lab Sample ID: 570-124887-R-1-J DU**  
**Matrix: Water**  
**Analysis Batch: 600334**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 598963**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total	RL	MDC	Unit	RER	RER Limit
					Uncert. (2σ+/-)					
Gross Alpha	0.648	U	0.1221	U	0.967	3.00	1.85	pCi/L	0.22	1
Gross Beta	1.93		1.198		0.572	4.00	0.785	pCi/L	0.57	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-598560/1-A**  
**Matrix: Water**  
**Analysis Batch: 601380**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598560**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Cesium-137	2.540	U	4.68	4.69	20.0	5.50	pCi/L	01/27/23 16:27	02/22/23 04:55	1
Potassium-40	29.54	U	87.5	87.6		89.2	pCi/L	01/27/23 16:27	02/22/23 04:55	1

**Lab Sample ID: LCS 160-598560/2-A**  
**Matrix: Water**  
**Analysis Batch: 601377**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598560**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Americium-241	135000	145200		17300		291	pCi/L	107	75 - 125
Cesium-137	40900	41940		5000	20.0	80.3	pCi/L	102	75 - 125
Cobalt-60	18000	18820		2240		41.1	pCi/L	104	75 - 125

**Lab Sample ID: 570-124868-1 DU**  
**Matrix: Water**  
**Analysis Batch: 601377**

**Client Sample ID: Outfall001\_20230120\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 598560**

Analyte	Sample Sample		DU	DU	Total	RL	MDC	Unit	RER	RER
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					Limit
Cesium-137	-1.28	U	-4.041	U	9.43	20.0	11.3	pCi/L		0.16
Potassium-40	35.2	U	-70.31	U	114		149	pCi/L		0.59

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-598272/1-A**  
**Matrix: Water**  
**Analysis Batch: 601085**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598272**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.02830	U	0.0410	0.0411	1.00	0.0968	pCi/L	01/26/23 09:36	02/21/23 17:54	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.9		30 - 110	01/26/23 09:36	02/21/23 17:54	1

**Lab Sample ID: LCS 160-598272/2-A**  
**Matrix: Water**  
**Analysis Batch: 601085**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598272**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Radium-226	11.3	10.88		1.10	1.00	0.0974	pCi/L	96	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	101		30 - 110



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: 903.0 - Radium-226 (GFPC) (Continued)

**Lab Sample ID: LCSD 160-598272/3-A**  
**Matrix: Water**  
**Analysis Batch: 601085**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 598272**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-226	11.3	10.61		1.07	1.00	0.0992	pCi/L	94	75 - 125	0.13		1
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	105		30 - 110									

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-598275/1-A**  
**Matrix: Water**  
**Analysis Batch: 598871**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598275**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Carrier</b>	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Ba Carrier	96.9		30 - 110					01/26/23 09:50	02/01/23 12:04	1
Y Carrier	85.6		30 - 110					01/26/23 09:50	02/01/23 12:04	1

**Lab Sample ID: LCS 160-598275/2-A**  
**Matrix: Water**  
**Analysis Batch: 598871**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598275**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec	
									Limits	RER
Radium-228	8.23	10.75		1.38	1.00	0.513	pCi/L	131	75 - 125	
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>							
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	101		30 - 110							
Y Carrier	85.6		30 - 110							

**Lab Sample ID: LCSD 160-598275/3-A**  
**Matrix: Water**  
**Analysis Batch: 598871**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 598275**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	RER Limit
									Limits	RER		
Radium-228	8.23	10.62		1.34	1.00	0.390	pCi/L	129	75 - 125	0.05		1
<b>Carrier</b>		<b>LCS</b>	<b>LCS</b>									
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	105		30 - 110									
Y Carrier	86.4		30 - 110									

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-598546/1-A**  
**Matrix: Water**  
**Analysis Batch: 599671**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598546**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Strontium-90	0.1970	U	0.181	0.182	3.00	0.291	pCi/L	01/27/23 12:54	02/08/23 15:57	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
	%Yield	Qualifier								
Sr Carrier	87.1		30 - 110					01/27/23 12:54	02/08/23 15:57	1
Y Carrier	87.1		30 - 110					01/27/23 12:54	02/08/23 15:57	1

**Lab Sample ID: LCS 160-598546/2-A**  
**Matrix: Water**  
**Analysis Batch: 599671**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598546**

Analyte		Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec	RER	Limit
			Result	Qual	Uncert. (2σ+/-)					Limits		
Strontium-90		7.37	7.382		0.816	3.00	0.271	pCi/L	100	75 - 125		
Carrier	LCS LCS		Limits									
	%Yield	Qualifier										
Sr Carrier	85.4		30 - 110									
Y Carrier	87.5		30 - 110									

**Lab Sample ID: LCSD 160-598546/3-A**  
**Matrix: Water**  
**Analysis Batch: 599671**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 598546**

Analyte		Spike Added	LCSD	LCSD	Total	RL	MDC	Unit	%Rec	%Rec	RER	Limit
			Result	Qual	Uncert. (2σ+/-)					Limits		
Strontium-90		7.37	7.433		0.819	3.00	0.316	pCi/L	101	75 - 125	0.03	1
Carrier	LCSD LCSD		Limits									
	%Yield	Qualifier										
Sr Carrier	88.3		30 - 110									
Y Carrier	86.4		30 - 110									

## Method: 906.0 - Tritium, Total (LSC)

**Lab Sample ID: MB 160-598717/1-A**  
**Matrix: Water**  
**Analysis Batch: 599486**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 598717**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	-27.93	U	147	147	500	270	pCi/L	01/31/23 12:11	02/01/23 21:31	1

**Lab Sample ID: LCS 160-598717/2-A**  
**Matrix: Water**  
**Analysis Batch: 599486**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 598717**

Analyte		Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec	RER	Limit
			Result	Qual	Uncert. (2σ+/-)					Limits		
Tritium		2110	1839		333	500	270	pCi/L	87	75 - 125		

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Method: 906.0 - Tritium, Total (LSC) (Continued)

Lab Sample ID: 570-124868-1 MS  
 Matrix: Water  
 Analysis Batch: 599486

Client Sample ID: Outfall001\_20230120\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 598717

Analyte	Sample	Sample	Spike Added	MS	MS	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
	Result	Qual		Result	Qual						
Tritium	123	U	2160	2177		373	500	286	pCi/L	95	60 - 140

Lab Sample ID: 570-124392-Q-1-B DU  
 Matrix: Water  
 Analysis Batch: 599486

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 598717

Analyte	Sample	Sample	DU	DU	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual		Result						
Tritium	0.901	U	2.703	U	159	500	289	pCi/L	0.01	1

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-598317/1-A  
 Matrix: Water  
 Analysis Batch: 600238

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 598317

Analyte	MB	MB	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Total Uranium	0.1240		0.1019	0.1021	1.00	0.124	pCi/L	01/26/23 16:02	02/13/23 13:57	1

Lab Sample ID: LCS 160-598317/2-A  
 Matrix: Water  
 Analysis Batch: 600239

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 598317

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Uranium-238	13.0	14.49		1.59	1.00	0.112	pCi/L	111	75 - 125

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	82.4		30 - 110

Lab Sample ID: 570-124898-R-1-D DU  
 Matrix: Water  
 Analysis Batch: 600216

Client Sample ID: Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 598317

Analyte	Sample	Sample	DU	DU	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual		Result						
Total Uranium	0.0800	U	0.1269	U	0.138	1.00	0.198	pCi/L	0.20	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Rad

### Prep Batch: 598272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	PrecSep-21	
MB 160-598272/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-598272/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-598272/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 598275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	PrecSep_0	
MB 160-598275/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-598275/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-598275/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 598317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	ExtChrom	
MB 160-598317/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-598317/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-124898-R-1-D DU	Duplicate	Total/NA	Water	ExtChrom	

### Prep Batch: 598546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	PrecSep-7	
MB 160-598546/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-598546/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-598546/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

### Prep Batch: 598560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-598560/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-598560/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	
570-124868-1 DU	Outfall001_20230120_Comp	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 598717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-598717/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-598717/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	
570-124868-1 MS	Outfall001_20230120_Comp	Total/NA	Water	LSC_Dist_Susp	
570-124392-Q-1-B DU	Duplicate	Total/NA	Water	LSC_Dist_Susp	

### Prep Batch: 598963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-124868-1	Outfall001_20230120_Comp	Total/NA	Water	Evaporation	
MB 160-598963/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-598963/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSE 160-598963/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
570-124887-R-1-H MS	Matrix Spike	Total/NA	Water	Evaporation	
570-124887-R-1-I MSBT	Matrix Spike	Total/NA	Water	Evaporation	
570-124887-R-1-J DU	Duplicate	Total/NA	Water	Evaporation	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

**Client Sample ID: Outfall001\_20230120\_Comp**

**Lab Sample ID: 570-124868-1**

**Date Collected: 01/20/23 08:55**

**Matrix: Water**

**Date Received: 01/20/23 18:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			199.99 mL	1.0 g	598963	02/02/23 12:38	MST	EET SL
Total/NA	Analysis	900.0		1			600305	02/14/23 19:55	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 mL	598560	01/27/23 16:27	SAC	EET SL
Total/NA	Analysis	901.1		1			601380	02/22/23 11:30	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			758.59 mL	1.0 g	598272	01/26/23 09:36	DJP	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	601085	02/21/23 17:55	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			758.59 mL	1.0 g	598275	01/26/23 09:50	DJP	EET SL
Total/NA	Analysis	904.0		1			598876	02/01/23 12:07	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep-7			500.98 mL	1.0 g	598546	01/27/23 12:54	DJP	EET SL
Total/NA	Analysis	905		1			599762	02/08/23 16:07	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Prep	LSC_Dist_Susp			103.45 mL	1.0 g	598717	01/31/23 12:11	SEH	EET SL
Total/NA	Analysis	906.0		1			599486	02/02/23 01:40	REV	EET SL
Instrument ID: LSCAQUA										
Total/NA	Prep	ExtChrom			255.26 mL	1.0 mL	598317	01/26/23 16:02	MAL	EET SL
Total/NA	Analysis	A-01-R		1			600241	02/13/23 13:57	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	04-01-23
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing SSFL NPDES - Outfall 001 - Comp

Job ID: 570-124868-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-124868-1	Outfall001_20230120_Comp	Water	01/20/23 08:55	01/20/23 18:30

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



124868

CHAIN OF CUSTODY FORM



570-124868 Chain of Custody

Eurofins Calscience Irvine

Client Name/Address:
Haley & Aldrich
5333 Mission Center Rd Suite 300
San Diego, CA 92108

Eurofins Calscience Irvine Contact: Christian Bondoc
17461 Deitan Ave Suite #100
Irvine CA 92614
Tel. 549-260-3218

TestAmerica's services under this CoC shall be performed in accordance with the 18.2s within Blanket Service Agreement# 2019-2, TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.

Sampler: Adrian Mobeka

Project: Boeing-SSFL NPDES
Permit 2023
Routine Outfall 001 002, 011, 014
Outfall 001
Comp

Project Manager: Katherine Miller
520.219.8606, 520.904.6944 (cell)
Field Manager: Mark Dominick
978.234.5033, 818.599.0702 (cell)

Table with columns: Sample ID, Sample Matrix, Sampling Date/Time, Container Type, # of Cont., Preservative, Bottle #, MS/MSD, Total Recoverable Metals, Surfactants, Turbidity, etc.

Legend: C=Confidential, R=Routine
Relinquished By: [Signature] Date/Time: 1-20-2023/1310
Company: H-A

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address:		Project:		F		R		R		C		ANALYSIS REQUIRED		Comments
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Boeing-SSFL NPDES Permit 2023 Routing: Outfall 001, 002, 011, 011J Outfall 001 Comp		Total Dissolved Metals (E200.7): Mn, Fe		Total Dissolved Metals, Mercury (E245.1)		Total Dissolved Metals, Mercury (E245.1)						
Eurofins Calscience Irvine Contact: Christian Bondoc Irvine CA 92614 Tel 949-260-3218		Project Manager: Katherine Miller 520.239.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E905.0), Sr-90 (E905.0) & Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0) Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)		Cyanide (SM4500-CN-E / E335.2)		Total Dissolved Metals (E200.7): Zn, Pb, Cd, Se		Total Dissolved Metals (E200.7): Cu, Pb, Cd, Se		Total Dissolved Metals (E200.7): Mn, Fe		
Sample ID: Adrian Mobeka		Sample Matrix		Container Type		# of Cont		Preservative		Bott #		MS/MSD		
Sample Description		Sampling Date/Time		1L Poly		1		None		203		No		
Outfall001_20230120_Comp_F		1/20/2023 10:55		borosilicate vials		1		None		323		No		
Outfall001_20230120_Comp		1/20/2023 10:55		500 mL Poly		1		NaOH		223		No		
				2.5 Gall Cube		1		None		225		No		
				1L Glass Amber		1		None		233		No		
				1 Gall Cube		0		None		227		No		
Filter and preserve within 24hrs of receipt at lab. Outfall 011 analyze for Fe, Mn.														
Sample, including DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.														
Unfilter and unpreserved analysis. Separation rate RAD onto another workorder. Analyze duplicate not MS/MSD														
Only test if first or second rain events of the year. Deliver to ABC Labs in Ventura, CA														

Received By: <i>Mt Dominick</i>	Date/Time: 1-20-2023/1310	Company: <i>EC</i>
Received By: <i>Samz</i>	Date/Time: 1/20/23	Company: <i>EC</i>

Received By: <i>Mt Dominick</i>	Date/Time: 1/20/23	Company: <i>EC</i>
Received By: <i>Samz</i>	Date/Time: 1/20/23	Company: <i>EC</i>

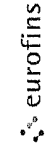
  

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

TU Turn-around time: (Check) 24 Hour, 72 Hour, 10 Day, X 48 Hour, 5 Day, Normal: Sample Integrity: (Check) Intact, On Ice: Store samples for 6 months. Data Requirements: (Check) All Level IV: X



## Chain of Custody Record

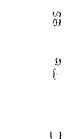


<b>Client Information (Sub Contract Lab)</b>	Lab PM: Patel Virendra	Carrier Tracking No(s): 570-204882 1	COC No: 570-204882 1	Page: Page 1 of 1
Client Contact: Shipping/Receiving	E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Job #: 570-124868-3	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDA Z - other (specify) Other:
Company: TestAmerica Laboratories, Inc.	Accreditations Required (See note): State Program - California			
Address: 13715 Rider Trail North, Earth City, MO, 63045	<b>Analysis Requested</b>			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	Due Date Requested: 2/24/2023	PO #: [ ]	Field Filtered Sample (Yes or No): [X]	Perform M/MSD (Yes or No): [X]
Email: [ ]	TAT Requested (days): [ ]	WO #: [ ]	901 r_U/E/ExChrom_AoIn Total Uranium	900.0/Evaporation Gross Alpha/Beta
Project Name: Boeing SSFL NPDES - Outfall 001 - Comp	Project #: 44024446	SSOW#: [ ]	904.0/PreSep_21 Radium-226	905.5/90/PreSep_7 Strontium-90
Site: [ ]	Sample Date: 1/20/23	Sample Time: 08:55 Pacific	906.0/LSC_Dist_Susp Tritium	
<b>Sample Identification - Client ID (Lab ID)</b>	<b>Sample Type (C=Comp, G=grab)</b>	<b>Sample Time</b>	<b>Matrix</b> (W=water, S=solid, O=wastewoil, BT=tissue, A=AU)	<b>Preservation Code:</b>
Outfall001_20230120_Comp (570-124868-1)	[ ]	[ ]	Water	[ ]
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.				
<b>Possible Hazard Identification</b>				
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Special Instructions/QC Requirements:				
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Empty Kit Relinquished by: [Signature]				
Relinquished by: [Signature]				
Relinquished by: [Signature]				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No				
Custody Seal No. [ ]				
Cooler Temperature(s) °C and Other Remarks: [ ]				



**Eurofins Calscience**  
2841 Dow Avenue, Suite 100  
Tustin CA 92780  
Phone: 714-895-5494

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Lab PM Patel, Virendra	Carrier Tracking No(s) 570-204885 1
Client Contact: Shipping/Receiving		E-Mail: Virendra.Patel@et.eurofinsus.com	Page: Page 1 of 1
Company Eurofins Environment Testing Northern Ca		Accreditations Required (See note) State Program - California	
Address: 880 Riverside Parkway,		COC No 570-204888-2	
City: West Sacramento	State, Zip: CA, 95605	<b>Analysis Requested</b>	
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:	<b>Preservation Codes</b> M - Hexane N - None O - AsNaO2 P - Na2SO4 Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - PH 4-5 Y - Trizma Z - other (specify)	
Email:	WO #:		
Project #: 44024446	Project #: 44024446		
Site: Boeing SSFL NPDES - Outfall 001 - Comp	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=sewage, B=biological, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1613B/1613B_Sox_Sep_P Standard List w/ Totals	1613B/1613B_Sox_Sep_P Standard List w/ Totals	(Hold)	Total Number of containers		Special Instructions/Note:
										Preservation Code:	Matrix	
Outfall001_20230120_Comp (570-124888-1)	1/20/23	08 55 Pacific	Water	Water	X		X			2	See QAS, Boeing_w/u to zero, ug/L, Use Boeing glassware.	
Outfall001_20230120_Comp_Extra (570-124888-2)	1/20/23	08 55 Pacific	Water	Water			X			2	See QAS, Boeing_w/u to zero ug/L, Use Boeing glassware.	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**

Unconfirmed  
Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
Relinquished by: *[Signature]* Date/Time: 1/23/23 1412 Company \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company \_\_\_\_\_

Custody Seals Intact:  Yes  No  
Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM	COC No:	
Client Contact: Shipping/Receiving		Patel, Virendra	E-Mail	570-204882.1	
Company: TestAmerica Laboratories, Inc.		Phone:	Virendra.Patel@et.eurofins.com	Page	
Address: 13715 Rider Trail North,		State of Origin:		Page 1 of 1	
City: Earth City		California		Job #:	
State, Zip: MO, 63045		Accreditations Required (See note): State Program - California		570-124868-3	
PO #:		Due Date Requested:		Preservation Codes:	
WO #:		2/24/2023		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2OAS E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 S - H2SO4 G - Amchlor T - TSP Dodecahydrate H - Ascorbic Acid U - Acetone I - Ice V - MCAA J - DI Water W - pH 4-5 K - EDTA L - EDA Z - other (specify) Other:	
Project #: 44024446		TAT Requested (days):		Analysis Requested	
Site: Boeing SSFL NPDES - Outfall 001 - Comp		08:55 Pacific		901.1_Cs/Fill_Geo_0 K-40 and Csium-137	
Sample Date		Sample Time		904.0/PrecSep_21 Radium-226	
1/20/23		08:55 Pacific		905.5r90/PrecSep_7 Strontium-90	
Sample ID (Lab ID)		Sample Type (C=Comp, G=grab)		906.0/SC_Dist_Susp Tritium	
Outfall001_20230120_Comp (570-124868-1)		Water		909.0/Evaporation_Gross Alpha/Beta	
		Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)		A01R_U/EtChrom_Actin Total Uranium	
		Preservation Code:		909.0/PrecSep_0 Radium-226	
		Water		904.0/PrecSep_21 Radium-226	
		Field Filtered Sample (Yes or No)		905.5r90/PrecSep_7 Strontium-90	
		Perform MS/MSD (Yes or No)		906.0/SC_Dist_Susp Tritium	
		Field Filtered Sample (Yes or No)		909.0/Evaporation_Gross Alpha/Beta	
		Special Instructions/Note:		Boeing SSFL; DO NOT FILTER; use prep date from preservation	
		Total Number of Containers		2	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 1/23/23 1355 Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: 1/24/23 8:50AM Company: ETASTL  
 Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_ Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_  
 Δ Yes Δ No



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124868-3

**Login Number: 124868**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-124868-3

**Login Number: 124868**

**List Number: 2**

**Creator: Sharkey-Gonzalez, Briana L**

**List Source: Eurofins St. Louis**

**List Creation: 01/24/23 11:44 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/12/2023 10:21:55 AM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Grab

## JOB NUMBER

570-129006-1



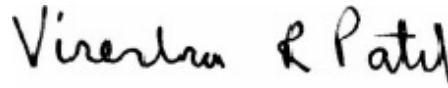
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/12/2023 10:21:55 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grab

Job ID: 570-129006-1

---

## Job ID: 570-129006-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-129006-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 2/27/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

#### GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-307642. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method SM 2540F: The following sample was received outside of holding time: Outfall001\_20230225\_Grab (570-129006-1).

Method SM 2540F: Insufficient sample volume was available to perform sample duplicate (DUP) associated with analytical batch 570-307843.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-308085.  
Method: 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

**Client Sample ID: Outfall001\_20230225\_Grab**

**Lab Sample ID: 570-129006-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	72		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA
Settleable Solids	0.40	BU BV	0.10	0.10	mL/L	1		SM 2540F	Total/NA

**Client Sample ID: TB-20230225**

**Lab Sample ID: 570-129006-3**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230225\_Grab**

**Date Collected: 02/25/23 07:10**

**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129006-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			02/28/23 18:39	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			02/28/23 18:39	1
Trichloroethene	ND		0.50	0.17	ug/L			02/28/23 18:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		60 - 140					02/28/23 18:39	1
Toluene-d8 (Surr)	98		60 - 140					02/28/23 18:39	1

**Client Sample ID: TB-20230225**

**Date Collected: 02/25/23 07:10**

**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129006-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			02/28/23 16:48	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			02/28/23 16:48	1
Trichloroethene	ND		0.50	0.17	ug/L			02/28/23 16:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		60 - 140					02/28/23 16:48	1
Toluene-d8 (Surr)	95		60 - 140					02/28/23 16:48	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## General Chemistry

Client Sample ID: Outfall001\_20230225\_Grab

Date Collected: 02/25/23 07:10

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129006-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.99	0.50	mg/L		03/01/23 14:04	03/02/23 12:27	1
Specific Conductance (SM 2510B)	72		1.0	1.0	umhos/cm			03/09/23 22:59	1
Settleable Solids (SM 2540F)	0.40	BU BV	0.10	0.10	mL/L			02/27/23 20:30	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL
		(60-140)	(60-140)
570-129006-1	Outfall001_20230225_Grab	92	98
570-129006-3	TB-20230225	98	95
LCS 570-307642/1003	Lab Control Sample	98	100
LCSD 570-307642/4	Lab Control Sample Dup	98	98
MB 570-307642/6	Method Blank	95	99

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-307642/6**  
**Matrix: Water**  
**Analysis Batch: 307642**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50	0.33	ug/L			02/28/23 12:54	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			02/28/23 12:54	1
Trichloroethene	ND		0.50	0.17	ug/L			02/28/23 12:54	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	95		60 - 140					02/28/23 12:54	1
Toluene-d8 (Surr)	99		60 - 140					02/28/23 12:54	1

**Lab Sample ID: LCS 570-307642/1003**  
**Matrix: Water**  
**Analysis Batch: 307642**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits	
		Result	Qualifier					
1,1-Dichloroethene	10.0	10.8		ug/L		108	50 - 150	
1,2-Dichloroethane	10.0	9.48		ug/L		95	70 - 130	
Trichloroethene	10.0	10.6		ug/L		106	65 - 135	
Surrogate	LCS	LCS	Limits			D	%Rec	%Rec Limits
	%Recovery	Qualifier						
4-Bromofluorobenzene (Surr)	98		60 - 140					
Toluene-d8 (Surr)	100		60 - 140					

**Lab Sample ID: LCSD 570-307642/4**  
**Matrix: Water**  
**Analysis Batch: 307642**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
		Result	Qualifier							
1,1-Dichloroethene	10.0	10.8		ug/L		108	50 - 150	0	32	
1,2-Dichloroethane	10.0	9.66		ug/L		97	70 - 130	2	49	
Trichloroethene	10.0	10.7		ug/L		107	65 - 135	1	48	
Surrogate	LCSD	LCSD	Limits			D	%Rec	%Rec Limits	RPD	RPD Limit
	%Recovery	Qualifier								
4-Bromofluorobenzene (Surr)	98		60 - 140							
Toluene-d8 (Surr)	98		60 - 140							

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-308085/1-A**  
**Matrix: Water**  
**Analysis Batch: 308437**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 308085**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		03/01/23 14:04	03/02/23 12:27	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## Method: 1664A - HEM and SGT-HEM (Continued)

**Lab Sample ID: LCS 570-308085/2-A**  
**Matrix: Water**  
**Analysis Batch: 308437**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 308085**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	36.6		mg/L		92	78 - 114

**Lab Sample ID: LCSD 570-308085/3-A**  
**Matrix: Water**  
**Analysis Batch: 308437**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 308085**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	37.1		mg/L		93	78 - 114	1	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-310457/46**  
**Matrix: Water**  
**Analysis Batch: 310457**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			03/09/23 22:33	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## GC/MS VOA

### Analysis Batch: 307642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129006-1	Outfall001_20230225_Grab	Total/NA	Water	624.1	
570-129006-3	TB-20230225	Total/NA	Water	624.1	
MB 570-307642/6	Method Blank	Total/NA	Water	624.1	
LCS 570-307642/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-307642/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 307843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129006-1	Outfall001_20230225_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 308085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129006-1	Outfall001_20230225_Grab	Total/NA	Water	1664A	
MB 570-308085/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-308085/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-308085/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 308437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129006-1	Outfall001_20230225_Grab	Total/NA	Water	1664A	308085
MB 570-308085/1-A	Method Blank	Total/NA	Water	1664A	308085
LCS 570-308085/2-A	Lab Control Sample	Total/NA	Water	1664A	308085
LCSD 570-308085/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	308085

### Analysis Batch: 310457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129006-1	Outfall001_20230225_Grab	Total/NA	Water	SM 2510B	
MB 570-310457/46	Method Blank	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

**Client Sample ID: Outfall001\_20230225\_Grab**

**Lab Sample ID: 570-129006-1**

**Date Collected: 02/25/23 07:10**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	307642	02/28/23 18:39	KHF2	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			1012 mL	1000 mL	308085	03/01/23 14:04	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			308437	03/02/23 12:27	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			310457	03/09/23 22:59	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	307843	02/27/23 20:30	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230225**

**Lab Sample ID: 570-129006-3**

**Date Collected: 02/25/23 07:10**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	307642	02/28/23 16:48	KHF2	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129006-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129006-1

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Grab

Job ID: 570-129006-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129006-1	Outfall001_20230225_Grab	Water	02/25/23 07:10	02/27/23 18:00
570-129006-3	TB-20230225	Water	02/25/23 07:10	02/27/23 18:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129006-1

**Login Number: 129006**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/22/2023 1:19:50 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall 001 - Comp

**JOB NUMBER**

570-129083-1

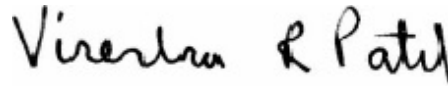
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/22/2023 1:19:50 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	29
Lab Chronicle . . . . .	33
Certification Summary . . . . .	35
Method Summary . . . . .	36
Sample Summary . . . . .	37
Chain of Custody . . . . .	38
Receipt Checklists . . . . .	40

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
LQ	LCS/LCSD recovery above method control limits

### HPLC/IC

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

### Metals

Qualifier	Qualifier Description
BB	Sample > 4X spike concentration
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129083-1

## Job ID: 570-129083-1

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-129083-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 2/27/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 1.9° C.

#### GC/MS Semi VOA

Method 625.1 SIM: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-307149 and analytical batch 570-307279 recovered outside control limits for the following analytes: 2,4-Dinitrotoluene, 4,6-Dinitro-2-methylphenol, Di-n-octyl phthalate and Di-n-butyl phthalate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### HPLC/IC

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-307135 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300.0: Dilutions were performed for the following samples due to sample matrix properties: Outfall001\_20230226\_Comp (570-129083-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 200.8: The method blank for preparation batch 570-307908 and analytical batch 570-308055 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-308039 and analytical batch 570-308099 were outside control limits for Zinc. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230226\_Comp\_F (570-129083-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230226\_Comp\_F (570-129083-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129083-1

---

## Job ID: 570-129083-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

#### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-308323. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608LL

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.5	J,DX	5.0	1.8	mg/L	5		300.0	Total/NA
Nitrate as N	0.43	J,DX	0.50	0.098	mg/L	5		300.0	Total/NA
Sulfate	5.2		5.0	1.2	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	0.43		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	4.2		2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	3700	MB	20	3.7	ug/L	1		200.8	Total Recoverable
Lead	2.3		1.0	0.12	ug/L	1		200.8	Total Recoverable
Zinc	25		20	2.8	ug/L	1		200.8	Total Recoverable
Turbidity	80		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	120		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	45		2.5	2.1	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	2.4		2.0	1.0	mg/L	1		SM5210B	Total/NA

**Client Sample ID: Outfall001\_20230226\_Comp\_F**

**Lab Sample ID: 570-129083-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	2.2	BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	290	BU	20	3.7	ug/L	1		200.8	Dissolved
Lead	0.20	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Zinc	4.9	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

**Date Collected: 02/26/23 07:20**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.95	0.13	ug/L		02/28/23 05:19	02/28/23 17:57	1
2,4-Dinitrotoluene	ND	LQ	0.19	0.11	ug/L		02/28/23 05:19	02/28/23 17:57	1
Bis(2-ethylhexyl) phthalate	ND		4.8	3.4	ug/L		02/28/23 05:19	02/28/23 17:57	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		02/28/23 05:19	02/28/23 17:57	1
Pentachlorophenol	ND		0.95	0.80	ug/L		02/28/23 05:19	02/28/23 17:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	49		31 - 120	02/28/23 05:19	02/28/23 17:57	1
Phenol-d6 (Surr)	20		10 - 120	02/28/23 05:19	02/28/23 17:57	1
p-Terphenyl-d14 (Surr)	64		45 - 120	02/28/23 05:19	02/28/23 17:57	1
2,4,6-Tribromophenol	71		28 - 127	02/28/23 05:19	02/28/23 17:57	1
2-Fluorophenol	29		17 - 120	02/28/23 05:19	02/28/23 17:57	1
Nitrobenzene-d5	57		27 - 120	02/28/23 05:19	02/28/23 17:57	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Outfall001\_20230226\_Comp**

**Date Collected: 02/26/23 07:20**

**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129083-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/02/23 08:41	03/09/23 16:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	36		20 - 139				03/02/23 08:41	03/09/23 16:36	1
<i>DCB Decachlorobiphenyl (Surr)</i>	21		20 - 154				03/02/23 08:41	03/09/23 16:36	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230226\_Comp

Date Collected: 02/26/23 07:20

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.5	J,DX	5.0	1.8	mg/L			02/28/23 00:44	5
Nitrite as N	ND		0.50	0.22	mg/L			02/28/23 00:44	5
Nitrate as N	0.43	J,DX	0.50	0.098	mg/L			02/28/23 00:44	5
Sulfate	5.2		5.0	1.2	mg/L			02/28/23 00:44	5

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230226\_Comp

Date Collected: 02/26/23 07:20

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			02/28/23 23:58	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230226\_Comp

Lab Sample ID: 570-129083-1

Date Collected: 02/26/23 07:20

Matrix: Water

Date Received: 02/27/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.43		0.10	0.020	mg/L			03/03/23 14:06	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230226\_Comp

Date Collected: 02/26/23 07:20

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/01/23 06:30	03/01/23 11:35	1
Copper	4.2		2.0	0.32	ug/L		03/01/23 06:30	03/01/23 11:35	1
Iron	3700	MB	20	3.7	ug/L		03/01/23 06:30	03/01/23 11:35	1
Lead	2.3		1.0	0.12	ug/L		03/01/23 06:30	03/01/23 11:35	1
Selenium	ND		2.0	0.52	ug/L		03/01/23 06:30	03/01/23 11:35	1
Zinc	25		20	2.8	ug/L		03/01/23 06:30	03/01/23 11:35	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230226\_Comp\_F

Date Collected: 02/26/23 07:20

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			03/01/23 14:23	1
<b>Copper</b>	<b>2.2</b>	<b>BU</b>	2.0	0.32	ug/L			03/01/23 14:23	1
<b>Iron</b>	<b>290</b>	<b>BU</b>	20	3.7	ug/L			03/01/23 14:23	1
<b>Lead</b>	<b>0.20</b>	<b>J,DX BU</b>	1.0	0.12	ug/L			03/01/23 14:23	1
Selenium	ND	BU	2.0	0.52	ug/L			03/01/23 14:23	1
<b>Zinc</b>	<b>4.9</b>	<b>J,DX BU</b>	20	2.8	ug/L			03/01/23 14:23	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230226\_Comp

Date Collected: 02/26/23 07:20

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/03/23 09:45	03/03/23 13:47	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230226\_Comp\_F

Lab Sample ID: 570-129083-3

Date Collected: 02/26/23 07:20

Matrix: Water

Date Received: 02/27/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		03/06/23 18:07	03/07/23 13:47	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## General Chemistry

**Client Sample ID: Outfall001\_20230226\_Comp**

**Date Collected: 02/26/23 07:20**

**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129083-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		03/08/23 09:40	03/08/23 11:57	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			03/03/23 20:26	1
<b>Turbidity (SM 2130B)</b>	<b>80</b>		0.05	0.05	NTU			02/27/23 22:56	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>120</b>		10	8.7	mg/L			03/02/23 16:27	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>45</b>		2.5	2.1	mg/L			03/03/23 18:43	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		02/27/23 20:28	02/27/23 21:56	1
<b>Biochemical Oxygen Demand (SM5210B)</b>	<b>2.4</b>		2.0	1.0	mg/L			02/27/23 20:21	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-129083-1	Outfall001_20230226_Comp	49	20	64	71	29	57
LCS 570-307149/2-A	Lab Control Sample	84	34	106	107	48	76
LCSD 570-307149/3-A	Lab Control Sample Dup	69	31	86	95	44	66
MB 570-307149/1-A	Method Blank	60	29	78	81	42	68

#### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (20-139)	DCB2 (20-154)
570-129083-1	Outfall001_20230226_Comp	36	21

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX1 (20-139)	DCB1 (20-154)
LCS 570-308323/2-A	Lab Control Sample	46	56
LCSD 570-308323/3-A	Lab Control Sample Dup	63	59
MB 570-308323/1-A	Method Blank	54	52

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-307149/1-A**  
**Matrix: Water**  
**Analysis Batch: 307279**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 307149**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		02/27/23 05:32	02/27/23 17:25	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		02/27/23 05:32	02/27/23 17:25	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		02/27/23 05:32	02/27/23 17:25	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		02/27/23 05:32	02/27/23 17:25	1
Pentachlorophenol	ND		1.0	0.84	ug/L		02/27/23 05:32	02/27/23 17:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	60		31 - 120	02/27/23 05:32	02/27/23 17:25	1
Phenol-d6 (Surr)	29		10 - 120	02/27/23 05:32	02/27/23 17:25	1
p-Terphenyl-d14 (Surr)	78		45 - 120	02/27/23 05:32	02/27/23 17:25	1
2,4,6-Tribromophenol	81		28 - 127	02/27/23 05:32	02/27/23 17:25	1
2-Fluorophenol	42		17 - 120	02/27/23 05:32	02/27/23 17:25	1
Nitrobenzene-d5	68		27 - 120	02/27/23 05:32	02/27/23 17:25	1

**Lab Sample ID: LCS 570-307149/2-A**  
**Matrix: Water**  
**Analysis Batch: 307279**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 307149**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	21.3		ug/L		107	52 - 129
2,4-Dinitrotoluene	20.0	25.8	LQ	ug/L		129	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	25.7		ug/L		128	29 - 137
N-Nitrosodimethylamine	20.0	9.35		ug/L		47	20 - 120
Pentachlorophenol	20.0	14.9		ug/L		74	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	84		31 - 120
Phenol-d6 (Surr)	34		10 - 120
p-Terphenyl-d14 (Surr)	106		45 - 120
2,4,6-Tribromophenol	107		28 - 127
2-Fluorophenol	48		17 - 120
Nitrobenzene-d5	76		27 - 120

**Lab Sample ID: LCSD 570-307149/3-A**  
**Matrix: Water**  
**Analysis Batch: 307279**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 307149**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	17.5		ug/L		88	52 - 129	20	35
2,4-Dinitrotoluene	20.0	21.5		ug/L		107	48 - 127	18	25
Bis(2-ethylhexyl) phthalate	20.0	22.7		ug/L		114	29 - 137	12	50
N-Nitrosodimethylamine	20.0	9.77		ug/L		49	20 - 120	4	21
Pentachlorophenol	20.0	12.6		ug/L		63	38 - 152	16	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	69		31 - 120

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-307149/3-A**  
**Matrix: Water**  
**Analysis Batch: 307279**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 307149**

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Phenol-d6 (Surr)	31		10 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120
2,4,6-Tribromophenol	95		28 - 127
2-Fluorophenol	44		17 - 120
Nitrobenzene-d5	66		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-308323/1-A**  
**Matrix: Water**  
**Analysis Batch: 308567**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 308323**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/02/23 08:40	03/03/23 13:08	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	54		20 - 139	03/02/23 08:40	03/03/23 13:08	1
DCB Decachlorobiphenyl (Surr)	52		20 - 154	03/02/23 08:40	03/03/23 13:08	1

**Lab Sample ID: LCS 570-308323/2-A**  
**Matrix: Water**  
**Analysis Batch: 308567**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 308323**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0179		ug/L		54	37 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	46		20 - 139
DCB Decachlorobiphenyl (Surr)	56		20 - 154

**Lab Sample ID: LCSD 570-308323/3-A**  
**Matrix: Water**  
**Analysis Batch: 308567**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 308323**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	0.0333	0.0205		ug/L		61	37 - 140	13	36

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	63		20 - 139
DCB Decachlorobiphenyl (Surr)	59		20 - 154

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-307134/6**  
**Matrix: Water**  
**Analysis Batch: 307134**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			02/27/23 06:29	1
Nitrate as N	ND		0.10	0.020	mg/L			02/27/23 06:29	1

**Lab Sample ID: LCS 570-307134/7**  
**Matrix: Water**  
**Analysis Batch: 307134**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.55		mg/L		102	90 - 110
Nitrate as N	5.00	4.98		mg/L		100	90 - 110

**Lab Sample ID: LCSD 570-307134/8**  
**Matrix: Water**  
**Analysis Batch: 307134**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.51		mg/L		100	90 - 110	1	15
Nitrate as N	5.00	4.91		mg/L		98	90 - 110	1	15

**Lab Sample ID: MB 570-307135/6**  
**Matrix: Water**  
**Analysis Batch: 307135**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			02/27/23 06:29	1
Sulfate	ND		1.0	0.24	mg/L			02/27/23 06:29	1

**Lab Sample ID: LCS 570-307135/7**  
**Matrix: Water**  
**Analysis Batch: 307135**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.6		mg/L		99	90 - 110
Sulfate	50.0	49.1		mg/L		98	90 - 110

**Lab Sample ID: LCSD 570-307135/8**  
**Matrix: Water**  
**Analysis Batch: 307135**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	48.7		mg/L		97	90 - 110	2	15
Sulfate	50.0	48.3		mg/L		97	90 - 110	2	15

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 314.0 - Perchlorate (IC)

**Lab Sample ID: MB 570-307808/7**  
**Matrix: Water**  
**Analysis Batch: 307808**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			02/28/23 19:27	1

**Lab Sample ID: LCS 570-307808/8**  
**Matrix: Water**  
**Analysis Batch: 307808**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	24.2		ug/L		97	85 - 115

**Lab Sample ID: LCSD 570-307808/9**  
**Matrix: Water**  
**Analysis Batch: 307808**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.1		ug/L		96	85 - 115	0	15

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-307908/1-A**  
**Matrix: Water**  
**Analysis Batch: 308055**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307908**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/01/23 06:30	03/01/23 10:48	1
Copper	ND		2.0	0.32	ug/L		03/01/23 06:30	03/01/23 10:48	1
Iron	3.80	J,DX	20	3.7	ug/L		03/01/23 06:30	03/01/23 10:48	1
Lead	ND		1.0	0.12	ug/L		03/01/23 06:30	03/01/23 10:48	1
Selenium	ND		2.0	0.52	ug/L		03/01/23 06:30	03/01/23 10:48	1
Zinc	ND		20	2.8	ug/L		03/01/23 06:30	03/01/23 10:48	1

**Lab Sample ID: LCS 570-307908/2-A**  
**Matrix: Water**  
**Analysis Batch: 308055**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307908**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	77.6		ug/L		97	85 - 115
Copper	80.0	75.9		ug/L		95	85 - 115
Iron	800	825		ug/L		103	85 - 115
Lead	80.0	76.9		ug/L		96	85 - 115
Selenium	80.0	77.6		ug/L		97	85 - 115
Zinc	80.0	76.6		ug/L		96	85 - 115

**Lab Sample ID: LCSD 570-307908/3-A**  
**Matrix: Water**  
**Analysis Batch: 308055**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307908**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	77.0		ug/L		96	85 - 115	1	20
Copper	80.0	76.3		ug/L		95	85 - 115	1	20

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-307908/3-A**  
**Matrix: Water**  
**Analysis Batch: 308055**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307908**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Iron	800	814		ug/L		102	85 - 115	1	20	
Lead	80.0	78.0		ug/L		97	85 - 115	1	20	
Selenium	80.0	74.8		ug/L		93	85 - 115	4	20	
Zinc	80.0	77.1		ug/L		96	85 - 115	1	20	

**Lab Sample ID: 570-129083-1 MS**  
**Matrix: Water**  
**Analysis Batch: 308055**

**Client Sample ID: Outfall001\_20230226\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307908**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	75.5		ug/L		94	80 - 120			
Copper	4.2		80.0	78.6		ug/L		93	80 - 120			
Iron	3700	MB	800	4580	BB	ug/L		110	80 - 120			
Lead	2.3		80.0	79.8		ug/L		97	80 - 120			
Selenium	ND		80.0	74.2		ug/L		93	80 - 120			
Zinc	25		80.0	98.6		ug/L		91	80 - 120			

**Lab Sample ID: 570-129083-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 308055**

**Client Sample ID: Outfall001\_20230226\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 307908**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	77.5		ug/L		97	80 - 120	3	20	
Copper	4.2		80.0	80.2		ug/L		95	80 - 120	2	20	
Iron	3700	MB	800	4700	BB	ug/L		125	80 - 120	3	20	
Lead	2.3		80.0	81.2		ug/L		99	80 - 120	2	20	
Selenium	ND		80.0	78.5		ug/L		98	80 - 120	6	20	
Zinc	25		80.0	101		ug/L		94	80 - 120	2	20	

**Lab Sample ID: MB 570-308039/1-A**  
**Matrix: Water**  
**Analysis Batch: 308100**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cadmium	ND		1.0	0.13	ug/L		03/01/23 14:16	1	
Copper	ND		2.0	0.32	ug/L		03/01/23 14:16	1	
Iron	ND		20	3.7	ug/L		03/01/23 14:16	1	
Lead	ND		1.0	0.12	ug/L		03/01/23 14:16	1	
Selenium	ND		2.0	0.52	ug/L		03/01/23 14:16	1	
Zinc	ND		20	2.8	ug/L		03/01/23 14:16	1	

**Lab Sample ID: LCS 570-308039/2-A**  
**Matrix: Water**  
**Analysis Batch: 308100**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Cadmium	80.0	80.0		ug/L		100	85 - 115	
Copper	80.0	77.6		ug/L		97	85 - 115	
Iron	800	814		ug/L		102	85 - 115	

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 570-308039/2-A**  
**Matrix: Water**  
**Analysis Batch: 308100**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	80.3		ug/L		100	85 - 115
Selenium	80.0	82.2		ug/L		103	85 - 115
Zinc	80.0	78.5		ug/L		98	85 - 115

**Lab Sample ID: LCSD 570-308039/3-A**  
**Matrix: Water**  
**Analysis Batch: 308100**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	80.5		ug/L		101	85 - 115	1	20
Copper	80.0	78.2		ug/L		98	85 - 115	1	20
Iron	800	814		ug/L		102	85 - 115	0	20
Lead	80.0	80.5		ug/L		101	85 - 115	0	20
Selenium	80.0	83.1		ug/L		104	85 - 115	1	20
Zinc	80.0	81.1		ug/L		101	85 - 115	3	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-308521/1-A**  
**Matrix: Water**  
**Analysis Batch: 308860**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 308521**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/03/23 09:45	03/03/23 13:30	1

**Lab Sample ID: LCS 570-308521/2-A**  
**Matrix: Water**  
**Analysis Batch: 308860**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 308521**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.47		ug/L		106	85 - 115

**Lab Sample ID: LCSD 570-308521/3-A**  
**Matrix: Water**  
**Analysis Batch: 308860**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 308521**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.54		ug/L		107	85 - 115	1	10

**Lab Sample ID: MB 570-309367/1-B**  
**Matrix: Water**  
**Analysis Batch: 309665**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 309368**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/06/23 18:07	03/07/23 13:11	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 570-309367/2-B  
 Matrix: Water  
 Analysis Batch: 309665

Client Sample ID: Lab Control Sample  
 Prep Type: Dissolved  
 Prep Batch: 309368

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.47		ug/L		106	85 - 115

Lab Sample ID: LCSD 570-309367/3-B  
 Matrix: Water  
 Analysis Batch: 309665

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Dissolved  
 Prep Batch: 309368

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.40		ug/L		105	85 - 115	1	10

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-309909/5-A  
 Matrix: Water  
 Analysis Batch: 309958

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 309909

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		03/08/23 09:40	03/08/23 11:21	1

Lab Sample ID: LCS 570-309909/6-A  
 Matrix: Water  
 Analysis Batch: 309958

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 309909

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.483		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-309909/7-A  
 Matrix: Water  
 Analysis Batch: 309958

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 309909

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.488		mg/L		98	90 - 110	1	20

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-309199/12  
 Matrix: Water  
 Analysis Batch: 309199

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			03/03/23 20:26	1

Lab Sample ID: LCS 570-309199/13  
 Matrix: Water  
 Analysis Batch: 309199

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	229		ug/L		92	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

**Lab Sample ID: LCSD 570-309199/15**  
**Matrix: Water**  
**Analysis Batch: 309199**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	231		ug/L		92	90 - 110	1	20

**Lab Sample ID: MRL 570-309199/11**  
**Matrix: Water**  
**Analysis Batch: 309199**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	5.41		ug/L		108	50 - 150

## Method: SM 2130B - Turbidity

**Lab Sample ID: LCSSRM 570-307521/1**  
**Matrix: Water**  
**Analysis Batch: 307521**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		100.8	99.0 - 101.0

**Lab Sample ID: LCSSRM 570-307521/2**  
**Matrix: Water**  
**Analysis Batch: 307521**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0

**Lab Sample ID: LCSSRM 570-307521/3**  
**Matrix: Water**  
**Analysis Batch: 307521**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 570-308515/1**  
**Matrix: Water**  
**Analysis Batch: 308515**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			03/02/23 16:27	1

**Lab Sample ID: LCS 570-308515/2**  
**Matrix: Water**  
**Analysis Batch: 308515**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	978		mg/L		98	84 - 108

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 570-308515/3  
 Matrix: Water  
 Analysis Batch: 308515

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1020		mg/L		102	84 - 108	4	10

Lab Sample ID: 570-129083-1 DU  
 Matrix: Water  
 Analysis Batch: 308515

Client Sample ID: Outfall001\_20230226\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	120		111		mg/L		7	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-308912/1  
 Matrix: Water  
 Analysis Batch: 308912

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/03/23 18:43	1

Lab Sample ID: LCS 570-308912/2  
 Matrix: Water  
 Analysis Batch: 308912

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	96.0		mg/L		96	77 - 116

Lab Sample ID: LCSD 570-308912/3  
 Matrix: Water  
 Analysis Batch: 308912

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	96.0		mg/L		96	77 - 116	0	10

Lab Sample ID: 570-129083-1 DU  
 Matrix: Water  
 Analysis Batch: 308912

Client Sample ID: Outfall001\_20230226\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	45		49.5		mg/L		10	10

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-307522/5-A  
 Matrix: Water  
 Analysis Batch: 307520

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 307522

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		02/27/23 20:28	02/27/23 21:49	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

**Lab Sample ID: LCS 570-307522/6-A**  
**Matrix: Water**  
**Analysis Batch: 307520**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 307522**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.546		mg/L		109	83 - 122

**Lab Sample ID: LCSD 570-307522/7-A**  
**Matrix: Water**  
**Analysis Batch: 307520**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 307522**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.500	0.538		mg/L		108	83 - 122	1	10

## Method: SM5210B - BOD, 5 Day

**Lab Sample ID: USB 570-309219/2**  
**Matrix: Water**  
**Analysis Batch: 309219**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			02/27/23 11:01	1

**Lab Sample ID: LCS 570-309219/4**  
**Matrix: Water**  
**Analysis Batch: 309219**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	201		mg/L		101	84.6 - 115.4

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## GC/MS Semi VOA

### Prep Batch: 307149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	625	
MB 570-307149/1-A	Method Blank	Total/NA	Water	625	
LCS 570-307149/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-307149/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 307279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-307149/1-A	Method Blank	Total/NA	Water	625.1 SIM	307149
LCS 570-307149/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	307149
LCSD 570-307149/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	307149

### Analysis Batch: 307608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	625.1 SIM	307149

## GC Semi VOA

### Prep Batch: 308323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	608	
MB 570-308323/1-A	Method Blank	Total/NA	Water	608	
LCS 570-308323/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-308323/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 308567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-308323/1-A	Method Blank	Total/NA	Water	608.3	308323
LCS 570-308323/2-A	Lab Control Sample	Total/NA	Water	608.3	308323
LCSD 570-308323/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	308323

### Analysis Batch: 310111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	608.3	308323

## HPLC/IC

### Analysis Batch: 307134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	300.0	
MB 570-307134/6	Method Blank	Total/NA	Water	300.0	
LCS 570-307134/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-307134/8	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 307135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	300.0	
MB 570-307135/6	Method Blank	Total/NA	Water	300.0	
LCS 570-307135/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-307135/8	Lab Control Sample Dup	Total/NA	Water	300.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## HPLC/IC

### Analysis Batch: 307808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	314.0	
MB 570-307808/7	Method Blank	Total/NA	Water	314.0	
LCS 570-307808/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-307808/9	Lab Control Sample Dup	Total/NA	Water	314.0	

### Analysis Batch: 308826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Prep Batch: 307908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total Recoverable	Water	200.8	
MB 570-307908/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-307908/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-307908/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-129083-1 MS	Outfall001_20230226_Comp	Total Recoverable	Water	200.8	
570-129083-1 MSD	Outfall001_20230226_Comp	Total Recoverable	Water	200.8	

### Filtration Batch: 308039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-3	Outfall001_20230226_Comp_F	Dissolved	Water	Filtration	
MB 570-308039/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-308039/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-308039/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	

### Analysis Batch: 308055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total Recoverable	Water	200.8	307908
MB 570-307908/1-A	Method Blank	Total Recoverable	Water	200.8	307908
LCS 570-307908/2-A	Lab Control Sample	Total Recoverable	Water	200.8	307908
LCSD 570-307908/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	307908
570-129083-1 MS	Outfall001_20230226_Comp	Total Recoverable	Water	200.8	307908
570-129083-1 MSD	Outfall001_20230226_Comp	Total Recoverable	Water	200.8	307908

### Analysis Batch: 308099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-3	Outfall001_20230226_Comp_F	Dissolved	Water	200.8	308039

### Analysis Batch: 308100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-308039/1-A	Method Blank	Dissolved	Water	200.8	308039
LCS 570-308039/2-A	Lab Control Sample	Dissolved	Water	200.8	308039
LCSD 570-308039/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	308039

### Prep Batch: 308521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	245.1	
MB 570-308521/1-A	Method Blank	Total/NA	Water	245.1	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## Metals (Continued)

### Prep Batch: 308521 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-308521/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-308521/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	

### Analysis Batch: 308860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	245.1	308521
MB 570-308521/1-A	Method Blank	Total/NA	Water	245.1	308521
LCS 570-308521/2-A	Lab Control Sample	Total/NA	Water	245.1	308521
LCSD 570-308521/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	308521

### Filtration Batch: 309367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-3	Outfall001_20230226_Comp_F	Dissolved	Water	Filtration	
MB 570-309367/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-309367/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-309367/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

### Prep Batch: 309368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-3	Outfall001_20230226_Comp_F	Dissolved	Water	245.1	309367
MB 570-309367/1-B	Method Blank	Dissolved	Water	245.1	309367
LCS 570-309367/2-B	Lab Control Sample	Dissolved	Water	245.1	309367
LCSD 570-309367/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	309367

### Analysis Batch: 309665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-3	Outfall001_20230226_Comp_F	Dissolved	Water	245.1	309368
MB 570-309367/1-B	Method Blank	Dissolved	Water	245.1	309368
LCS 570-309367/2-B	Lab Control Sample	Dissolved	Water	245.1	309368
LCSD 570-309367/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	309368

## General Chemistry

### Analysis Batch: 307520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	SM 5540C	307522
MB 570-307522/5-A	Method Blank	Total/NA	Water	SM 5540C	307522
LCS 570-307522/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	307522
LCSD 570-307522/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	307522

### Analysis Batch: 307521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-307521/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-307521/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-307521/3	Lab Control Sample	Total/NA	Water	SM 2130B	

### Prep Batch: 307522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	SM 5540C	

Eurofins Calscience



# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

## General Chemistry (Continued)

### Prep Batch: 307522 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-307522/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-307522/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-307522/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

### Analysis Batch: 308515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	SM 2540C	
MB 570-308515/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-308515/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-308515/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-129083-1 DU	Outfall001_20230226_Comp	Total/NA	Water	SM 2540C	

### Analysis Batch: 308912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	SM 2540D	
MB 570-308912/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-308912/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-308912/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
570-129083-1 DU	Outfall001_20230226_Comp	Total/NA	Water	SM 2540D	

### Analysis Batch: 309199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	Kelada 01	
MB 570-309199/12	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-309199/13	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-309199/15	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-309199/11	Lab Control Sample	Total/NA	Water	Kelada 01	

### Analysis Batch: 309219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	SM5210B	
USB 570-309219/2	Method Blank	Total/NA	Water	SM5210B	
LCS 570-309219/4	Lab Control Sample	Total/NA	Water	SM5210B	

### Prep Batch: 309909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-309909/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-309909/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-309909/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 309958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	350.1	309909
MB 570-309909/5-A	Method Blank	Total/NA	Water	350.1	309909
LCS 570-309909/6-A	Lab Control Sample	Total/NA	Water	350.1	309909
LCSD 570-309909/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	309909

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

**Date Collected: 02/26/23 07:20**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1050.7 mL	2 mL	307149	02/28/23 05:19	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	307608	02/28/23 17:57	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	308323	03/02/23 08:41	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	310111	03/09/23 16:36	N5Y3	EET CAL 4
		Instrument ID: GC52A								
Total/NA	Analysis	300.0		5	4 mL	4 mL	307134	02/28/23 00:44	PS	EET CAL 4
		Instrument ID: IC10								
Total/NA	Analysis	300.0		5	4 mL	4 mL	307135	02/28/23 00:44	PS	EET CAL 4
		Instrument ID: IC10								
Total/NA	Analysis	314.0		1	4 mL	4 mL	307808	02/28/23 23:58	PS	EET CAL 4
		Instrument ID: IC8								
Total/NA	Analysis	NO2NO3 Calc		1			308826	03/03/23 14:06	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	307908	03/01/23 06:30	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			308055	03/01/23 11:35	Y2WS	EET CAL 4
		Instrument ID: ICPMS09								
Total/NA	Prep	245.1			25 mL	50 mL	308521	03/03/23 09:45	C0YH	EET CAL 4
Total/NA	Analysis	245.1		1			308860	03/03/23 13:47	C0YH	EET CAL 4
		Instrument ID: HG8								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	309909	03/08/23 09:40	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	309958	03/08/23 11:57	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	309199	03/03/23 20:26	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			307521	02/27/23 22:56	TXA8	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	308515	03/02/23 16:27	UWCT	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	400 mL	1000 mL	308912	03/03/23 18:43	BDH9	EET CAL 4
		Instrument ID: BAL71								
Total/NA	Prep	SM 5540C			100 mL	100 mL	307522	02/27/23 20:28	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	307520	02/27/23 21:56	TXA8	EET CAL 4
		Instrument ID: UV8								
Total/NA	Analysis	SM5210B		1			309219	02/27/23 20:21	U7UR	EET CAL 4
		Instrument ID: BOD3								

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

**Client Sample ID: Outfall001\_20230226\_Comp\_F**

**Lab Sample ID: 570-129083-3**

**Date Collected: 02/26/23 07:20**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	308039	03/01/23 12:58	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			308099	03/01/23 14:23	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Dissolved	Filtration	Filtration			25 mL	25 mL	309367	03/06/23 17:48	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	309368	03/06/23 18:07	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			309665	03/07/23 13:47	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatiles Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
SM5210B	BOD, 5 Day	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129083-1	Outfall001_20230226_Comp	Water	02/26/23 07:20	02/27/23 18:00
570-129083-3	Outfall001_20230226_Comp_F	Water	02/26/23 07:20	02/27/23 18:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



570-129083 Chain of Custody

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

**Client Name/Address:**  
 Haley & Aldrich  
 5333 Mission Center Rd Suite 300  
 San Diego, CA 92108

**Eurofins Calscience Project Manager:** Virendra Patel  
 2841 Dow Avenue, Suite #100  
 Tustin, CA 92780  
 Tel. 714-895-5494  
 ECI Project #57013187

**TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22; TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.**

**Sampler:** Adrian Mobeika

**Project:** Boeing-SSFL NPDES Permit 2023  
 Routine Outfall (001, 002, 011, 018)  
 Outfall 001  
 Comp

**Project Manager:** Katherine Miller  
 520.289.8606; 520.904.6944 (cell)

**Field Manager:** Mark Dominick  
 978.234.5033; 818.599.0702 (cell)

Sample Description	Sample ID	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals (E200.8) Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1(SM5210B, BODCalc))	Surfactants (MBS) (SM540C/E425, 1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals Mercury (E245.1)	Total Recoverable Metals (E200.8) Fe	Comments
			WM	500 mL Poly	1	HNO3	90	Yes	X										X	X	Outfall 001 analyze for Fe.
			WM	1 L Glass Amber	2	None	110	No													
			WM	1L Poly	1	None	115	No			X										
			WM	500 mL Poly	2	None	120	No				X									
		2/26/2023	WM	500 mL Poly	2	None	130	No					X								48 hours Holding Time NO3 & NO2
		10720	WM	500 mL Poly	1	H2SO4	160	No						X							48 hour holding time for turbidity
			WM	1 L Glass Amber	2	None	170	No								X					
			WM	1 L Glass Amber	2	None	180	No							X						
			WM	1L Poly	1	None	185	No													
			WM	1 L Glass Amber	2	None	110	No													Hold
			WM	500 mL Poly	2	None	120	No													Hold
			WM	500 mL Poly	2	None	130	No					H								Hold
		2/26/2023	WM	1 L Glass Amber	2	None	170	No													Hold
		10720	WM	1 L Glass Amber	2	None	180	No													Hold

**Legend:** C=Conditional, R=Routine

**Relinquished By:** *Mark Dominick* 2/27/23 1120 H-1  
 Date/Time: 2/27/23 1120 EC  
 Company: EC

**Relinquished By:** *Adrian Mobeika* 2/27/23 1800  
 Date/Time: 2/27/23 1800 EC  
 Company: EC

**Relinquished By:** \_\_\_\_\_  
 Date/Time: \_\_\_\_\_  
 Company: \_\_\_\_\_

**Turn-around time (Check):** 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal: \_\_\_\_\_

**Sample Integrity (Check):** Intact: \_\_\_\_\_ On Ice: \_\_\_\_\_  
 Store samples for 6 months. Data Requirements (Check) No Level IV: \_\_\_\_\_ All Level IV: \_\_\_\_\_ X



CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address:		Project:		ANALYSIS REQUIRED		Comments	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Project Manager: Vitendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel. 714-895-5494 ECI Project #57013187		Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		Total Dissolved Metals (E200.8) Cu, Pb, Cd, Se Total Dissolved Metals (E200.8) Fe Total Dissolved Metals, Mercury (E245.1)		Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.	
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Preservative None None NaOH None None		Bottle # 200 320 220 225 230		Yes No No No No	
Sample I.D. Outfall001_20230226_Comp_F Outfall001_20230226_Comp		Container Type 1L Poly borosilicate vials 500 mL Poly 2.5 Gal Cabs 1 L Glass Amber		# of Cont. 1 1 1 1 1		MS/MSD Yes No No No No	
Sampling Date/Time 2/26/2023 10720 2/26/2023 10720		Sample Matrix WM WM WM WM		Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)		Unfiltered and unpreserved analysis. Separate RAD onto another vial/order. Analyze duplicate, not MS/MSD.	
Relinquished By <i>[Signature]</i>		Date/Time 2/27/2023/1120		Received By <i>[Signature]</i>		Date/Time 2/27/23 1120 EL	
Relinquished By <i>[Signature]</i>		Date/Time 2/27/23 1800		Received By <i>[Signature]</i>		Date/Time 2/27/23 1800	
Relinquished By <i>[Signature]</i>		Date/Time 2/27/23		Received By <i>[Signature]</i>		Date/Time 2/27/23	

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Turn-around time: (Check)  
 24 Hour \_\_\_\_\_ 72 Hour \_\_\_\_\_ 10 Day \_\_\_\_\_ X  
 48 Hour \_\_\_\_\_ 5 Day \_\_\_\_\_ Normal: \_\_\_\_\_  
 Sample Integrity: (Check)  
 Intact: \_\_\_\_\_ On Ice: \_\_\_\_\_  
 Store samples for 6 months.  
 Data Requirements: (Check)  
 No Level IV: \_\_\_\_\_ All Level IV: \_\_\_\_\_ X





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129083-1

**Login Number: 129083**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/21/2023 6:40:40 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall 001 - Comp

**JOB NUMBER**

570-129083-2

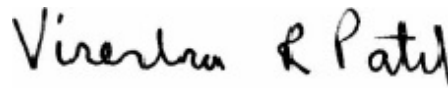
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/21/2023 6:40:40 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	24

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129083-2

---

## Job ID: 570-129083-2

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-129083-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 2/27/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 1.9° C.

#### Dioxin

Method 1613B: The automated ending resolution check scheduled to be performed on March 20, 2023 at approximately 22:23 did not print. A manual resolution check was performed, without retuning, at the end of the second sequence on March 21, 2023 at 10:21, which indicated that the instrument maintained 10,000 resolution. The approximately 12 hour delay in printing the ending resolution check has no impact on the data.

Outfall001\_20230226\_Comp (570-129083-1), (CCV 320-662109/2), (LCS 320-659338/2-A), (LCSD 320-659338/3-A), (MB 320-659338/1-A) and (WDM 320-662109/1)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129083-2

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000024	J,DX q MB	0.000048	0.0000007	ug/L	1		1613B	Total/NA
				2					
1,2,3,6,7,8-HxCDD	0.0000013	J,DX q MB	0.000048	0.0000007	ug/L	1		1613B	Total/NA
				3					
1,2,3,7,8,9-HxCDD	0.00000097	J,DX q	0.000048	0.0000006	ug/L	1		1613B	Total/NA
				4					
1,2,3,4,7,8-HxCDF	0.0000018	J,DX q	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				9					
1,2,3,6,7,8-HxCDF	0.00000084	J,DX q	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				7					
1,2,3,7,8,9-HxCDF	0.0000011	J,DX q MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				6					
2,3,4,6,7,8-HxCDF	0.00000082	J,DX q	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				4					
1,2,3,4,6,7,8-HpCDD	0.000043	J,DX MB	0.000048	0.0000013	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.000013	J,DX MB	0.000048	0.0000006	ug/L	1		1613B	Total/NA
				3					
OCDD	0.00083	MB	0.000095	0.0000031	ug/L	1		1613B	Total/NA
OCDF	0.000021	J,DX q MB	0.000095	0.0000006	ug/L	1		1613B	Total/NA
				4					
Total PeCDF	0.00000076	J,DX q	0.000048	0.0000005	ug/L	1		1613B	Total/NA
				8					
Total HxCDD	0.000011	J,DX q MB	0.000048	0.0000006	ug/L	1		1613B	Total/NA
				9					
Total HxCDF	0.000013	J,DX q MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				7					
Total HpCDD	0.000084	MB	0.000048	0.0000013	ug/L	1		1613B	Total/NA
Total HpCDF	0.000026	J,DX MB	0.000048	0.0000006	ug/L	1		1613B	Total/NA
				3					

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230226\_Comp**

**Date Collected: 02/26/23 07:20**

**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129083-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.0000013	ug/L		03/09/23 04:30	03/20/23 20:49	1
2,3,7,8-TCDF	ND		0.0000095	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
1,2,3,7,8-PeCDD	ND		0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
1,2,3,7,8-PeCDF	ND		0.000048	0.0000005	ug/L		03/09/23 04:30	03/20/23 20:49	1
2,3,4,7,8-PeCDF	ND		0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.0000024</b>	<b>J,DX q MB</b>	0.000048	0.0000007	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.0000013</b>	<b>J,DX q MB</b>	0.000048	0.0000007	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.00000097</b>	<b>J,DX q</b>	0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.0000018</b>	<b>J,DX q</b>	0.000048	0.0000003	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.00000084</b>	<b>J,DX q</b>	0.000048	0.0000003	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.0000011</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.00000082</b>	<b>J,DX q</b>	0.000048	0.0000003	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.000043</b>	<b>J,DX MB</b>	0.000048	0.0000013	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.000013</b>	<b>J,DX MB</b>	0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>OCDD</b>	<b>0.00083</b>	<b>MB</b>	0.000095	0.0000031	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>OCDF</b>	<b>0.000021</b>	<b>J,DX q MB</b>	0.000095	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
Total TCDD	ND		0.0000095	0.0000013	ug/L		03/09/23 04:30	03/20/23 20:49	1
Total TCDF	ND		0.0000095	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
Total PeCDD	ND		0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>Total PeCDF</b>	<b>0.00000076</b>	<b>J,DX q</b>	0.000048	0.0000005	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>Total HxCDD</b>	<b>0.000011</b>	<b>J,DX q MB</b>	0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>Total HxCDF</b>	<b>0.000013</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>Total HpCDD</b>	<b>0.000084</b>	<b>MB</b>	0.000048	0.0000013	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>Total HpCDF</b>	<b>0.000026</b>	<b>J,DX MB</b>	0.000048	0.0000006	ug/L		03/09/23 04:30	03/20/23 20:49	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	73		25 - 164				03/09/23 04:30	03/20/23 20:49	1
13C-2,3,7,8-TCDF	69		24 - 169				03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,7,8-PeCDD	88		25 - 181				03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,7,8-PeCDF	76		24 - 185				03/09/23 04:30	03/20/23 20:49	1
13C-2,3,4,7,8-PeCDF	76		21 - 178				03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,4,7,8-HxCDD	75		32 - 141				03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130				03/09/23 04:30	03/20/23 20:49	1

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230226\_Comp**

**Date Collected: 02/26/23 07:20**

**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129083-1**

**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,4,7,8-HxCDF	65		26 - 152	03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,6,7,8-HxCDF	70		26 - 123	03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,7,8,9-HxCDF	78		29 - 147	03/09/23 04:30	03/20/23 20:49	1
13C-2,3,4,6,7,8-HxCDF	76		28 - 136	03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,4,6,7,8-HpCDD	90		23 - 140	03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,4,6,7,8-HpCDF	76		28 - 143	03/09/23 04:30	03/20/23 20:49	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	03/09/23 04:30	03/20/23 20:49	1
13C-OCDD	91		17 - 157	03/09/23 04:30	03/20/23 20:49	1
13C-OCDF	87		17 - 157	03/09/23 04:30	03/20/23 20:49	1
<b>Surrogate</b>						
37Cl4-2,3,7,8-TCDD	85		35 - 197	03/09/23 04:30	03/20/23 20:49	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-129083-1	Outfall001_20230226_Comp	85
MB 320-659338/1-A	Method Blank	84

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-659338/2-A	Lab Control Sample	85
LCSD 320-659338/3-A	Lab Control Sample Dup	86

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-129083-1	Outfall001_20230226_Comp	73	69	88	76	76	75	73	65
MB 320-659338/1-A	Method Blank	71	62	90	77	78	70	72	59

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-129083-1	Outfall001_20230226_Comp	70	78	76	90	76	86	91	87
MB 320-659338/1-A	Method Blank	65	71	69	88	71	81	89	80

#### Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD  
 TCDF = 13C-2,3,7,8-TCDF  
 PeCDD = 13C-1,2,3,7,8-PeCDD  
 PeCDF = 13C-1,2,3,7,8-PeCDF  
 PeCF = 13C-2,3,4,7,8-PeCDF  
 HxCDD = 13C-1,2,3,4,7,8-HxCDD  
 HxDD = 13C-1,2,3,6,7,8-HxCDD  
 HxCDF = 13C-1,2,3,4,7,8-HxCDF  
 HxDF = 13C-1,2,3,6,7,8-HxCDF  
 HxCF = 13C-1,2,3,7,8,9-HxCDF  
 13CHxCF = 13C-2,3,4,6,7,8-HxCDF  
 HpCDD = 13C-1,2,3,4,6,7,8-HpCDD  
 HpCDF = 13C-1,2,3,4,6,7,8-HpCDF  
 HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF  
 OCDD = 13C-OCDD  
 OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-659338/2-A	Lab Control Sample	65	58	83	71	70	63	62	51
LCSD 320-659338/3-A	Lab Control Sample Dup	77	70	96	82	84	72	68	57

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-659338/2-A	Lab Control Sample	56	65	61	78	63	72	78	71
LCSD 320-659338/3-A	Lab Control Sample Dup	64	75	71	91	71	84	93	84

#### Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD  
 TCDF = 13C-2,3,7,8-TCDF  
 PeCDD = 13C-1,2,3,7,8-PeCDD  
 PeCDF = 13C-1,2,3,7,8-PeCDF  
 PeCF = 13C-2,3,4,7,8-PeCDF  
 HxCDD = 13C-1,2,3,4,7,8-HxCDD  
 HxDD = 13C-1,2,3,6,7,8-HxCDD  
 HxCDF = 13C-1,2,3,4,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129083-2

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-659338/1-A**  
**Matrix: Water**  
**Analysis Batch: 662109**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 659338**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000009	ug/L		03/09/23 04:30	03/20/23 13:41	1
				7					
2,3,7,8-TCDF	ND		0.000010	0.0000005	ug/L		03/09/23 04:30	03/20/23 13:41	1
				5					
1,2,3,7,8-PeCDD	ND		0.000050	0.0000004	ug/L		03/09/23 04:30	03/20/23 13:41	1
				5					
1,2,3,7,8-PeCDF	ND		0.000050	0.0000003	ug/L		03/09/23 04:30	03/20/23 13:41	1
				7					
2,3,4,7,8-PeCDF	ND		0.000050	0.0000004	ug/L		03/09/23 04:30	03/20/23 13:41	1
				2					
1,2,3,4,7,8-HxCDD	0.00000174	J,DX	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				8					
1,2,3,6,7,8-HxCDD	0.000000455	J,DX q	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				9					
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				5					
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				8					
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				6					
1,2,3,7,8,9-HxCDF	0.000000967	J,DX	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				6					
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				4					
1,2,3,4,6,7,8-HpCDD	0.00000104	J,DX q	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				4					
1,2,3,4,6,7,8-HpCDF	0.00000126	J,DX	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				9					
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000003	ug/L		03/09/23 04:30	03/20/23 13:41	1
				2					
OCDD	0.0000112	J,DX	0.00010	0.0000003	ug/L		03/09/23 04:30	03/20/23 13:41	1
				1					
OCDF	0.00000213	J,DX q	0.00010	0.0000003	ug/L		03/09/23 04:30	03/20/23 13:41	1
				9					
Total TCDD	ND		0.000010	0.0000009	ug/L		03/09/23 04:30	03/20/23 13:41	1
				7					
Total TCDF	ND		0.000010	0.0000005	ug/L		03/09/23 04:30	03/20/23 13:41	1
				5					
Total PeCDD	ND		0.000050	0.0000004	ug/L		03/09/23 04:30	03/20/23 13:41	1
				5					
Total PeCDF	ND		0.000050	0.0000004	ug/L		03/09/23 04:30	03/20/23 13:41	1
				2					
Total HxCDD	0.00000263	J,DX q	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				8					
Total HxCDF	0.000000967	J,DX	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				6					
Total HpCDD	0.00000272	J,DX q	0.000050	0.0000002	ug/L		03/09/23 04:30	03/20/23 13:41	1
				4					
Total HpCDF	0.00000126	J,DX	0.000050	0.0000003	ug/L		03/09/23 04:30	03/20/23 13:41	1
				1					
	<b>MB</b>	<b>MB</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	71		25 - 164				03/09/23 04:30	03/20/23 13:41	1
13C-2,3,7,8-TCDF	62		24 - 169				03/09/23 04:30	03/20/23 13:41	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-659338/1-A**  
**Matrix: Water**  
**Analysis Batch: 662109**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 659338**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDD	90		25 - 181	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,7,8-PeCDF	77		24 - 185	03/09/23 04:30	03/20/23 13:41	1
13C-2,3,4,7,8-PeCDF	78		21 - 178	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,4,7,8-HxCDD	70		32 - 141	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,6,7,8-HxCDD	72		28 - 130	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,4,7,8-HxCDF	59		26 - 152	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,6,7,8-HxCDF	65		26 - 123	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,7,8,9-HxCDF	71		29 - 147	03/09/23 04:30	03/20/23 13:41	1
13C-2,3,4,6,7,8-HxCDF	69		28 - 136	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,4,6,7,8-HpCDD	88		23 - 140	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,4,6,7,8-HpCDF	71		28 - 143	03/09/23 04:30	03/20/23 13:41	1
13C-1,2,3,4,7,8,9-HpCDF	81		26 - 138	03/09/23 04:30	03/20/23 13:41	1
13C-OCDD	89		17 - 157	03/09/23 04:30	03/20/23 13:41	1
13C-OCDF	80		17 - 157	03/09/23 04:30	03/20/23 13:41	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	84		35 - 197	03/09/23 04:30	03/20/23 13:41	1

**Lab Sample ID: LCS 320-659338/2-A**  
**Matrix: Water**  
**Analysis Batch: 662109**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 659338**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDF	0.000200	0.000212		ug/L		106	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000901		ug/L		90	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000947		ug/L		95	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000953		ug/L		95	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000912		ug/L		91	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000959		ug/L		96	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000963		ug/L		96	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000953		ug/L		95	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000956		ug/L		96	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000924		ug/L		92	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000948		ug/L		95	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000934		ug/L		93	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000984		ug/L		98	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000935		ug/L		94	78 - 138
OCDD	0.00200	0.00191		ug/L		96	78 - 144
OCDF	0.00200	0.00195		ug/L		97	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	65		20 - 175
13C-2,3,7,8-TCDF	58		22 - 152
13C-1,2,3,7,8-PeCDD	83		21 - 227
13C-1,2,3,7,8-PeCDF	71		21 - 192
13C-2,3,4,7,8-PeCDF	70		13 - 328

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-659338/2-A**  
**Matrix: Water**  
**Analysis Batch: 662109**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 659338**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C-1,2,3,4,7,8-HxCDD	63		21 - 193
13C-1,2,3,6,7,8-HxCDD	62		25 - 163
13C-1,2,3,4,7,8-HxCDF	51		19 - 202
13C-1,2,3,6,7,8-HxCDF	56		21 - 159
13C-1,2,3,7,8,9-HxCDF	65		17 - 205
13C-2,3,4,6,7,8-HxCDF	61		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	78		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	63		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	72		20 - 186
13C-OCDD	78		13 - 199
13C-OCDF	71		13 - 199

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
37Cl4-2,3,7,8-TCDD	85		31 - 191

**Lab Sample ID: LCSD 320-659338/3-A**  
**Matrix: Water**  
**Analysis Batch: 662109**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 659338**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
2,3,7,8-TCDD	0.000200	0.000197		ug/L		98	67 - 158	6	50
2,3,7,8-TCDF	0.000200	0.000218		ug/L		109	75 - 158	3	50
1,2,3,7,8-PeCDD	0.00100	0.000927		ug/L		93	70 - 142	3	50
1,2,3,7,8-PeCDF	0.00100	0.000974		ug/L		97	80 - 134	3	50
2,3,4,7,8-PeCDF	0.00100	0.000961		ug/L		96	68 - 160	1	50
1,2,3,4,7,8-HxCDD	0.00100	0.000919		ug/L		92	70 - 164	1	50
1,2,3,6,7,8-HxCDD	0.00100	0.00100		ug/L		100	76 - 134	4	50
1,2,3,7,8,9-HxCDD	0.00100	0.00101		ug/L		101	64 - 162	4	50
1,2,3,4,7,8-HxCDF	0.00100	0.000989		ug/L		99	72 - 134	4	50
1,2,3,6,7,8-HxCDF	0.00100	0.000954		ug/L		95	84 - 130	0	50
1,2,3,7,8,9-HxCDF	0.00100	0.000953		ug/L		95	78 - 130	3	50
2,3,4,6,7,8-HxCDF	0.00100	0.000958		ug/L		96	70 - 156	1	50
1,2,3,4,6,7,8-HpCDD	0.00100	0.000942		ug/L		94	70 - 140	1	50
1,2,3,4,6,7,8-HpCDF	0.00100	0.000988		ug/L		99	82 - 122	0	50
1,2,3,4,7,8,9-HpCDF	0.00100	0.000957		ug/L		96	78 - 138	2	50
OCDD	0.00200	0.00195		ug/L		97	78 - 144	2	50
OCDF	0.00200	0.00199		ug/L		99	63 - 170	2	50

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C-2,3,7,8-TCDD	77		20 - 175
13C-2,3,7,8-TCDF	70		22 - 152
13C-1,2,3,7,8-PeCDD	96		21 - 227
13C-1,2,3,7,8-PeCDF	82		21 - 192
13C-2,3,4,7,8-PeCDF	84		13 - 328
13C-1,2,3,4,7,8-HxCDD	72		21 - 193
13C-1,2,3,6,7,8-HxCDD	68		25 - 163
13C-1,2,3,4,7,8-HxCDF	57		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-659338/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 662109

Prep Batch: 659338

<u>Isotope Dilution</u>	<u>LCSD LCSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	75		17 - 205
13C-2,3,4,6,7,8-HxCDF	71		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	91		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	71		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	84		20 - 186
13C-OCDD	93		13 - 199
13C-OCDF	84		13 - 199

<u>Surrogate</u>	<u>LCSD LCSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
37Cl4-2,3,7,8-TCDD	86		31 - 191



# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-2

## Specialty Organics

### Prep Batch: 659338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	1613B	
MB 320-659338/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-659338/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-659338/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 662109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	1613B	659338
MB 320-659338/1-A	Method Blank	Total/NA	Water	1613B	659338
LCS 320-659338/2-A	Lab Control Sample	Total/NA	Water	1613B	659338
LCSD 320-659338/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	659338

# Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 570-129083-2

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

**Date Collected: 02/26/23 07:20**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1052.2 mL	20.0 uL	659338	03/09/23 04:30	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	662109	03/20/23 20:49	DB	EET SAC

Instrument ID: 12D5

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-23 *
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

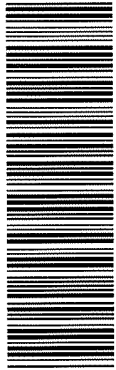
Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129083-1	Outfall001_20230226_Comp	Water	02/26/23 07:20	02/27/23 18:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16



570-129083 Chain of Custody

Eurofins Calscience Irvine

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall (001, 002, 011, 018) Outfall 001 Comp		ANALYSIS REQUIRED Total Recoverable Metals (E200, B) Fe Total Recoverable Metals Mercury (E245, 1) 2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625) alpha-BHC (E608) Ammonia-N (350, 2) TSS (160, 2 (SM2540D)) Turbidity TDS (SM2540C/E180, 1) Ferri-chlorate (E300) Cl- SO <sub>4</sub> Nitrate-N Nitrite-N NO <sub>3</sub> +NO <sub>2</sub> -N Surfactants (MBS) (SM540C/E425, 1) BOD <sub>5</sub> (20 degrees C) (E405, 1(SM5210B, BODCalc)) TCDD (and all congeners) (E1613B) Total Recoverable Metals (E200, B) Cu, Pb, Cd, Se													
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel. 714-895-5494 ECI Project #57013187 TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22; TestAmerica by and between Haley & Aldrich, Inc. its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Project Manager: Katherine Miller 520.289.8606; 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033; 818.599.0702 (cell)		# of Cont. Preservative Bottles # MS/MSD 1 HNO <sub>3</sub> 90 Yes 2 None 110 No 1 None 115 No 2 None 120 No 2 None 130 No 1 None 150 No 1 H <sub>2</sub> SO <sub>4</sub> 180 No 2 None 170 No 2 None 180 No 1 None 185 No 2 None 110 No 2 None 120 No 2 None 130 No 2 None 170 No 2 None 180 No													
Sample Description Outfall001_20230226_Comp Outfall001_20230226_Comp.Extra		Sample Matrix WM WM WM WM WM WM WM WM WM WM WM WM WM WM WM		Container Type 500 mL Poly 1 L Glass Amber 1L Poly 500 mL Poly 500 mL Poly 500 mL Poly 500 mL Poly 1 L Glass Amber 1 L Glass Amber 1L Poly 1 L Glass Amber 500 mL Poly 500 mL Poly 1 L Glass Amber 1 L Glass Amber		Sampling Date/Time 2/26/2023 /0720 2/26/2023 /0720		Date/Time 2/27/23 1120 EC 2/27/23 1800 EC		Received By [Signature] [Signature]		Date/Time 2/27/23 1120 EC 2/27/23 1800 EC		Turn-around time (Check) 24 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 10 Day <input checked="" type="checkbox"/> X 48 Hour <input type="checkbox"/> 5 Day <input type="checkbox"/> Normal: <input type="checkbox"/>		Sample Integrity (Check) Intact: <input type="checkbox"/> On Ice: <input type="checkbox"/> Store samples for 6 months. Data Requirements (Check) No Level IV: <input type="checkbox"/> All Level IV: <input checked="" type="checkbox"/> X	



129083

CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address:		Project:		ANALYSIS REQUIRED		Comments		
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Project Manager: Vitendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel. 714-895-5494 ECI Project #57013187		Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		Total Dissolved Metals (E200.8) Cu, Pb, Cd, Se Cyanide (SM4500-CN-E / E335.2) Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)		Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.  Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.  Unfiltered and unpreserved analysis. Separate RAD onto another vial/order. Analyze duplicate, not MS/MSD.		
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Dissolved Metals (E200.8) Zn Cyanide (SM4500-CN-E / E335.2)		X  X		
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD
Outfall001_20230226_Comp_F		2/26/2023 10:20	WM	1L Poly	1	None	200	Yes
Outfall001_20230226_Comp		2/26/2023 10:20	WM	borsilicate vials	1	None	320	No
			WM	500 mL Poly	1	NaOH	220	No
			WM	2.5 Grl Cabs	1	None	225	No
			WM	1 L Glass Amber	1	None	230	No

Relinquished By	Date/Time	Received By	Date/Time	Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual
<i>[Signature]</i>	2/27/2023 11:20	<i>[Signature]</i>	2/27/23 12:00	Turn-around time: (Check) 24 Hour _____ 72 Hour _____ 10 Day _____ X 48 Hour _____ 5 Day _____ Normal: _____
<i>[Signature]</i>	2/27/23 1:00	<i>[Signature]</i>	2/27/23 1:00	Sample Integrity (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: _____ X



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PIM:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Phone:	Patel, Virendra	State of Origin: California	570-208734.1
Company: Eurofins Environment Testing Northern Ca		E-Mail: Virendra.Patel@et.eurofins.com		Page: Page 1 of 1	Job #: 570-129083-2
Address: 880 Riverside Parkway,		Due Date Requested: 3/15/2023	Accreditations Required (See note): State Program - California		
City: West Sacramento	TAT Requested (days):	<b>Analysis Requested</b>			
State, Zip: CA, 95605	PO #:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1615B/1613B_Sox_Sep_P Standard List w/	Totals
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X
Email:	Project #: 57013187	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=oil, A=air)
Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp	SSOW#:	2/26/23	07:20 Pacific	Water	Water
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date	Sample Time	Sample Type	Matrix
Outfall001_20230226_Comp (570-129083-1)		2/26/23	07:20 Pacific	Water	Water
<b>Special Instructions/Note:</b>		See OAS, Boeing w/lu to zero, ug/L, Use Boeing glassware.			
Total Number of containers		2			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>					
<b>Possible Hazard Identification</b>					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)					
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements:					
Empty Kit Relinquished by:		Time:			
Relinquished by:		Date:			
Relinquished by:		Date:			
Relinquished by:		Date:			
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:			
Cooler Temperature(s) °C and Other Remarks:		1.7c			





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129083-2

**Login Number: 129083**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129083-2

**Login Number: 129083**

**List Number: 2**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 03/01/23 01:40 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/4/2023 11:03:30 AM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall 001 - Comp

**JOB NUMBER**

570-129083-3

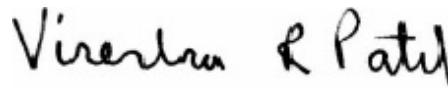
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
4/4/2023 11:03:30 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	22
Lab Chronicle . . . . .	23
Certification Summary . . . . .	24
Method Summary . . . . .	25
Sample Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	31



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129083-3

## Job ID: 570-129083-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-129083-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 2/27/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 1.9° C.

#### RAD

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 604346

The LCS recovered at (128%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (72-149%) per method requirements. The LCS passes, no further action is required

(LCS 160-604346/2-A)

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 604346

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230226\_Comp (570-129083-1), (LCS 160-604346/2-A), (LCSB 160-604346/3-A), (MB 160-604346/1-A), (670-16310-C-2-A), (670-16310-C-2-D DU), (670-16310-C-2-B MS) and (670-16310-C-2-C MSBT)

Method 901.1: Gamma Prep Batch 160-604032

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129083-3

## Job ID: 570-129083-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

\*\*The method blank (MB) Z-score is within limits and is located in the level IV raw data.

Outfall001\_20230226\_Comp (570-129083-1), (570-128840-R-1-D) and (570-128840-R-1-E DU)

Method 903.0: Radium-226 batch 602356

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230226\_Comp (570-129083-1), (LCS 160-602356/2-A), (LCSD 160-602356/3-A) and (MB 160-602356/1-A)

Method 904.0: Radium-228 batch 602360

The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: Outfall001\_20230226\_Comp (570-129083-1). Analytical results are reported with the detection limit achieved.

Method 904.0: Radium-228 batch 602360

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230226\_Comp (570-129083-1), (LCS 160-602360/2-A), (LCSD 160-602360/3-A) and (MB 160-602360/1-A)

Method 905: Strontium-90 prep batch 160-603495:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230226\_Comp (570-129083-1), (LCS 160-603033/2-A), (LCSD 160-603033/3-A) and (MB 160-603033/1-A)

Method 905: Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Method 906.0: Tritium 605070

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230226\_Comp (570-129083-1), (LCS 160-605070/2-A), (MB 160-605070/1-A), (160-49329-A-1-A), (160-49329-A-1-B DU), (160-49329-A-2-A) and (160-49329-A-2-B MS)

Method A-01-R: Isotopic Uranium batch 604368

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230226\_Comp (570-129083-1), (LCS 160-604368/2-A), (MB 160-604368/1-A), (570-129285-J-1-D) and (570-129285-J-1-E DU)

Method Evaporation:

Method ExtChrom: Uranium Prep Batch 160-604368:

The following sample was prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001\_20230226\_Comp (570-129083-1).



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129083-3

---

## Job ID: 570-129083-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Method PrecSep\_0: Radium-228 Prep Batch 160-602360

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230226\_Comp (570-129083-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-602356

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230226\_Comp (570-129083-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium 90 Prep Batch 160-603033

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230226\_Comp (570-129083-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-3

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230226\_Comp

Date Collected: 02/26/23 07:20

Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2 $\sigma$ +/-)	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	3.14		1.20	1.25	3.00	1.34	pCi/L	03/20/23 10:44	03/28/23 08:18	1
Gross Beta	3.06		0.767	0.826	4.00	0.859	pCi/L	03/20/23 10:44	03/28/23 08:18	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230226\_Comp

Lab Sample ID: 570-129083-1

Date Collected: 02/26/23 07:20

Matrix: Water

Date Received: 02/27/23 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-0.681	U	10.5	10.5	20.0	12.9	pCi/L	03/17/23 14:08	03/22/23 22:17	1
Potassium-40	-28.6	U	172	172		183	pCi/L	03/17/23 14:08	03/22/23 22:17	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: EPA 903.0 - Radium-226 (GFPC)

Client Sample ID: Outfall001\_20230226\_Comp

Lab Sample ID: 570-129083-1

Date Collected: 02/26/23 07:20

Matrix: Water

Date Received: 02/27/23 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.448		0.281	0.284	1.00	0.371	pCi/L	03/06/23 09:11	03/29/23 21:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	41.0		30 - 110					03/06/23 09:11	03/29/23 21:59	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230226\_Comp**  
**Date Collected: 02/26/23 07:20**  
**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129083-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.104	U G	1.19	1.19	1.00	2.27	pCi/L	03/06/23 09:48	03/16/23 12:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	41.0		30 - 110					03/06/23 09:48	03/16/23 12:17	1
Y Carrier	87.5		30 - 110					03/06/23 09:48	03/16/23 12:17	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230226\_Comp**  
**Date Collected: 02/26/23 07:20**  
**Date Received: 02/27/23 18:00**

**Lab Sample ID: 570-129083-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.201	U	0.443	0.443	3.00	0.838	pCi/L	03/09/23 13:03	03/17/23 18:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	79.2		30 - 110					03/09/23 13:03	03/17/23 18:33	1
Y Carrier	72.9		30 - 110					03/09/23 13:03	03/17/23 18:33	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230226\_Comp  
 Date Collected: 02/26/23 07:20  
 Date Received: 02/27/23 18:00

Lab Sample ID: 570-129083-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-23.4	U	165	165	500	305	pCi/L	03/27/23 11:11	03/27/23 23:17	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

**Date Collected: 02/26/23 07:20**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Total Uranium</b>	<b>0.503</b>		0.382	0.383	1.00	0.383	pCi/L	03/20/23 12:19	03/27/23 14:38	1
Tracer	%Yield	Qualifier	Limits							
Uranium-232	81.0		30 - 110	Prepared	Analyzed	Dil Fac				
				03/20/23 12:19	03/27/23 14:38	1				

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)
570-129083-1	Outfall001_20230226_Comp	41.0
LCS 160-602356/2-A	Lab Control Sample	87.6
LCSD 160-602356/3-A	Lab Control Sample Dup	83.3
MB 160-602356/1-A	Method Blank	87.6

**Tracer/Carrier Legend**

Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)
570-129083-1	Outfall001_20230226_Comp	41.0	87.5
LCS 160-602360/2-A	Lab Control Sample	87.6	87.1
LCSD 160-602360/3-A	Lab Control Sample Dup	83.3	87.1
MB 160-602360/1-A	Method Blank	87.6	87.9

**Tracer/Carrier Legend**

Ba = Ba Carrier

Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)
570-129083-1	Outfall001_20230226_Comp	79.2	72.9
LCS 160-603033/2-A	Lab Control Sample	79.1	82.2
LCSD 160-603033/3-A	Lab Control Sample Dup	80.1	82.2
MB 160-603033/1-A	Method Blank	87.1	81.1

**Tracer/Carrier Legend**

Sr = Sr Carrier

Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)
570-129083-1	Outfall001_20230226_Comp	81.0
LCS 160-604368/2-A	Lab Control Sample	93.0
MB 160-604368/1-A	Method Blank	90.9

**Tracer/Carrier Legend**

U-232 = Uranium-232

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-604346/1-A**  
**Matrix: Water**  
**Analysis Batch: 604975**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604346**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Gross Alpha	0.1540	U	0.611	0.611	3.00	1.12	pCi/L	03/20/23 10:44	03/24/23 07:23		1	
Gross Beta	0.1337	U	0.489	0.489	4.00	0.852	pCi/L	03/20/23 10:44	03/24/23 07:23		1	

**Lab Sample ID: LCS 160-604346/2-A**  
**Matrix: Water**  
**Analysis Batch: 604975**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604346**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	64.53		9.27	3.00	2.86	pCi/L	128	75 - 125

**Lab Sample ID: LCSB 160-604346/3-A**  
**Matrix: Water**  
**Analysis Batch: 604974**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604346**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.5	70.28		7.55	4.00	0.889	pCi/L	96	75 - 125

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-604032/1-A**  
**Matrix: Water**  
**Analysis Batch: 604760**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604032**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Cesium-137	-0.4655	U	10.3	10.3	20.0	12.1	pCi/L	03/17/23 14:08	03/22/23 19:49		1	
Potassium-40	12.53	U	78.9	78.9		135	pCi/L	03/17/23 14:08	03/22/23 19:49		1	

**Lab Sample ID: LCS 160-604032/2-A**  
**Matrix: Water**  
**Analysis Batch: 604760**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604032**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Americium-241	135000	143200		17000		415	pCi/L	106	75 - 125
Cesium-137	40900	41780		4980	20.0	92.9	pCi/L	102	75 - 125
Cobalt-60	17800	18360		2190		50.3	pCi/L	103	75 - 125

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-602356/1-A**  
**Matrix: Water**  
**Analysis Batch: 605412**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 602356**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03827	U	0.0641	0.0642	1.00	0.111	pCi/L	03/06/23 09:11	03/29/23 20:10	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier						Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					03/06/23 09:11	03/29/23 20:10	1

**Lab Sample ID: LCS 160-602356/2-A**  
**Matrix: Water**  
**Analysis Batch: 605412**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 602356**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.79		1.20	1.00	0.118	pCi/L	104	75 - 125
Carrier	LCS LCS		Limits						
Ba Carrier	%Yield	Qualifier							
Ba Carrier	87.6		30 - 110						

**Lab Sample ID: LCSD 160-602356/3-A**  
**Matrix: Water**  
**Analysis Batch: 605412**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 602356**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-226	11.3	11.01		1.14	1.00	0.107	pCi/L	97	75 - 125	0.33	1
Carrier	LCSD LCSD		Limits								
Ba Carrier	%Yield	Qualifier									
Ba Carrier	83.3		30 - 110								

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-602360/1-A**  
**Matrix: Water**  
**Analysis Batch: 603871**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 602360**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2985	U	0.293	0.294	1.00	0.468	pCi/L	03/06/23 09:48	03/16/23 12:10	1
Carrier	MB MB		Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	%Yield	Qualifier						Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		30 - 110					03/06/23 09:48	03/16/23 12:10	1
Y Carrier	87.9		30 - 110					03/06/23 09:48	03/16/23 12:10	1

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: 904.0 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-602360/2-A**  
**Matrix: Water**  
**Analysis Batch: 603871**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 602360**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits												
Radium-228	8.11	8.303		1.17	1.00	0.455	pCi/L	102	75 - 125												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCS %Yield</th> <th>LCS Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba Carrier</td> <td>87.6</td> <td></td> <td>30 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>87.1</td> <td></td> <td>30 - 110</td> </tr> </tbody> </table>										Carrier	LCS %Yield	LCS Qualifier	Limits	Ba Carrier	87.6		30 - 110	Y Carrier	87.1		30 - 110
Carrier	LCS %Yield	LCS Qualifier	Limits																		
Ba Carrier	87.6		30 - 110																		
Y Carrier	87.1		30 - 110																		

**Lab Sample ID: LCSD 160-602360/3-A**  
**Matrix: Water**  
**Analysis Batch: 603871**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 602360**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit												
Radium-228	8.11	9.182		1.28	1.00	0.521	pCi/L	113	75 - 125	0.36	1												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCSD %Yield</th> <th>LCSD Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Ba Carrier</td> <td>83.3</td> <td></td> <td>30 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>87.1</td> <td></td> <td>30 - 110</td> </tr> </tbody> </table>												Carrier	LCSD %Yield	LCSD Qualifier	Limits	Ba Carrier	83.3		30 - 110	Y Carrier	87.1		30 - 110
Carrier	LCSD %Yield	LCSD Qualifier	Limits																				
Ba Carrier	83.3		30 - 110																				
Y Carrier	87.1		30 - 110																				

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-603033/1-A**  
**Matrix: Water**  
**Analysis Batch: 604031**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 603033**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac																					
Strontium-90	-0.1395	U	0.149	0.149	3.00	0.303	pCi/L	03/09/23 13:03	03/17/23 18:29	1																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>MB %Yield</th> <th>MB Qualifier</th> <th>Limits</th> <th>Prepared</th> <th>Analyzed</th> <th>Dil Fac</th> </tr> </thead> <tbody> <tr> <td>Sr Carrier</td> <td>87.1</td> <td></td> <td>30 - 110</td> <td>03/09/23 13:03</td> <td>03/17/23 18:29</td> <td>1</td> </tr> <tr> <td>Y Carrier</td> <td>81.1</td> <td></td> <td>30 - 110</td> <td>03/09/23 13:03</td> <td>03/17/23 18:29</td> <td>1</td> </tr> </tbody> </table>											Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac	Sr Carrier	87.1		30 - 110	03/09/23 13:03	03/17/23 18:29	1	Y Carrier	81.1		30 - 110	03/09/23 13:03	03/17/23 18:29	1
Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac																									
Sr Carrier	87.1		30 - 110	03/09/23 13:03	03/17/23 18:29	1																									
Y Carrier	81.1		30 - 110	03/09/23 13:03	03/17/23 18:29	1																									

**Lab Sample ID: LCS 160-603033/2-A**  
**Matrix: Water**  
**Analysis Batch: 604031**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 603033**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits												
Strontium-90	7.35	6.881		0.800	3.00	0.299	pCi/L	94	75 - 125												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Carrier</th> <th>LCS %Yield</th> <th>LCS Qualifier</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td>Sr Carrier</td> <td>79.1</td> <td></td> <td>30 - 110</td> </tr> <tr> <td>Y Carrier</td> <td>82.2</td> <td></td> <td>30 - 110</td> </tr> </tbody> </table>										Carrier	LCS %Yield	LCS Qualifier	Limits	Sr Carrier	79.1		30 - 110	Y Carrier	82.2		30 - 110
Carrier	LCS %Yield	LCS Qualifier	Limits																		
Sr Carrier	79.1		30 - 110																		
Y Carrier	82.2		30 - 110																		

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-603033/3-A  
 Matrix: Water  
 Analysis Batch: 604031

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 603033

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec		RER	Limit
									Limits	RER		
Strontium-90	7.35	7.495		0.858	3.00	0.360	pCi/L	102	75 - 125	0.37		1
<b>Carrier</b>	<b>LCSD %Yield</b>	<b>LCSD Qualifier</b>	<b>Limits</b>									
Sr Carrier	80.1		30 - 110									
Y Carrier	82.2		30 - 110									

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-605070/1-A  
 Matrix: Water  
 Analysis Batch: 605427

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605070

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac

Lab Sample ID: LCS 160-605070/2-A  
 Matrix: Water  
 Analysis Batch: 605427

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605070

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec	
									Limits	RER
Tritium	2100	1848		360	500	314	pCi/L	88	75 - 125	

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-604368/1-A  
 Matrix: Water  
 Analysis Batch: 605170

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 604368

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Tracer</b>	<b>MB %Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>							
Uranium-232	90.9		30 - 110							

Lab Sample ID: LCS 160-604368/2-A  
 Matrix: Water  
 Analysis Batch: 605172

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 604368

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec	
									Limits	RER
Uranium-234	12.7	11.77		1.40	1.00	0.159	pCi/L	92	75 - 125	
Uranium-238	13.0	13.98		1.59	1.00	0.126	pCi/L	107	75 - 125	

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-3

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

Lab Sample ID: LCS 160-604368/2-A  
Matrix: Water  
Analysis Batch: 605172

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 604368

<i>Tracer</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</i>	
Uranium-232	93.0		30 - 110

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Rad

### Prep Batch: 602356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	PrecSep-21	
MB 160-602356/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-602356/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCS D 160-602356/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 602360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	PrecSep_0	
MB 160-602360/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-602360/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCS D 160-602360/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 603033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	PrecSep-7	
MB 160-603033/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-603033/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCS D 160-603033/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

### Prep Batch: 604032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-604032/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-604032/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 604346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	Evaporation	
MB 160-604346/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-604346/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCS B 160-604346/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

### Prep Batch: 604368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	ExtChrom	
MB 160-604368/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-604368/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

### Prep Batch: 605070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129083-1	Outfall001_20230226_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-605070/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-605070/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

**Client Sample ID: Outfall001\_20230226\_Comp**

**Lab Sample ID: 570-129083-1**

**Date Collected: 02/26/23 07:20**

**Matrix: Water**

**Date Received: 02/27/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200 mL	1.0 g	604346	03/20/23 10:44	MST	EET SL
Total/NA	Analysis	900.0		1			605256	03/28/23 08:18	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	604032	03/17/23 14:08	SEH	EET SL
Total/NA	Analysis	901.1		1			604753	03/22/23 22:17	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			493.66 mL	1.0 g	602356	03/06/23 09:11	DJP	EET SL
Total/NA	Analysis	903.0		1			605412	03/29/23 21:59	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			493.66 mL	1.0 g	602360	03/06/23 09:48	DJP	EET SL
Total/NA	Analysis	904.0		1			603873	03/16/23 12:17	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep-7			496.30 mL	1.0 g	603033	03/09/23 13:03	DJP	EET SL
Total/NA	Analysis	905		1			604030	03/17/23 18:33	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	LSC_Dist_Susp			95.44 mL	1.0 g	605070	03/27/23 11:11	SEH	EET SL
Total/NA	Analysis	906.0		1			605427	03/27/23 23:17	REV	EET SL
Instrument ID: LSC3180										
Total/NA	Prep	ExtChrom			201.09 mL	1.0 mL	604368	03/20/23 12:19	MAL	EET SL
Total/NA	Analysis	A-01-R		1			605178	03/27/23 14:38	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129083-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-29-23
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129083-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129083-1	Outfall001_20230226_Comp	Water	02/26/23 07:20	02/27/23 18:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

129083

Page 1 of 2

Eurofins Calscience Irvine



570-129083 Chain of Custody

### CHAIN OF CUSTODY FORM

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall 001, 002, 011, 018 Outfall 001 Comp		<b>ANALYSIS REQUIRED</b>												Comments												
<b>Eurofins Calscience Project Manager:</b> Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel. 714-895-5494 <b>ECI Project #57013187</b>		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6844 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.598.0702 (cell)		Total Recoverable Metals (E200, B) Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405, 1(SM5210B, BODCalc))	Surfactants (MABs) (SM540C/E425, 1)	Cl- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E180, 1)	TSS (160, 2 (SM2540D))	Ammonia-N (350, 2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals Mercury (E245, 1)	Total Recoverable Metals (E200, B) Fe	Outfall 001 analyze for Fe.												
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottles #	MS/MSD	Total Recoverable Metals (E200, B) Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405, 1(SM5210B, BODCalc))	Surfactants (MABs) (SM540C/E425, 1)	Cl- SO4, Nitrate-N, Nitrite-N, NO3+NO2-N Perchlorate (E300)	Turbidity TDS (SM2540C/E180, 1)	TSS (160, 2 (SM2540D))	Ammonia-N (350, 2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals Mercury (E245, 1)	Total Recoverable Metals (E200, B) Fe	Comments							
Outfall 001	Outfall001_20230226_Comp	2/26/2023 10720	WM	500 mL Poly	1	HNO3	90	Yes	X																			
				1 L Glass Amber	2	None	110	No	X																			
				1L Poly	1	None	115	No																				
				500 mL Poly	2	None	120	No	X																			
				500 mL Poly	2	None	130	No	X																			
				500 mL Poly	1	None	150	No									X											
				500 mL Poly	1	H2SO4	180	No											X									
Outfall001_20230226_Comp Extra	Outfall001_20230226_Comp Extra	2/26/2023 10720	WM	1 L Glass Amber	2	None	170	No																				
				1 L Glass Amber	2	None	180	No							X													
				1L Poly	1	None	185	No																				
				1 L Glass Amber	2	None	110	No																				
				500 mL Poly	2	None	120	No								H												
Outfall001_20230226_Comp Extra	Outfall001_20230226_Comp Extra	2/26/2023 10720	WM	500 mL Poly	2	None	130	No																				
				1 L Glass Amber	2	None	170	No																				
				1 L Glass Amber	2	None	180	No																				

**Legend: C=Conditional, R=Routine**

**Relinquished By:** *Mark Dominick* *2/27/23 11:20* *EC* **Date/Time:** 2/27/23 11:20  
**Received By:** *[Signature]* **Date/Time:** 2/27/23 18:00  
**Relinquished By:** *[Signature]* **Date/Time:** 2/27/23 18:00  
**Received By:** *[Signature]* **Date/Time:** 2/27/23 18:00

Turn-around time (Check): 24 Hour  72 Hour  48 Hour  5 Day  10 Day  Normal   
 Sample integrity (Check): Intact  On Ice   
 Store samples for 6 months: Data Requirements (Check) No Level IV  All Level IV

1.7/1.6, 2.0/1.9 SC12



CHAIN OF CUSTODY FORM

Eurofins Calscience Irvine

Client Name/Address:		Project:		ANALYSIS REQUIRED		Comments		
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108 Eurofins Calscience Project Manager: Vitendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel. 714-895-5494 ECI Project #57013187		Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		Total Dissolved Metals (E200.8) Cu, Pb, Cd, Se Total Dissolved Metals (E200.8) Fe Total Dissolved Metals, Mercury (E245.1)		Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe. Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures. Unfiltered and unpreserved analysis. Separate RAD onto another vial/order. Analyze duplicate, not MS/MSD.		
Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Cyanide (SM4500-CN-E / E335.2) Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0) K-40, CS-137 (E901.0 or E901.1)				
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD
Outfall001_20230226_Comp_F		2/26/2023	WM	1L Poly	1	None	200	Yes
Outfall001_20230226_Comp		2/26/2023	WM	borsilicate vials	1	None	320	No
			WM	500 mL Poly	1	NaOH	220	No
			WM	2.5 Gal Cabs	1	None	225	No
			WM	1 L Glass Amber	1	None	230	No

Relinquished By	Date/Time	Received By	Date/Time
<i>[Signature]</i>	2/27/2023 11:20	<i>[Signature]</i>	2/27/23 12:00 EL
<i>[Signature]</i>	2/27/23 1:00	<i>[Signature]</i>	2/27/23 1:00

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual



**Eurofins Calscience**  
 2841 Dow Avenue, Suite 100  
 Tustin, CA 92780  
 Phone: 714-895-5494

# Chain of Custody Record



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Lab P.M. Patel, Virendra	Carrier Tracking No(s) 570-208635-1
Client Contact Shipping/Receiving Company TestAmerica Laboratories, Inc.		E-Mail Virendra.Patel@eurofins.com	State of Origin California
Address 13715 Rider Trail North,		Phone 314-298-8566(Tel) 314-298-8757(Fax)	Page Page 1 of 1
City Earth City		Project # 57013187	Job # 570-129083-3
State, Zip MO, 63045		SSOW#	
Due Date Requested: 4/3/2023		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:	
TAT Requested (days):		<b>Analysis Requested</b>	
PO #	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)
WO #	2/26/23	07:00 Pacific	Water
Matrix (W=water, S=solid, O=soil, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	900.0/Evaporation Gross Alpha/Beta
900.0/Evaporation Gross Alpha/Beta	X	X	906.0/RLSC Dist. Susp Tritium
905.5/r90/PreSep_7 Strontium-90	X	X	903.0/PreSep_21 Radium-226
904.0/PreSep_0 Radium-226	X	X	A01R_UExtchrom_Actin Total Uranium
901.1_Cs/Fill_Geo_0 K-40 and Cesium-137	X	X	Total Number of Containers
1	Special Instructions/Note: Boeing SSFL, DO NOT FILTER, use prep date from preservation		

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Months  
 Empty Kit Relinquished by \_\_\_\_\_  
 Relinquished by \_\_\_\_\_  
 Relinquished by \_\_\_\_\_  
 Custody Seal Intact:  Yes  No  
 Custody Seal No. \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact:		Patel, Virendra	Patel, Virendra	State of Origin:	570-208608.1
Shipping/Receiving		Phone:	E-Mail:	California	Page: Page 1 of 1
Company:		Virendra.Patel@eurofins.com		Job #:	570-129083-3
Address:		Accreditations Required (See note):		Preservation Codes:	
13715 Rider Trail North,		State Program - California		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNO2 P - Na2O4S D - Nitric Acid Q - Na2SO3 E - NaHSO4 R - Na2S2O3 F - MeOH G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify) Other:	
City:		Due Date Requested:		Analysis Requested	
Earth City		4/3/2023		Total Number of Containers 901_1_Cs/111_Geo_0_K-40 and Csium-137 A01R_Ur/ExtChrom_Actin Total Uranium 904_0/PreSep_0 Radium-228 903_0/PreSep_21 Radium-226 905_5r90/PreSep_7 Strontium-90 906_0/LSC_Dist_Susp Tritium 900_0/Evaporation Gross Alpha/Beta	
State, Zip:		TAT Requested (days):		Perform MS/MSD (Yes or No)	
MO, 63045				Field Filtered Sample (Yes or No)	
Phone:		PO #:		Preservation Code:	
314-298-8566(Tel) 314-298-8757(Fax)				Water	
Email:		WO #:		Sample Time	
				07:00 Pacific	
Project Name:		Project #:		Sample Date	
Boeing NPDES SSFL - Routine Outfall 001 - Comp		57013187		2/26/23	
Site:		SSOW#:		Sample Identification - Client ID (Lab ID)	
				Outfall001_20230226_Comp (570-129083-1)	
Special Instructions/Note:		Boeing SSFL, DO NOT FILTER, use prep date from preservation			

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/main, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

<b>Possible Hazard Identification</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Time:	
Relinquished by: <i>[Signature]</i>		Date: 2/28/23	
Relinquished by: <i>[Signature]</i>		Date/Time: 02/28/23	
Relinquished by: <i>[Signature]</i>		Date/Time: 02/28/23	
Custody Seals Intact		Cooler Temperature(s) °C and Other Remarks	
<input type="checkbox"/> Yes <input type="checkbox"/> No		Received by: <i>[Signature]</i> Received by: <i>[Signature]</i> Received by: <i>[Signature]</i> Date/Time: MAR 01 2023 09:00 Date/Time: <i>[Signature]</i> Date/Time: <i>[Signature]</i>	





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129083-3

**Login Number: 129083**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129083-3

**Login Number: 129083**

**List Number: 3**

**Creator: Booker, Autumn R**

**List Source: Eurofins St. Louis**

**List Creation: 03/02/23 12:00 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/22/2023 2:16:10 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Grab

## JOB NUMBER

570-129853-1

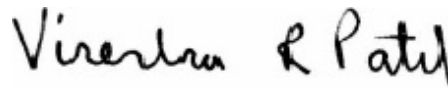
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/22/2023 2:16:10 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grab

Job ID: 570-129853-1

---

**Job ID: 570-129853-1**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative  
570-129853-1**

**Receipt**

The samples were received on 3/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.8°C

**GC/MS VOA**

Method 624.1\_LL: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-309627. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**General Chemistry**

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-310236. Method: 1664.

Method SM2540F: The following sample was received outside of holding time: Outfall001\_20230304\_Grab (570-129853-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

**Client Sample ID: Outfall001\_20230304\_Grab**

**Lab Sample ID: 570-129853-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	190		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230304**

**Lab Sample ID: 570-129853-3**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230304\_Grab**

**Date Collected: 03/04/23 08:45**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129853-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/07/23 18:30	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/07/23 18:30	1
Trichloroethene	ND		0.50	0.17	ug/L			03/07/23 18:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		60 - 140					03/07/23 18:30	1
Toluene-d8 (Surr)	98		60 - 140					03/07/23 18:30	1
Dibromofluoromethane (Surr)	91		60 - 140					03/07/23 18:30	1
1,2-Dichloroethane-d4 (Surr)	93		60 - 140					03/07/23 18:30	1

**Client Sample ID: TB-20230304**

**Date Collected: 03/04/23 08:45**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129853-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/07/23 17:02	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/07/23 17:02	1
Trichloroethene	ND		0.50	0.17	ug/L			03/07/23 17:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		60 - 140					03/07/23 17:02	1
Toluene-d8 (Surr)	98		60 - 140					03/07/23 17:02	1
Dibromofluoromethane (Surr)	94		60 - 140					03/07/23 17:02	1
1,2-Dichloroethane-d4 (Surr)	92		60 - 140					03/07/23 17:02	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## General Chemistry

Client Sample ID: Outfall001\_20230304\_Grab

Date Collected: 03/04/23 08:45

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129853-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		1.0	0.53	mg/L		03/09/23 10:10	03/10/23 07:51	1
<b>Specific Conductance (SM 2510B)</b>	<b>190</b>		1.0	1.0	umhos/cm			03/17/23 16:49	1
Settleable Solids (SM 2540F)	ND	BU BV	0.10	0.10	mL/L			03/07/23 13:34	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL	DBFM	DCA
		(60-140)	(60-140)	(60-140)	(60-140)
570-129853-1	Outfall001_20230304_Grab	99	98	91	93
570-129853-3	TB-20230304	98	98	94	92
LCS 570-309627/1003	Lab Control Sample	99	98	95	97
LCSD 570-309627/4	Lab Control Sample Dup	97	99	92	96
MB 570-309627/6	Method Blank	95	98	92	90

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-309627/6**  
**Matrix: Water**  
**Analysis Batch: 309627**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/07/23 15:33	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/07/23 15:33	1
Trichloroethene	ND		0.50	0.17	ug/L			03/07/23 15:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		60 - 140		03/07/23 15:33	1
Toluene-d8 (Surr)	98		60 - 140		03/07/23 15:33	1
Dibromofluoromethane (Surr)	92		60 - 140		03/07/23 15:33	1
1,2-Dichloroethane-d4 (Surr)	90		60 - 140		03/07/23 15:33	1

**Lab Sample ID: LCS 570-309627/1003**  
**Matrix: Water**  
**Analysis Batch: 309627**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	50 - 150
1,2-Dichloroethane	10.0	9.51		ug/L		95	70 - 130
Trichloroethene	10.0	10.1		ug/L		101	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		60 - 140
Toluene-d8 (Surr)	98		60 - 140
Dibromofluoromethane (Surr)	95		60 - 140
1,2-Dichloroethane-d4 (Surr)	97		60 - 140

**Lab Sample ID: LCSD 570-309627/4**  
**Matrix: Water**  
**Analysis Batch: 309627**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	10.3		ug/L		103	50 - 150	2	32
1,2-Dichloroethane	10.0	9.21		ug/L		92	70 - 130	3	49
Trichloroethene	10.0	10.5		ug/L		105	65 - 135	4	48

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		60 - 140
Toluene-d8 (Surr)	99		60 - 140
Dibromofluoromethane (Surr)	92		60 - 140
1,2-Dichloroethane-d4 (Surr)	96		60 - 140

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-310236/1-A**  
**Matrix: Water**  
**Analysis Batch: 310507**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310236**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		03/09/23 10:10	03/10/23 07:51	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: LCS 570-310236/2-A**  
**Matrix: Water**  
**Analysis Batch: 310507**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310236**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	37.3		mg/L		93	78 - 114

**Lab Sample ID: LCSD 570-310236/3-A**  
**Matrix: Water**  
**Analysis Batch: 310507**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310236**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	38.7		mg/L		97	78 - 114	4	18

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## GC/MS VOA

### Analysis Batch: 309627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129853-1	Outfall001_20230304_Grab	Total/NA	Water	624.1	
570-129853-3	TB-20230304	Total/NA	Water	624.1	
MB 570-309627/6	Method Blank	Total/NA	Water	624.1	
LCS 570-309627/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-309627/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 309623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129853-1	Outfall001_20230304_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 310236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129853-1	Outfall001_20230304_Grab	Total/NA	Water	1664A	
MB 570-310236/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-310236/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-310236/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 310507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129853-1	Outfall001_20230304_Grab	Total/NA	Water	1664A	310236
MB 570-310236/1-A	Method Blank	Total/NA	Water	1664A	310236
LCS 570-310236/2-A	Lab Control Sample	Total/NA	Water	1664A	310236
LCSD 570-310236/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	310236

### Analysis Batch: 312656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129853-1	Outfall001_20230304_Grab	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

**Client Sample ID: Outfall001\_20230304\_Grab**

**Lab Sample ID: 570-129853-1**

**Date Collected: 03/04/23 08:45**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	309627	03/07/23 18:30	N1A	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			970 mL	1000 mL	310236	03/09/23 10:10	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			310507	03/10/23 07:51	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			312656	03/17/23 16:49	BDH9	EET CAL 4
Instrument ID: COND13										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	309623	03/07/23 13:34	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230304**

**Lab Sample ID: 570-129853-3**

**Date Collected: 03/04/23 08:45**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	309627	03/07/23 17:02	N1A	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129853-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129853-1

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Grab

Job ID: 570-129853-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129853-1	Outfall001_20230304_Grab	Water	03/04/23 08:45	03/06/23 17:00
570-129853-3	TB-20230304	Water	03/04/23 08:45	03/06/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129853-1

**Login Number: 129853**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/22/2023 6:13:12 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall 001 - Comp

**JOB NUMBER**

570-129907-1

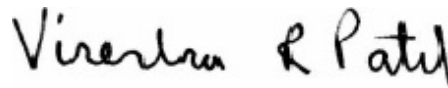
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/22/2023 6:13:12 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	30
Lab Chronicle . . . . .	35
Certification Summary . . . . .	37
Method Summary . . . . .	38
Sample Summary . . . . .	39
Chain of Custody . . . . .	40
Receipt Checklists . . . . .	44

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)
LQ	LCS/LCSD recovery above method control limits
MB	Analyte present in the method blank

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129907-1

## Job ID: 570-129907-1

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-129907-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 200.8: The method blank for preparation batch 570-309505 and analytical batch 570-309648 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-309505 and analytical batch 570-309648 were outside control limits for Selenium. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.8: The method blank for preparation batch 570-309651 and analytical batch 570-309903 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 245.1: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-309760 and analytical batch 570-310041 recovered outside control limits for Mercury . These analytes were biased high in the LCS/LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 245.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-309760 and analytical batch 570-310041 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230305\_Comp\_F (570-129907-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-312131 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129907-1

---

## Job ID: 570-129907-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129907-1

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.1		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrite as N	0.11		0.10	0.043	mg/L	1		300.0	Total/NA
Nitrate as N	0.24		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	13		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.35		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	1.4	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	110	MB	20	3.7	ug/L	1		200.8	Total Recoverable
Turbidity	2.0		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	130		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.1		1.0	0.83	mg/L	1		SM 2540D	Total/NA
Biochemical Oxygen Demand	5.2		2.0	1.0	mg/L	1		SM 5210B	Total/NA
MBAS	0.051	J,DX	0.20	0.050	mg/L	1		SM 5540C	Total/NA

**Client Sample ID: Outfall001\_20230305\_Comp\_F**

**Lab Sample ID: 570-129907-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.13	J,DX BU	1.0	0.13	ug/L	1		200.8	Dissolved
Copper	1.4	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	71	BU MB	20	3.7	ug/L	1		200.8	Dissolved
Lead	0.17	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Zinc	3.6	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

**Date Collected: 03/05/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		03/10/23 12:42	03/13/23 23:37	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		03/10/23 12:42	03/13/23 23:37	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		03/10/23 12:42	03/13/23 23:37	1
N-Nitrosodimethylamine	ND		0.19	0.17	ug/L		03/10/23 12:42	03/13/23 23:37	1
Pentachlorophenol	ND		0.94	0.79	ug/L		03/10/23 12:42	03/13/23 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	71		31 - 120	03/10/23 12:42	03/13/23 23:37	1
Phenol-d6 (Surr)	25		10 - 120	03/10/23 12:42	03/13/23 23:37	1
p-Terphenyl-d14 (Surr)	84		45 - 120	03/10/23 12:42	03/13/23 23:37	1
2,4,6-Tribromophenol	85		28 - 127	03/10/23 12:42	03/13/23 23:37	1
2-Fluorophenol	39		17 - 120	03/10/23 12:42	03/13/23 23:37	1
Nitrobenzene-d5	76		27 - 120	03/10/23 12:42	03/13/23 23:37	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001\_20230305\_Comp

Date Collected: 03/05/23 08:25

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129907-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/08/23 08:21	03/13/23 21:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		20 - 139				03/08/23 08:21	03/13/23 21:19	1
DCB Decachlorobiphenyl (Surr)	42		20 - 154				03/08/23 08:21	03/13/23 21:19	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230305\_Comp

Date Collected: 03/05/23 08:25

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129907-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.1		1.0	0.36	mg/L			03/07/23 06:44	1
Nitrite as N	0.11		0.10	0.043	mg/L			03/07/23 06:44	1
Nitrate as N	0.24		0.10	0.020	mg/L			03/07/23 06:44	1
Sulfate	13		1.0	0.24	mg/L			03/07/23 06:44	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230305\_Comp

Date Collected: 03/05/23 08:25

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129907-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/09/23 17:21	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230305\_Comp

Lab Sample ID: 570-129907-1

Date Collected: 03/05/23 08:25

Matrix: Water

Date Received: 03/06/23 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.35		0.10	0.020	mg/L			03/10/23 16:06	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

**Client Sample ID: Outfall001\_20230305\_Comp**

**Date Collected: 03/05/23 08:25**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/07/23 09:05	03/07/23 13:51	1
<b>Copper</b>	<b>1.4</b>	<b>J,DX</b>	2.0	0.32	ug/L		03/07/23 09:05	03/07/23 13:51	1
<b>Iron</b>	<b>110</b>	<b>MB</b>	20	3.7	ug/L		03/07/23 09:05	03/07/23 13:51	1
Lead	ND		1.0	0.12	ug/L		03/07/23 09:05	03/07/23 13:51	1
Selenium	ND		2.0	0.52	ug/L		03/07/23 09:05	03/07/23 13:51	1
Zinc	ND		20	2.8	ug/L		03/07/23 09:05	03/07/23 13:51	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230305\_Comp\_F

Date Collected: 03/05/23 08:25

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129907-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.13	J,DX BU	1.0	0.13	ug/L			03/08/23 10:00	1
Copper	1.4	J,DX BU	2.0	0.32	ug/L			03/08/23 10:00	1
Iron	71	BU MB	20	3.7	ug/L			03/08/23 10:00	1
Lead	0.17	J,DX BU	1.0	0.12	ug/L			03/08/23 10:00	1
Selenium	ND	BU	2.0	0.52	ug/L			03/08/23 10:00	1
Zinc	3.6	J,DX BU	20	2.8	ug/L			03/08/23 10:00	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230305\_Comp

Date Collected: 03/05/23 08:25

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129907-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	LQ	0.20	0.12	ug/L		03/07/23 21:21	03/08/23 17:37	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230305\_Comp\_F

Lab Sample ID: 570-129907-3

Date Collected: 03/05/23 08:25

Matrix: Water

Date Received: 03/06/23 17:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		03/06/23 18:07	03/07/23 14:12	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## General Chemistry

**Client Sample ID: Outfall001\_20230305\_Comp**

**Date Collected: 03/05/23 08:25**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		03/13/23 13:40	03/13/23 15:54	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			03/14/23 19:36	1
<b>Turbidity (SM 2130B)</b>	<b>2.0</b>		0.05	0.05	NTU			03/06/23 22:10	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>130</b>		10	8.7	mg/L			03/10/23 18:35	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>2.1</b>		1.0	0.83	mg/L			03/11/23 12:42	1
<b>Biochemical Oxygen Demand (SM 5210B)</b>	<b>5.2</b>		2.0	1.0	mg/L		03/06/23 18:22	03/06/23 19:13	1
<b>MBAS (SM 5540C)</b>	<b>0.051</b>	<b>J,DX</b>	0.20	0.050	mg/L		03/06/23 20:15	03/06/23 21:08	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-129907-1	Outfall001_20230305_Comp	71	25	84	85	39	76
LCS 570-310496/2-A	Lab Control Sample	80	34	92	90	51	73
LCSD 570-310496/3-A	Lab Control Sample Dup	73	33	86	87	47	68
MB 570-310496/1-A	Method Blank	64	27	82	63	41	68

#### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-129907-1	Outfall001_20230305_Comp	63	42
LCS 570-309827/2-A	Lab Control Sample	67	90
LCSD 570-309827/3-A	Lab Control Sample Dup	63	87
MB 570-309827/1-A	Method Blank	43	67

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-310496/1-A**

**Matrix: Water**

**Analysis Batch: 311097**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 310496**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		03/10/23 06:36	03/13/23 19:26	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		03/10/23 06:36	03/13/23 19:26	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		03/10/23 06:36	03/13/23 19:26	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		03/10/23 06:36	03/13/23 19:26	1
Pentachlorophenol	ND		1.0	0.84	ug/L		03/10/23 06:36	03/13/23 19:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		31 - 120	03/10/23 06:36	03/13/23 19:26	1
Phenol-d6 (Surr)	27		10 - 120	03/10/23 06:36	03/13/23 19:26	1
p-Terphenyl-d14 (Surr)	82		45 - 120	03/10/23 06:36	03/13/23 19:26	1
2,4,6-Tribromophenol	63		28 - 127	03/10/23 06:36	03/13/23 19:26	1
2-Fluorophenol	41		17 - 120	03/10/23 06:36	03/13/23 19:26	1
Nitrobenzene-d5	68		27 - 120	03/10/23 06:36	03/13/23 19:26	1

**Lab Sample ID: LCS 570-310496/2-A**

**Matrix: Water**

**Analysis Batch: 311097**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 310496**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	18.4		ug/L		92	52 - 129
2,4-Dinitrotoluene	20.0	21.4		ug/L		107	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	20.6		ug/L		103	29 - 137
N-Nitrosodimethylamine	20.0	11.2		ug/L		56	20 - 120
Pentachlorophenol	20.0	10.5		ug/L		53	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	80		31 - 120
Phenol-d6 (Surr)	34		10 - 120
p-Terphenyl-d14 (Surr)	92		45 - 120
2,4,6-Tribromophenol	90		28 - 127
2-Fluorophenol	51		17 - 120
Nitrobenzene-d5	73		27 - 120

**Lab Sample ID: LCSD 570-310496/3-A**

**Matrix: Water**

**Analysis Batch: 311097**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 310496**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129	8	35
2,4-Dinitrotoluene	20.0	20.3		ug/L		102	48 - 127	5	25
Bis(2-ethylhexyl) phthalate	20.0	19.3		ug/L		97	29 - 137	6	50
N-Nitrosodimethylamine	20.0	10.5		ug/L		52	20 - 120	7	21
Pentachlorophenol	20.0	10.2		ug/L		51	38 - 152	3	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	73		31 - 120

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-310496/3-A**  
**Matrix: Water**  
**Analysis Batch: 311097**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310496**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Phenol-d6 (Surr)	33		10 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120
2,4,6-Tribromophenol	87		28 - 127
2-Fluorophenol	47		17 - 120
Nitrobenzene-d5	68		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-309827/1-A**  
**Matrix: Water**  
**Analysis Batch: 310461**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 309827**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/08/23 08:21	03/10/23 15:28	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	43		20 - 139	03/08/23 08:21	03/10/23 15:28	1
DCB Decachlorobiphenyl (Surr)	67		20 - 154	03/08/23 08:21	03/10/23 15:28	1

**Lab Sample ID: LCS 570-309827/2-A**  
**Matrix: Water**  
**Analysis Batch: 311052**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 309827**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
alpha-BHC	0.0333	0.0242		ug/L		72	37 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	67		20 - 139
DCB Decachlorobiphenyl (Surr)	90		20 - 154

**Lab Sample ID: LCSD 570-309827/3-A**  
**Matrix: Water**  
**Analysis Batch: 311052**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 309827**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
alpha-BHC	0.0333	0.0242		ug/L		73	37 - 140	0	36

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	63		20 - 139
DCB Decachlorobiphenyl (Surr)	87		20 - 154



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-309424/5**  
**Matrix: Water**  
**Analysis Batch: 309424**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			03/07/23 03:08	1
Nitrate as N	ND		0.10	0.020	mg/L			03/07/23 03:08	1

**Lab Sample ID: LCS 570-309424/6**  
**Matrix: Water**  
**Analysis Batch: 309424**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.54		mg/L		101	90 - 110
Nitrate as N	5.00	5.03		mg/L		101	90 - 110

**Lab Sample ID: LCSD 570-309424/7**  
**Matrix: Water**  
**Analysis Batch: 309424**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.53		mg/L		101	90 - 110	0	15
Nitrate as N	5.00	5.03		mg/L		101	90 - 110	0	15

**Lab Sample ID: MB 570-309425/5**  
**Matrix: Water**  
**Analysis Batch: 309425**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			03/07/23 03:08	1
Sulfate	ND		1.0	0.24	mg/L			03/07/23 03:08	1

**Lab Sample ID: LCS 570-309425/6**  
**Matrix: Water**  
**Analysis Batch: 309425**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.9		mg/L		98	90 - 110
Sulfate	50.0	49.8		mg/L		100	90 - 110

**Lab Sample ID: LCSD 570-309425/7**  
**Matrix: Water**  
**Analysis Batch: 309425**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	48.9		mg/L		98	90 - 110	0	15
Sulfate	50.0	49.8		mg/L		100	90 - 110	0	15

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-310301/7  
 Matrix: Water  
 Analysis Batch: 310301

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/09/23 16:18	1

Lab Sample ID: LCS 570-310301/8  
 Matrix: Water  
 Analysis Batch: 310301

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.3		ug/L		101	85 - 115

Lab Sample ID: LCSD 570-310301/9  
 Matrix: Water  
 Analysis Batch: 310301

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.9		ug/L		100	85 - 115	2	15

## Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-309505/1-A  
 Matrix: Water  
 Analysis Batch: 309648

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 309505

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/07/23 09:05	03/07/23 12:49	1
Copper	ND		2.0	0.32	ug/L		03/07/23 09:05	03/07/23 12:49	1
Iron	4.27	J,DX	20	3.7	ug/L		03/07/23 09:05	03/07/23 12:49	1
Lead	ND		1.0	0.12	ug/L		03/07/23 09:05	03/07/23 12:49	1
Selenium	ND		2.0	0.52	ug/L		03/07/23 09:05	03/07/23 12:49	1
Zinc	ND		20	2.8	ug/L		03/07/23 09:05	03/07/23 12:49	1

Lab Sample ID: LCS 570-309505/2-A  
 Matrix: Water  
 Analysis Batch: 309648

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 309505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	80.2		ug/L		100	85 - 115
Copper	80.0	82.3		ug/L		103	85 - 115
Iron	800	809		ug/L		101	85 - 115
Lead	80.0	80.4		ug/L		100	85 - 115
Selenium	80.0	72.1		ug/L		90	85 - 115
Zinc	80.0	75.7		ug/L		95	85 - 115

Lab Sample ID: LCSD 570-309505/3-A  
 Matrix: Water  
 Analysis Batch: 309648

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total Recoverable  
 Prep Batch: 309505

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	78.9		ug/L		99	85 - 115	2	20
Copper	80.0	80.7		ug/L		101	85 - 115	2	20

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-309505/3-A**  
**Matrix: Water**  
**Analysis Batch: 309648**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309505**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Iron	800	785		ug/L		98	85 - 115	3	20	
Lead	80.0	78.9		ug/L		99	85 - 115	2	20	
Selenium	80.0	71.1		ug/L		89	85 - 115	1	20	
Zinc	80.0	74.5		ug/L		93	85 - 115	2	20	

**Lab Sample ID: 570-129907-1 MS**  
**Matrix: Water**  
**Analysis Batch: 309648**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309505**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	68.0		ug/L		85	80 - 120			
Copper	1.4	J,DX	80.0	71.8		ug/L		88	80 - 120			
Iron	110	MB	800	806		ug/L		87	80 - 120			
Lead	ND		80.0	68.5		ug/L		86	80 - 120			
Selenium	ND		80.0	62.6	LN	ug/L		78	80 - 120			
Zinc	ND		80.0	66.9		ug/L		84	80 - 120			

**Lab Sample ID: 570-129907-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 309648**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309505**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	73.0		ug/L		91	80 - 120	7	20	
Copper	1.4	J,DX	80.0	76.7		ug/L		94	80 - 120	7	20	
Iron	110	MB	800	858		ug/L		93	80 - 120	6	20	
Lead	ND		80.0	71.4		ug/L		89	80 - 120	4	20	
Selenium	ND		80.0	66.5		ug/L		83	80 - 120	6	20	
Zinc	ND		80.0	70.6		ug/L		88	80 - 120	5	20	

**Lab Sample ID: MB 570-309651/1-A**  
**Matrix: Water**  
**Analysis Batch: 309903**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed		Dil Fac
								Start	End	
Cadmium	ND		1.0	0.13	ug/L			03/08/23	09:45	1
Copper	ND		2.0	0.32	ug/L			03/08/23	09:45	1
Iron	8.73	J,DX	20	3.7	ug/L			03/08/23	09:45	1
Lead	ND		1.0	0.12	ug/L			03/08/23	09:45	1
Selenium	ND		2.0	0.52	ug/L			03/08/23	09:45	1
Zinc	ND		20	2.8	ug/L			03/08/23	09:45	1

**Lab Sample ID: LCS 570-309651/2-A**  
**Matrix: Water**  
**Analysis Batch: 309903**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Cadmium	80.0	80.5		ug/L		101	85 - 115	
Copper	80.0	78.8		ug/L		98	85 - 115	
Iron	800	807		ug/L		101	85 - 115	

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 570-309651/2-A**  
**Matrix: Water**  
**Analysis Batch: 309903**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	79.5		ug/L		99	85 - 115
Selenium	80.0	81.4		ug/L		102	85 - 115
Zinc	80.0	78.2		ug/L		98	85 - 115

**Lab Sample ID: LCSD 570-309651/3-A**  
**Matrix: Water**  
**Analysis Batch: 309903**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	79.9		ug/L		100	85 - 115	1	20
Copper	80.0	79.7		ug/L		100	85 - 115	1	20
Iron	800	821		ug/L		103	85 - 115	2	20
Lead	80.0	79.7		ug/L		100	85 - 115	0	20
Selenium	80.0	82.5		ug/L		103	85 - 115	1	20
Zinc	80.0	78.9		ug/L		99	85 - 115	1	20

**Lab Sample ID: 570-129907-3 MS**  
**Matrix: Water**  
**Analysis Batch: 309903**

**Client Sample ID: Outfall001\_20230305\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.13	J,DX BU	80.0	74.6	BU	ug/L		93	80 - 120
Copper	1.4	J,DX BU	80.0	75.6	BU	ug/L		93	80 - 120
Iron	71	BU MB	800	820	BU	ug/L		94	80 - 120
Lead	0.17	J,DX BU	80.0	74.0	BU	ug/L		92	80 - 120
Selenium	ND	BU	80.0	77.1	BU	ug/L		96	80 - 120
Zinc	3.6	J,DX BU	80.0	74.6	BU	ug/L		89	80 - 120

**Lab Sample ID: 570-129907-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 309903**

**Client Sample ID: Outfall001\_20230305\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	0.13	J,DX BU	80.0	74.2	BU	ug/L		93	80 - 120	1	20
Copper	1.4	J,DX BU	80.0	75.8	BU	ug/L		93	80 - 120	0	20
Iron	71	BU MB	800	827	BU	ug/L		95	80 - 120	1	20
Lead	0.17	J,DX BU	80.0	75.3	BU	ug/L		94	80 - 120	2	20
Selenium	ND	BU	80.0	76.7	BU	ug/L		96	80 - 120	0	20
Zinc	3.6	J,DX BU	80.0	74.2	BU	ug/L		88	80 - 120	1	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-309760/1-A**  
**Matrix: Water**  
**Analysis Batch: 310041**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 309760**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/07/23 21:21	03/08/23 17:06	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 570-309760/2-A**  
**Matrix: Water**  
**Analysis Batch: 310041**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 309760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	9.39	LQ	ug/L		117	85 - 115

**Lab Sample ID: LCSD 570-309760/3-A**  
**Matrix: Water**  
**Analysis Batch: 310041**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 309760**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	9.54	LQ	ug/L		119	85 - 115	2	10

**Lab Sample ID: 570-129907-1 MS**  
**Matrix: Water**  
**Analysis Batch: 310041**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 309760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	LQ	8.00	9.41	LM	ug/L		118	85 - 115

**Lab Sample ID: 570-129907-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 310041**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 309760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	LQ	8.00	9.42	LM	ug/L		118	85 - 115	0	10

**Lab Sample ID: MB 570-309367/1-B**  
**Matrix: Water**  
**Analysis Batch: 309665**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 309368**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/06/23 18:07	03/07/23 13:11	1

**Lab Sample ID: LCS 570-309367/2-B**  
**Matrix: Water**  
**Analysis Batch: 309665**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 309368**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.47		ug/L		106	85 - 115

**Lab Sample ID: LCSD 570-309367/3-B**  
**Matrix: Water**  
**Analysis Batch: 309665**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 309368**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.40		ug/L		105	85 - 115	1	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: 350.1 - Nitrogen, Ammonia

**Lab Sample ID: MB 570-311129/5-A**  
**Matrix: Water**  
**Analysis Batch: 311145**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 311129**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		03/13/23 13:40	03/13/23 15:19	1

**Lab Sample ID: LCS 570-311129/6-A**  
**Matrix: Water**  
**Analysis Batch: 311145**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 311129**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.518		mg/L		104	90 - 110

**Lab Sample ID: LCSD 570-311129/7-A**  
**Matrix: Water**  
**Analysis Batch: 311145**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 311129**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.498		mg/L		100	90 - 110	4	20

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

**Lab Sample ID: MB 570-312131/14**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			03/14/23 19:36	1

**Lab Sample ID: LCS 570-312131/16**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	252		ug/L		101	90 - 110

**Lab Sample ID: LCSD 570-312131/17**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	266		ug/L		107	90 - 110	5	20

**Lab Sample ID: MRL 570-312131/13**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	6.06		ug/L		121	50 - 150

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: SM 2130B - Turbidity

**Lab Sample ID: LCSSRM 570-309398/1**  
**Matrix: Water**  
**Analysis Batch: 309398**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		100.7	99.0 - 101.0

**Lab Sample ID: LCSSRM 570-309398/2**  
**Matrix: Water**  
**Analysis Batch: 309398**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0

**Lab Sample ID: LCSSRM 570-309398/3**  
**Matrix: Water**  
**Analysis Batch: 309398**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

**Lab Sample ID: 570-129907-1 DU**  
**Matrix: Water**  
**Analysis Batch: 309398**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	2.0		1.9		NTU		3	25

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 570-310762/1**  
**Matrix: Water**  
**Analysis Batch: 310762**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			03/10/23 18:35	1

**Lab Sample ID: LCS 570-310762/2**  
**Matrix: Water**  
**Analysis Batch: 310762**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	960		mg/L		96	84 - 108

**Lab Sample ID: LCSD 570-310762/3**  
**Matrix: Water**  
**Analysis Batch: 310762**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	986		mg/L		99	84 - 108	3	10

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-310866/1  
 Matrix: Water  
 Analysis Batch: 310866

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/11/23 12:42	1

Lab Sample ID: LCS 570-310866/2  
 Matrix: Water  
 Analysis Batch: 310866

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	98.0		mg/L		98	77 - 116

Lab Sample ID: LCSD 570-310866/3  
 Matrix: Water  
 Analysis Batch: 310866

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	99.0		mg/L		99	77 - 116	1	10

## Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-309249/2-A  
 Matrix: Water  
 Analysis Batch: 310874

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 309249

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	205		mg/L		103	84.6 - 115.4

Lab Sample ID: USB 570-310874/2  
 Matrix: Water  
 Analysis Batch: 310874

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			03/06/23 13:17	1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-309394/5-A  
 Matrix: Water  
 Analysis Batch: 309397

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 309394

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		03/06/23 20:15	03/06/23 21:03	1

Lab Sample ID: LCS 570-309394/6-A  
 Matrix: Water  
 Analysis Batch: 309397

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 309394

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.432		mg/L		86	83 - 122

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

**Lab Sample ID: LCSD 570-309394/7-A**  
**Matrix: Water**  
**Analysis Batch: 309397**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 309394**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
MBAS	0.500	0.446		mg/L		89	83 - 122	3	10	

**Lab Sample ID: 570-129907-1 MS**  
**Matrix: Water**  
**Analysis Batch: 309397**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 309394**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
MBAS	0.051	J,DX	0.500	0.450		mg/L		80	64 - 141			

**Lab Sample ID: 570-129907-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 309397**

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 309394**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
MBAS	0.051	J,DX	0.500	0.455		mg/L		81	64 - 141	1	10	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## GC/MS Semi VOA

### Prep Batch: 310496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	625	
MB 570-310496/1-A	Method Blank	Total/NA	Water	625	
LCS 570-310496/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-310496/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 311097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	625.1 SIM	310496
MB 570-310496/1-A	Method Blank	Total/NA	Water	625.1 SIM	310496
LCS 570-310496/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	310496
LCSD 570-310496/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	310496

## GC Semi VOA

### Prep Batch: 309827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	608	
MB 570-309827/1-A	Method Blank	Total/NA	Water	608	
LCS 570-309827/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-309827/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 310461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-309827/1-A	Method Blank	Total/NA	Water	608.3	309827

### Analysis Batch: 311052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	608.3	309827
LCS 570-309827/2-A	Lab Control Sample	Total/NA	Water	608.3	309827
LCSD 570-309827/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	309827

## HPLC/IC

### Analysis Batch: 309424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	300.0	
MB 570-309424/5	Method Blank	Total/NA	Water	300.0	
LCS 570-309424/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-309424/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 309425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	300.0	
MB 570-309425/5	Method Blank	Total/NA	Water	300.0	
LCS 570-309425/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-309425/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 310301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	314.0	
MB 570-310301/7	Method Blank	Total/NA	Water	314.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## HPLC/IC (Continued)

### Analysis Batch: 310301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-310301/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-310301/9	Lab Control Sample Dup	Total/NA	Water	314.0	

### Analysis Batch: 310704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Filtration Batch: 309367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-3	Outfall001_20230305_Comp_F	Dissolved	Water	Filtration	
MB 570-309367/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-309367/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-309367/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

### Prep Batch: 309368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-3	Outfall001_20230305_Comp_F	Dissolved	Water	245.1	309367
MB 570-309367/1-B	Method Blank	Dissolved	Water	245.1	309367
LCS 570-309367/2-B	Lab Control Sample	Dissolved	Water	245.1	309367
LCSD 570-309367/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	309367

### Prep Batch: 309505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total Recoverable	Water	200.8	
MB 570-309505/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-309505/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-309505/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-129907-1 MS	Outfall001_20230305_Comp	Total Recoverable	Water	200.8	
570-129907-1 MSD	Outfall001_20230305_Comp	Total Recoverable	Water	200.8	

### Analysis Batch: 309648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total Recoverable	Water	200.8	309505
MB 570-309505/1-A	Method Blank	Total Recoverable	Water	200.8	309505
LCS 570-309505/2-A	Lab Control Sample	Total Recoverable	Water	200.8	309505
LCSD 570-309505/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	309505
570-129907-1 MS	Outfall001_20230305_Comp	Total Recoverable	Water	200.8	309505
570-129907-1 MSD	Outfall001_20230305_Comp	Total Recoverable	Water	200.8	309505

### Filtration Batch: 309651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-3	Outfall001_20230305_Comp_F	Dissolved	Water	Filtration	
MB 570-309651/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-309651/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-309651/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-129907-3 MS	Outfall001_20230305_Comp_F	Dissolved	Water	Filtration	
570-129907-3 MSD	Outfall001_20230305_Comp_F	Dissolved	Water	Filtration	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## Metals

### Analysis Batch: 309665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-3	Outfall001_20230305_Comp_F	Dissolved	Water	245.1	309368
MB 570-309367/1-B	Method Blank	Dissolved	Water	245.1	309368
LCS 570-309367/2-B	Lab Control Sample	Dissolved	Water	245.1	309368
LCSD 570-309367/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	309368

### Prep Batch: 309760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	245.1	
MB 570-309760/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-309760/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-309760/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-129907-1 MS	Outfall001_20230305_Comp	Total/NA	Water	245.1	
570-129907-1 MSD	Outfall001_20230305_Comp	Total/NA	Water	245.1	

### Analysis Batch: 309903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-3	Outfall001_20230305_Comp_F	Dissolved	Water	200.8	309651
MB 570-309651/1-A	Method Blank	Dissolved	Water	200.8	309651
LCS 570-309651/2-A	Lab Control Sample	Dissolved	Water	200.8	309651
LCSD 570-309651/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	309651
570-129907-3 MS	Outfall001_20230305_Comp_F	Dissolved	Water	200.8	309651
570-129907-3 MSD	Outfall001_20230305_Comp_F	Dissolved	Water	200.8	309651

### Analysis Batch: 310041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	245.1	309760
MB 570-309760/1-A	Method Blank	Total/NA	Water	245.1	309760
LCS 570-309760/2-A	Lab Control Sample	Total/NA	Water	245.1	309760
LCSD 570-309760/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	309760
570-129907-1 MS	Outfall001_20230305_Comp	Total/NA	Water	245.1	309760
570-129907-1 MSD	Outfall001_20230305_Comp	Total/NA	Water	245.1	309760

## General Chemistry

### Prep Batch: 309249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	BOD Prep	
LCS 570-309249/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

### Prep Batch: 309394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	SM 5540C	
MB 570-309394/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-309394/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-309394/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-129907-1 MS	Outfall001_20230305_Comp	Total/NA	Water	SM 5540C	
570-129907-1 MSD	Outfall001_20230305_Comp	Total/NA	Water	SM 5540C	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

## General Chemistry

### Analysis Batch: 309397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	SM 5540C	309394
MB 570-309394/5-A	Method Blank	Total/NA	Water	SM 5540C	309394
LCS 570-309394/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	309394
LCSD 570-309394/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	309394
570-129907-1 MS	Outfall001_20230305_Comp	Total/NA	Water	SM 5540C	309394
570-129907-1 MSD	Outfall001_20230305_Comp	Total/NA	Water	SM 5540C	309394

### Analysis Batch: 309398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-309398/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-309398/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-309398/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-129907-1 DU	Outfall001_20230305_Comp	Total/NA	Water	SM 2130B	

### Analysis Batch: 310762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	SM 2540C	
MB 570-310762/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-310762/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-310762/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

### Analysis Batch: 310866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	SM 2540D	
MB 570-310866/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-310866/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-310866/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

### Analysis Batch: 310874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	SM 5210B	309249
USB 570-310874/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-309249/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	309249

### Prep Batch: 311129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-311129/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-311129/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-311129/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 311145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	350.1	311129
MB 570-311129/5-A	Method Blank	Total/NA	Water	350.1	311129
LCS 570-311129/6-A	Lab Control Sample	Total/NA	Water	350.1	311129
LCSD 570-311129/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	311129

# QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129907-1

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

## General Chemistry

### Analysis Batch: 312131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	Kelada 01	
MB 570-312131/14	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-312131/16	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-312131/17	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-312131/13	Lab Control Sample	Total/NA	Water	Kelada 01	

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

**Date Collected: 03/05/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1065.6 mL	2 mL	310496	03/10/23 12:42	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	311097	03/13/23 23:37	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	309827	03/08/23 08:21	OAJ3	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	311052	03/13/23 21:19	N5Y3	EET CAL 4
		Instrument ID: GC52A								
Total/NA	Analysis	300.0		1	4 mL	4 mL	309424	03/07/23 06:44	PS	EET CAL 4
		Instrument ID: IC9								
Total/NA	Analysis	300.0		1	4 mL	4 mL	309425	03/07/23 06:44	PS	EET CAL 4
		Instrument ID: IC9								
Total/NA	Analysis	314.0		1	4 mL	4 mL	310301	03/09/23 17:21	PS	EET CAL 4
		Instrument ID: IC13								
Total/NA	Analysis	NO2NO3 Calc		1			310704	03/10/23 16:06	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	309505	03/07/23 09:05	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			309648	03/07/23 13:51	Y2WS	EET CAL 4
		Instrument ID: ICPMS10								
Total/NA	Prep	245.1			25 mL	50 mL	309760	03/07/23 21:21	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			310041	03/08/23 17:37	C0YH	EET CAL 4
		Instrument ID: HG8								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	311129	03/13/23 13:40	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	311145	03/13/23 15:54	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	312131	03/14/23 19:36	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			309398	03/06/23 22:10	TXA8	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	310762	03/10/23 18:35	ZL7L	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	310866	03/11/23 12:42	WVA4	EET CAL 4
		Instrument ID: BAL71								
Total/NA	Prep	BOD Prep					309249	03/06/23 18:22	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	310874	03/06/23 19:13	TN8Z	EET CAL 4
		Instrument ID: BOD3								
Total/NA	Prep	SM 5540C			100 mL	100 mL	309394	03/06/23 20:15	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	309397	03/06/23 21:08	TXA8	EET CAL 4
		Instrument ID: UV8								

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

**Client Sample ID: Outfall001\_20230305\_Comp\_F**

**Lab Sample ID: 570-129907-3**

**Date Collected: 03/05/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	309651	03/07/23 14:28	ECX6	EET CAL 4
Dissolved	Analysis	200.8		1			309903	03/08/23 10:00	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Dissolved	Filtration	Filtration			25 mL	25 mL	309367	03/06/23 17:48	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	309368	03/06/23 18:07	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			309665	03/07/23 14:12	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494





# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23



# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129907-1	Outfall001_20230305_Comp	Water	03/05/23 08:25	03/06/23 17:00
570-129907-3	Outfall001_20230305_Comp_F	Water	03/05/23 08:25	03/06/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:																
Client Contact: Shipping/Receiving		Phone:	Patel, Virendra	State of Origin:	570-209419.1																
Company: TestAmerica Laboratories, Inc.		E-Mail:	Virendra.Patel@eurofins.com	Page:	Page 1 of 1																
Address: 13715 Rider Trail North,		Accreditations Required (See note):	State Program California	Job #:	570-129907-3																
City: Earth City	Due Date Requested: 4/16/2023	<b>Analysis Requested</b> <table border="1"> <tr> <th>Form MS/MSD (Yes or No)</th> <th>Field Filled Sample (Yes or No)</th> <th>900/Evaporation Gross Alpha/Beta</th> <th>906.0/LSC Diet. Susp Tritium</th> <th>905.0/PreSep_21 Radium-226</th> <th>904.0/PreSep_0 Radium-228</th> <th>A01R_U/Exchrom_Actin Total Uranium</th> <th>901.1 Ce/Fill_Geo_0 K-40 and Cesium-137</th> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </table>				Form MS/MSD (Yes or No)	Field Filled Sample (Yes or No)	900/Evaporation Gross Alpha/Beta	906.0/LSC Diet. Susp Tritium	905.0/PreSep_21 Radium-226	904.0/PreSep_0 Radium-228	A01R_U/Exchrom_Actin Total Uranium	901.1 Ce/Fill_Geo_0 K-40 and Cesium-137	X	X	X	X	X	X	X	X
Form MS/MSD (Yes or No)	Field Filled Sample (Yes or No)					900/Evaporation Gross Alpha/Beta	906.0/LSC Diet. Susp Tritium	905.0/PreSep_21 Radium-226	904.0/PreSep_0 Radium-228	A01R_U/Exchrom_Actin Total Uranium	901.1 Ce/Fill_Geo_0 K-40 and Cesium-137										
X	X					X	X	X	X	X	X										
State, Zip: MO, 63045	TAT Requested (days):																				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:																				
Email: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:	Matrix (Newer Smelt, On-water, gr-Tissue, AAU) Preservation Code: Water		Total Number of Containers: 2 Boeing SSFL DO NOT FILTER; use prep date from preservation																	
Project Name: Boeing NPDES SSFL Routine Outfall 001 Comp	Project #: 57013187	Sample Date	Sample Time	Sample Type (C-Comp, G-grab)	Special Instructions/Note:																
Site: SSOWN	SSOWN	3/5/23	08:25 Pacific																		
Sample Identification - Client ID (Lab ID)		Outfall1_20230305_Comp (570-129907-1)																			

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2  
 Special Instructions/QC Requirements:  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	03/07/23	10:30	Company: <i>[Signature]</i>
Relinquished by:	Date/Time:	Date/Time:	Company:
Relinquished by:	Date/Time:	Date/Time:	Company:

Custody Seals Intact:  Yes  No  
 Cooler Temperature(s) °C and Other Remarks:



ICOC No  
570-209419

**Containers**

<u>Count</u>	<u>Container Type</u>	<u>Preservative</u>
1	Amber Glass 1 liter - unpreserved	None
1	Plastic 2.5 Gallon	None



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129907-1

**Login Number: 129907**

**List Number: 1**

**Creator: Cruise, Noel**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/3/2023 2:30:34 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Comp

## JOB NUMBER

570-129907-2

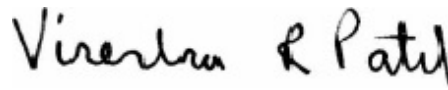
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
4/3/2023 2:30:34 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	28

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129907-2

---

## Job ID: 570-129907-2

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-129907-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

#### Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 12D5 exceeded this criteria: Outfall001\_20230305\_Comp (570-129907-1), (CCV 320-662732/2), (LCS 320-661244/2-A), (LCSD 320-661244/3-A) and (MB 320-661244/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,7,8-HxCDD	0.0000019	J,DX MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				8					
1,2,3,4,7,8-HxCDF	0.00000038	J,DX	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				1					
1,2,3,6,7,8-HxCDF	0.00000028	J,DX q	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				1					
1,2,3,7,8,9-HxCDF	0.00000053	J,DX MB	0.000048	0.0000002	ug/L	1		1613B	Total/NA
				1					
1,2,3,4,6,7,8-HpCDD	0.00000039	J,DX MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				4					
1,2,3,4,6,7,8-HpCDF	0.00000021	J,DX MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				1					
OCDD	0.0000023	J,DX MB	0.000095	0.0000003	ug/L	1		1613B	Total/NA
				5					
OCDF	0.00000043	J,DX MB	0.000095	0.0000003	ug/L	1		1613B	Total/NA
				1					
Total TCDD	0.0000020	J,DX MB	0.000095	0.0000007	ug/L	1		1613B	Total/NA
				2					
Total HxCDD	0.0000019	J,DX MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				4					
Total HxCDF	0.0000016	J,DX q MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				9					
Total HpCDD	0.0000077	J,DX MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				4					
Total HpCDF	0.0000033	J,DX MB	0.000048	0.0000003	ug/L	1		1613B	Total/NA
				1					

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230305\_Comp**

**Date Collected: 03/05/23 08:25**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.0000007	ug/L		03/16/23 07:03	03/23/23 02:44	1
				2					
2,3,7,8-TCDF	ND		0.0000095	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				0					
1,2,3,7,8-PeCDD	ND		0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				5					
1,2,3,7,8-PeCDF	ND		0.000048	0.0000002	ug/L		03/16/23 07:03	03/23/23 02:44	1
				7					
2,3,4,7,8-PeCDF	ND		0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.0000019</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				8					
1,2,3,6,7,8-HxCDD	ND		0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				9					
1,2,3,7,8,9-HxCDD	ND		0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				4					
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.00000038</b>	<b>J,DX</b>	0.000048	0.0000002	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.00000028</b>	<b>J,DX q</b>	0.000048	0.0000002	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.00000053</b>	<b>J,DX MB</b>	0.000048	0.0000002	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
2,3,4,6,7,8-HxCDF	ND		0.000048	0.0000001	ug/L		03/16/23 07:03	03/23/23 02:44	1
				9					
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.0000039</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				4					
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.0000021</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				3					
<b>OCDD</b>	<b>0.000023</b>	<b>J,DX MB</b>	0.000095	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				5					
<b>OCDF</b>	<b>0.0000043</b>	<b>J,DX MB</b>	0.000095	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
<b>Total TCDD</b>	<b>0.0000020</b>	<b>J,DX MB</b>	0.0000095	0.0000007	ug/L		03/16/23 07:03	03/23/23 02:44	1
				2					
Total TCDF	ND		0.0000095	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				0					
Total PeCDD	ND		0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				5					
Total PeCDF	ND		0.000048	0.0000002	ug/L		03/16/23 07:03	03/23/23 02:44	1
				7					
<b>Total HxCDD</b>	<b>0.0000019</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				4					
<b>Total HxCDF</b>	<b>0.0000016</b>	<b>J,DX q MB</b>	0.000048	0.0000001	ug/L		03/16/23 07:03	03/23/23 02:44	1
				9					
<b>Total HpCDD</b>	<b>0.0000077</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				4					
<b>Total HpCDF</b>	<b>0.0000033</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/16/23 07:03	03/23/23 02:44	1
				1					
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	75		25 - 164				03/16/23 07:03	03/23/23 02:44	1
13C-2,3,7,8-TCDF	77		24 - 169				03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,7,8-PeCDD	78		25 - 181				03/16/23 07:03	03/23/23 02:44	1

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230305\_Comp**

**Date Collected: 03/05/23 08:25**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**

**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,7,8-PeCDF	82		24 - 185	03/16/23 07:03	03/23/23 02:44	1
13C-2,3,4,7,8-PeCDF	82		21 - 178	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,4,7,8-HxCDD	72		32 - 141	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,6,7,8-HxCDD	80		28 - 130	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,4,7,8-HxCDF	72		26 - 152	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,6,7,8-HxCDF	81		26 - 123	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,7,8,9-HxCDF	86		29 - 147	03/16/23 07:03	03/23/23 02:44	1
13C-2,3,4,6,7,8-HxCDF	86		28 - 136	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,4,6,7,8-HpCDD	79		23 - 140	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	03/16/23 07:03	03/23/23 02:44	1
13C-1,2,3,4,7,8,9-HpCDF	84		26 - 138	03/16/23 07:03	03/23/23 02:44	1
13C-OCDD	91		17 - 157	03/16/23 07:03	03/23/23 02:44	1
13C-OCDF	94		17 - 157	03/16/23 07:03	03/23/23 02:44	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
37Cl4-2,3,7,8-TCDD	86		35 - 197	03/16/23 07:03	03/23/23 02:44	1



# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-129907-1	Outfall001_20230305_Comp	86
MB 320-661244/1-A	Method Blank	85

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-661244/2-A	Lab Control Sample	87
LCSD 320-661244/3-A	Lab Control Sample Dup	82

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-129907-1	Outfall001_20230305_Comp	75	77	78	82	82	72	80	72
MB 320-661244/1-A	Method Blank	70	73	72	76	73	66	69	61

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-129907-1	Outfall001_20230305_Comp	81	86	86	79	74	84	91	94
MB 320-661244/1-A	Method Blank	73	83	81	67	62	72	82	85

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-661244/2-A	Lab Control Sample	71	72	68	73	70	65	69	65
LCSD 320-661244/3-A	Lab Control Sample Dup	70	73	71	75	71	61	69	60

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-661244/2-A	Lab Control Sample	72	83	78	69	63	75	82	84
LCSD 320-661244/3-A	Lab Control Sample Dup	70	81	79	71	62	76	85	88

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129907-2

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-661244/1-A**  
**Matrix: Water**  
**Analysis Batch: 662732**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 661244**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDD	72		25 - 181	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,7,8-PeCDF	76		24 - 185	03/16/23 07:03	03/22/23 23:34	1
13C-2,3,4,7,8-PeCDF	73		21 - 178	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,4,7,8-HxCDD	66		32 - 141	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,6,7,8-HxCDD	69		28 - 130	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,4,7,8-HxCDF	61		26 - 152	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,6,7,8-HxCDF	73		26 - 123	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,7,8,9-HxCDF	83		29 - 147	03/16/23 07:03	03/22/23 23:34	1
13C-2,3,4,6,7,8-HxCDF	81		28 - 136	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,4,6,7,8-HpCDD	67		23 - 140	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,4,6,7,8-HpCDF	62		28 - 143	03/16/23 07:03	03/22/23 23:34	1
13C-1,2,3,4,7,8,9-HpCDF	72		26 - 138	03/16/23 07:03	03/22/23 23:34	1
13C-OCDD	82		17 - 157	03/16/23 07:03	03/22/23 23:34	1
13C-OCDF	85		17 - 157	03/16/23 07:03	03/22/23 23:34	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	85		35 - 197	03/16/23 07:03	03/22/23 23:34	1

**Lab Sample ID: LCS 320-661244/2-A**  
**Matrix: Water**  
**Analysis Batch: 662732**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 661244**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDF	0.000200	0.000214		ug/L		107	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000953		ug/L		95	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000964		ug/L		96	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000969		ug/L		97	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000918		ug/L		92	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000980		ug/L		98	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00101		ug/L		101	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000941		ug/L		94	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000963		ug/L		96	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000940		ug/L		94	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000945		ug/L		95	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000963		ug/L		96	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00100		ug/L		100	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000960		ug/L		96	78 - 138
OCDD	0.00200	0.00199		ug/L		99	78 - 144
OCDF	0.00200	0.00200		ug/L		100	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	72		22 - 152
13C-1,2,3,7,8-PeCDD	68		21 - 227
13C-1,2,3,7,8-PeCDF	73		21 - 192
13C-2,3,4,7,8-PeCDF	70		13 - 328

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-661244/2-A**  
**Matrix: Water**  
**Analysis Batch: 662732**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 661244**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C-1,2,3,4,7,8-HxCDD	65		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	65		19 - 202
13C-1,2,3,6,7,8-HxCDF	72		21 - 159
13C-1,2,3,7,8,9-HxCDF	83		17 - 205
13C-2,3,4,6,7,8-HxCDF	78		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	69		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	63		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	75		20 - 186
13C-OCDD	82		13 - 199
13C-OCDF	84		13 - 199

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
37Cl4-2,3,7,8-TCDD	87		31 - 191

**Lab Sample ID: LCSD 320-661244/3-A**  
**Matrix: Water**  
**Analysis Batch: 662732**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 661244**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
2,3,7,8-TCDD	0.000200	0.000196		ug/L		98	67 - 158	2	50
2,3,7,8-TCDF	0.000200	0.000212		ug/L		106	75 - 158	1	50
1,2,3,7,8-PeCDD	0.00100	0.000938		ug/L		94	70 - 142	2	50
1,2,3,7,8-PeCDF	0.00100	0.000953		ug/L		95	80 - 134	1	50
2,3,4,7,8-PeCDF	0.00100	0.000974		ug/L		97	68 - 160	0	50
1,2,3,4,7,8-HxCDD	0.00100	0.000929		ug/L		93	70 - 164	1	50
1,2,3,6,7,8-HxCDD	0.00100	0.000948		ug/L		95	76 - 134	3	50
1,2,3,7,8,9-HxCDD	0.00100	0.00105		ug/L		105	64 - 162	3	50
1,2,3,4,7,8-HxCDF	0.00100	0.000939		ug/L		94	72 - 134	0	50
1,2,3,6,7,8-HxCDF	0.00100	0.000954		ug/L		95	84 - 130	1	50
1,2,3,7,8,9-HxCDF	0.00100	0.000936		ug/L		94	78 - 130	0	50
2,3,4,6,7,8-HxCDF	0.00100	0.000947		ug/L		95	70 - 156	0	50
1,2,3,4,6,7,8-HpCDD	0.00100	0.000939		ug/L		94	70 - 140	3	50
1,2,3,4,6,7,8-HpCDF	0.00100	0.000996		ug/L		100	82 - 122	1	50
1,2,3,4,7,8,9-HpCDF	0.00100	0.000940		ug/L		94	78 - 138	2	50
OCDD	0.00200	0.00191		ug/L		95	78 - 144	4	50
OCDF	0.00200	0.00193		ug/L		96	63 - 170	4	50

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C-2,3,7,8-TCDD	70		20 - 175
13C-2,3,7,8-TCDF	73		22 - 152
13C-1,2,3,7,8-PeCDD	71		21 - 227
13C-1,2,3,7,8-PeCDF	75		21 - 192
13C-2,3,4,7,8-PeCDF	71		13 - 328
13C-1,2,3,4,7,8-HxCDD	61		21 - 193
13C-1,2,3,6,7,8-HxCDD	69		25 - 163
13C-1,2,3,4,7,8-HxCDF	60		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-661244/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 662732

Prep Batch: 661244

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,6,7,8-HxCDF	70		21 - 159
13C-1,2,3,7,8,9-HxCDF	81		17 - 205
13C-2,3,4,6,7,8-HxCDF	79		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	71		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	62		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	76		20 - 186
13C-OCDD	85		13 - 199
13C-OCDF	88		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	82		31 - 191



# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-2

## Specialty Organics

### Prep Batch: 661244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	1613B	
MB 320-661244/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-661244/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-661244/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 662732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	1613B	661244
MB 320-661244/1-A	Method Blank	Total/NA	Water	1613B	661244
LCS 320-661244/2-A	Lab Control Sample	Total/NA	Water	1613B	661244
LCSD 320-661244/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	661244



# Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 570-129907-2

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

**Date Collected: 03/05/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1048.4 mL	20.0 uL	661244	03/16/23 07:03	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	662732	03/23/23 02:44	DB	EET SAC

Instrument ID: 12D5

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	03-29-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129907-1	Outfall001_20230305_Comp	Water	03/05/23 08:25	03/06/23 17:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16







ICOC No  
570-209419

**Containers**

<u>Count</u>	<u>Container Type</u>	<u>Preservative</u>
1	Amber Glass 1 liter - unpreserved	None
1	Plastic 2.5 Gallon	None





# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler: <b>Patel, Virendra</b>		Lab PM: <b>Patel, Virendra</b>		Carrier Tracking No(s):		COC No: <b>570-209435-1</b>	
Client Contact:		Phone:		E-Mail: <b>Virendra.Patel@et.eurofins.com</b>		State of Origin: <b>California</b>		Page: <b>Page 1 of 1</b>	
Shipping/Receiving		Company: <b>Eurofins Environment Testing Northern Ca</b>		Accreditations Required (See note): <b>State Program - California</b>		Job #:		Job #: <b>570-129907-2</b>	
Address: <b>880 Riverside Parkway,</b>		Due Date Requested: <b>3/16/2023</b>		Analysis Requested		Preservation Codes:		M - Hexane N - None O - AsNaO2 P - Na2SO3 Q - Na2SO4 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
City: <b>West Sacramento</b>		TAT Requested (days):		Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		Total Number of Containers	
State: <b>CA</b>		PO #:		1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals		X		2	
Zip: <b>CA, 95605</b>		WO #:		Matrix (W=water, S=solid, O=water/soil, BT= tissue, AA=air)		Preservation Code:		Special Instructions/Note:	
Phone: <b>916-373-5600(Tel) 916-372-1059(Fax)</b>		Project #: <b>57013187</b>		Sample Type (C=Comp, G=grab)		Water		See QAS, Boeing w/u to zero, ug/L. Use Boeing glassware.	
Email:		SSOW#:		Sample Time		08:25 Pacific			
Project Name: <b>Boeing NPDES SSFL - Routine Outfall 001 - Comp</b>		Sample Date		Sample Date		3/5/23			
Site:		Sample ID (Lab ID)		Sample Date		3/5/23			
Outfall1_20230305_Comp (570-129907-1)		Sample Date		Sample Date		3/5/23			

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) **Primary Deliverable Rank: 2**

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: **03/07/23 12:03** Company: **EC**  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact: **157-114**  
 Yes  No

Cooler Temperature(s) °C and Other Remarks: **4.0L**



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Shipping/Receiving		Patel, Virendra	Patel, Virendra	570-209610.1	570-209610.1
Company: Eurofins Environment Testing Northern Ca		E-Mail:	Virendra.Patel@et.eurofins.com	State of Origin:	Page:
Address: 880 Riverside Parkway, West Sacramento, CA 95605		Accreditations Required (See note):		California	Page 1 of 1
City: West Sacramento		State Program - California		Job #:	570-129907-2
State Zip: CA, 95605		Due Date Requested:		Preservation Codes:	
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		3/16/2023		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (Specify)	
Email:		TAT Requested (days):		A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: Boeing NPDES SSFL - Routine Outfall 001 - Comp		PO #:		Total Number of containers	
Site:		WO #:		2	
Project #: 57013187		Sample Date:		Special Instructions/Note:	
SSOW#:		3/5/23		See OAS. Boeing_w/u to zero, ug/L. Use Boeing glassware.	
Sample Identification - Client ID (Lab ID)		Sample Time			
Outfall1_20230305_CompExtra (570-129907-2)		08:25 Pacific			
Sample Date		Sample Type (C=comp, G=grab)			
3/5/23		Water			
Sample Time		Matrix (Water, Sewage, Other)			
08:25 Pacific		BT=Tris, AA=AP			
Sample Date		Preservation Code:			
3/5/23		Water			
Sample Time		Field Filtered Sample (Yes or No)			
08:25 Pacific		X			
Sample Date		Perform MS/MSD (Yes or No)			
3/5/23		X			
Sample Time		1613B/1613B Sox_Sep_P (MOD) Standard List w/			
08:25 Pacific					
Sample Date		Totals (Hold)			
3/5/23					
Sample Time					
08:25 Pacific					
Sample Date					
3/5/23					
Sample Time					
08:25 Pacific					

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 03/08/23 11:12 Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact:  Yes  No  No  
 Custody Seal No.: \_\_\_\_\_ Cooler Temperature(s) °C and Other Remarks: 1.72

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: 3-9-23 9:15 Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab P#:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Phone:	Patel, Virendra		570-209610 1
Company: Eurofins Environment Testing Northern Ca		E-Mail: Virendra.Patel@et.eurofins.com		State of Origin: (California)	Page: Page 1 of 1
Address: 880 Riverside Parkway, West Sacramento State, Zip: CA, 95605		Accreditations Required (See note): State Program - California		Job #:	570-129907-2
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		Due Date Requested: 3/16/2023		<b>Preservation Codes:</b> M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
Email:		TAT Requested (days):		Other:	
Project Name: Boeing NPDES SSFL - Routine Outfall 001 - Comp		PO #:		Analysis Requested	
Site:		WO #:		Total Number of containers	
Project #: 57013187		Sample Date		Field Filtered Sample (Yes or No)	
Site:		Sample Time		Perform MS/MSD (Yes or No)	
Sample Identification - Client ID (Lab ID)		Sample Date		Totals (Hold)	
Outfall1_20230305_CompExtra (570-129907-2)		3/5/23		16138/16138_Sox_Sep_P (MOD) Standard List w/	
Sample Type (C=Comp, G=grab)		08:25 Pacific		X	
Matrix (Water, Seawater, Other)		Water		Special Instructions/Note:	
Preservation Code:				See QAS, Boeing_w/ to zero, ug/L. Use Boeing glassware.	

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: 03/08/23 11:12  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Custody Seals Intact: (Yes)  (No)   
 Custody Seal No.: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: 3.9.23 9:15  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: 1.72



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129907-2

**Login Number: 129907**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Cruise, Noel**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129907-2

**Login Number: 129907**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 03/08/23 04:58 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1517114
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129907-2

**Login Number: 129907**

**List Number: 4**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 03/09/23 05:02 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/12/2023 7:12:18 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Comp

## JOB NUMBER

570-129907-3

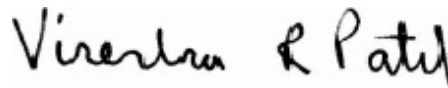
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/12/2023 7:12:18 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	21
Lab Chronicle . . . . .	22
Certification Summary . . . . .	23
Method Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	31



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129907-3

## Job ID: 570-129907-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-129907-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

#### RAD

Method 900.0: Gross Alpha Beta prep batch 160-606236:

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-606326 and analytical batch 160-606671 were outside control limits for one or more analytes. In addition RER/RPD was also outside of control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 900.0: Gross Alpha Beta prep batch 160-606326:

The detection goal was not met for the following sample(s). The samples and batch QC were prepped at full volume. Matrix interferences are suspected because the method blank achieved the detection goal demonstrating acceptable sample preparation and instrument performance. (570-129852-R-1-F)

Method 900.0: Gross Alpha Beta prep batch 160-606326:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230305\_Comp (570-129907-1), (LCS 160-606326/2-A), (LCSB 160-606326/3-A), (MB 160-606326/1-A), (570-129852-R-1-F), (570-129852-R-1-J MS), (570-129852-R-1-L MSBT), (570-129852-R-1-M MSBTD) and (570-129852-R-1-K MSD)

Method 901.1: Gamma prep batch 160-604032

The detection goal of 20 pCi/L was not met for Cs-137 for the following sample. An elevated MDC can occur when higher background counts are applied to a peak ROI. This is due to the relatively small size of the peak or subsequent "force-fit" of the non-existent peak which resulted in higher than normal background counts due to statistical fluctuations in the Compton baseline. The laboratory does not believe this adversely affects the data, the Cs-137 is well below the RL and MDC.

Outfall001\_20230305\_Comp (570-129907-1)

Method 901.1: Gamma Prep Batch 160-604032

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129907-3

## Job ID: 570-129907-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

\*\*The method blank (MB) Z-score is within limits and is located in the level IV raw data.

Outfall001\_20230305\_Comp (570-129907-1), (570-128840-R-1-D) and (570-128840-R-1-E DU)

Methods 903.0, 9315: Radium-226 batch 603854

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Methods 904.0, 9320: Radium-228 batch 603857

The LCS recovered at (128%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS passes, no further action is required

(LCSD 160-603857/25-A)

Methods 904.0, 9320: Radium-228 batch 603857

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230305\_Comp (570-129907-1), (LCS 160-603857/2-A), (LCSD 160-603857/25-A), (MB 160-603857/1-A), (570-129852-R-1-B), (570-129852-L-1-C MS) and (570-129852-L-1-D MSD)

Method 905: Strontium-90 batch 604379

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230305\_Comp (570-129907-1), (LCS 160-604379/2-A), (MB 160-604379/1-A), (570-129852-R-1-D), (570-129852-L-1-E MS) and (570-129852-L-1-F MSD)

Method 906.0: Tritium 605397

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp

Job ID: 570-129907-3

---

## Job ID: 570-129907-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

applied as the Activity Reference Date. Outfall001\_20230305\_Comp (570-129907-1), (LCS 160-605397/2-A), (MB 160-605397/1-A), (570-129852-Q-1-B), (570-129852-K-1-D MS) and (570-129852-K-1-E MSD)

Method 906.0: The matrix spike duplicate (MSD) recovery was inadvertently not spiked. However the matrix spike (MS) was within range and all other QC was within limits. Per client, the data will be reported with this narrative. Outfall001\_20230305\_Comp (570-129907-1), (570-129852-Q-1-B), (570-129852-K-1-D MS) and (570-129852-K-1-E MSD)

Method A-01-R: Isotopic Uranium Batch 605724

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230305\_Comp (570-129907-1), (LCS 160-605724/2-A), (MB 160-605724/1-A), (570-129852-R-1-E), (570-129852-L-1-G MS) and (570-129852-L-1-H MSD)

Method ExtChrom: Uranium Prep Batch 160-605724:

The following sample was prepared at a reduced aliquot due to sediment and discoloration: Outfall001\_20230305\_Comp (570-129907-1).

Method PrecSep\_0:

Method PrecSep-21:

Method PrecSep-7:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129907-3

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Date Collected: 03/05/23 08:25**  
**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.416	U F	0.829	0.830	3.00	1.46	pCi/L	04/06/23 10:28	04/11/23 06:11	1
<b>Gross Beta</b>	<b>1.08</b>		0.563	0.573	4.00	0.813	pCi/L	04/06/23 10:28	04/11/23 06:11	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230305\_Comp

Lab Sample ID: 570-129907-1

Date Collected: 03/05/23 08:25

Matrix: Water

Date Received: 03/06/23 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-10.4	U G	19.3	19.3	20.0	23.3	pCi/L	03/17/23 14:08	03/28/23 22:12	1
Potassium-40	-26.6	U	164	164		237	pCi/L	03/17/23 14:08	03/28/23 22:12	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Date Collected: 03/05/23 08:25**  
**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0398	U	0.0804	0.0804	1.00	0.146	pCi/L	03/16/23 07:58	04/07/23 10:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		30 - 110					03/16/23 07:58	04/07/23 10:46	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Date Collected: 03/05/23 08:25**  
**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Radium-228</b>	<b>0.882</b>		0.492	0.499	1.00	0.697	pCi/L	03/16/23 09:45	03/30/23 12:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		30 - 110					03/16/23 09:45	03/30/23 12:08	1
Y Carrier	82.2		30 - 110					03/16/23 09:45	03/30/23 12:08	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230305\_Comp**  
**Date Collected: 03/05/23 08:25**  
**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129907-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.173	U	0.383	0.383	3.00	0.724	pCi/L	03/20/23 13:22	03/29/23 16:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	85.2		30 - 110					03/20/23 13:22	03/29/23 16:06	1
Y Carrier	74.4		30 - 110					03/20/23 13:22	03/29/23 16:06	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230305\_Comp  
Date Collected: 03/05/23 08:25  
Date Received: 03/06/23 17:00

Lab Sample ID: 570-129907-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	15.3	U F	137	137	500	248	pCi/L	03/29/23 11:02	04/04/23 19:51	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall001\_20230305\_Comp

Lab Sample ID: 570-129907-1

Date Collected: 03/05/23 08:25

Matrix: Water

Date Received: 03/06/23 17:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.121	U	0.175	0.175	1.00	0.250	pCi/L	03/30/23 15:31	04/04/23 20:40	1
Tracer	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Uranium-232	109		30 - 110					03/30/23 15:31	04/04/23 20:40	1

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)					
570-129907-1	Outfall001_20230305_Comp	88.1					
LCS 160-603854/2-A	Lab Control Sample	94.8					
LCSD 160-603854/25-A	Lab Control Sample Dup	89.2					
MB 160-603854/1-A	Method Blank	91.5					

### Tracer/Carrier Legend

Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)				
570-129907-1	Outfall001_20230305_Comp	88.1	82.2				
LCS 160-603857/2-A	Lab Control Sample	94.8	81.5				
LCSD 160-603857/25-A	Lab Control Sample Dup	89.2	87.5				
MB 160-603857/1-A	Method Blank	91.5	83.7				

### Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)				
570-129907-1	Outfall001_20230305_Comp	85.2	74.4				
LCS 160-604379/2-A	Lab Control Sample	85.6	76.6				
MB 160-604379/1-A	Method Blank	79.3	70.3				

### Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)					
570-129907-1	Outfall001_20230305_Comp	109					
LCS 160-605724/2-A	Lab Control Sample	92.1					
MB 160-605724/1-A	Method Blank	92.8					

### Tracer/Carrier Legend

U-232 = Uranium-232

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-606326/1-A**  
**Matrix: Water**  
**Analysis Batch: 606671**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Gross Alpha	0.4133	U	0.657	0.658	3.00	1.12	pCi/L	04/06/23 10:28	04/10/23 20:47		1	
Gross Beta	0.02677	U	0.496	0.496	4.00	0.874	pCi/L	04/06/23 10:28	04/10/23 20:47		1	

**Lab Sample ID: LCS 160-606326/2-A**  
**Matrix: Water**  
**Analysis Batch: 606895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	51.96		7.62	3.00	2.05	pCi/L	103	75 - 125

**Lab Sample ID: LCSB 160-606326/3-A**  
**Matrix: Water**  
**Analysis Batch: 606671**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.4	74.51		7.98	4.00	0.927	pCi/L	102	75 - 125

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-604032/1-A**  
**Matrix: Water**  
**Analysis Batch: 604760**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604032**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Cesium-137	-0.4655	U	10.3	10.3	20.0	12.1	pCi/L	03/17/23 14:08	03/22/23 19:49		1	
Potassium-40	12.53	U	78.9	78.9		135	pCi/L	03/17/23 14:08	03/22/23 19:49		1	

**Lab Sample ID: LCS 160-604032/2-A**  
**Matrix: Water**  
**Analysis Batch: 604760**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604032**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Americium-241	135000	143200		17000		415	pCi/L	106	75 - 125
Cesium-137	40900	41780		4980	20.0	92.9	pCi/L	102	75 - 125
Cobalt-60	17800	18360		2190		50.3	pCi/L	103	75 - 125

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-603854/1-A**  
**Matrix: Water**  
**Analysis Batch: 606563**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 603854**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.006854	U	0.0481	0.0481	1.00	0.106	pCi/L	03/16/23 07:58	04/07/23 10:41	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	91.5		30 - 110					03/16/23 07:58	04/07/23 10:41	1

**Lab Sample ID: LCS 160-603854/2-A**  
**Matrix: Water**  
**Analysis Batch: 606563**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 603854**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.41		1.18	1.00	0.0785	pCi/L	101	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	94.8		30 - 110					03/16/23 07:58	04/07/23 10:41

**Lab Sample ID: LCSD 160-603854/25-A**  
**Matrix: Water**  
**Analysis Batch: 606587**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 603854**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	10.67		1.13	1.00	0.155	pCi/L	94	75 - 125	0.32	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	89.2		30 - 110					03/16/23 09:45	03/30/23 12:11	1	

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-603857/1-A**  
**Matrix: Water**  
**Analysis Batch: 605623**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 603857**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.4545		0.308	0.311	1.00	0.452	pCi/L	03/16/23 09:45	03/30/23 12:11	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	91.5		30 - 110					03/16/23 09:45	03/30/23 12:11	1
Y Carrier	83.7		30 - 110		03/16/23 09:45	03/30/23 12:11	1			



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: 904.0 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-603857/2-A**  
**Matrix: Water**  
**Analysis Batch: 605623**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 603857**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
									75	125
Radium-228	8.08	9.981		1.32	1.00	0.466	pCi/L	124	75 - 125	
<b>Carrier</b>										
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Ba Carrier	94.8		30 - 110							
Y Carrier	81.5		30 - 110							

**Lab Sample ID: LCSD 160-603857/25-A**  
**Matrix: Water**  
**Analysis Batch: 605624**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 603857**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		RER	RER Limit
									75	125	0.13	1
Radium-228	8.08	10.32		1.36	1.00	0.479	pCi/L	128	75 - 125	0.13	1	
<b>Carrier</b>												
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>									
Ba Carrier	89.2		30 - 110									
Y Carrier	87.5		30 - 110									

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-604379/1-A**  
**Matrix: Water**  
**Analysis Batch: 605413**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604379**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
								03/20/23 13:22	03/29/23 15:59	03/20/23 13:22	03/29/23 15:59	
Strontium-90	-0.1030	U	0.268	0.268	3.00	0.492	pCi/L	03/20/23 13:22	03/29/23 15:59	03/20/23 13:22	03/29/23 15:59	1
<b>Carrier</b>												
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>					<b>Prepared</b>	<b>Analyzed</b>			<b>Dil Fac</b>
Sr Carrier	79.3		30 - 110					03/20/23 13:22	03/29/23 15:59			1
Y Carrier	70.3		30 - 110					03/20/23 13:22	03/29/23 15:59			1

**Lab Sample ID: LCS 160-604379/2-A**  
**Matrix: Water**  
**Analysis Batch: 605413**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604379**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
									75	125
Strontium-90	7.35	7.405		0.842	3.00	0.323	pCi/L	101	75 - 125	
<b>Carrier</b>										
	<b>%Yield</b>	<b>Qualifier</b>	<b>Limits</b>							
Sr Carrier	85.6		30 - 110							
Y Carrier	76.6		30 - 110							

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-605397/1-A  
 Matrix: Water  
 Analysis Batch: 606179

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605397

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	81.53	U	151	151	500	263	pCi/L	03/29/23 11:02	04/04/23 16:05	1

Lab Sample ID: LCS 160-605397/2-A  
 Matrix: Water  
 Analysis Batch: 606179

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605397

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Tritium	2090	1744		317	500	251	pCi/L	83	75 - 125

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-605724/1-A  
 Matrix: Water  
 Analysis Batch: 606117

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605724

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Total Uranium	0.03149	U	0.08996	0.09003	1.00	0.148	pCi/L	03/30/23 15:31	04/04/23 20:40	1

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	92.8		30 - 110	03/30/23 15:31	04/04/23 20:40	1

Lab Sample ID: LCS 160-605724/2-A  
 Matrix: Water  
 Analysis Batch: 606357

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605724

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Uranium-234	12.7	13.25		1.55	1.00	0.113	pCi/L	104	75 - 125
Uranium-238	13.0	13.61		1.58	1.00	0.123	pCi/L	105	75 - 125

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	92.1		30 - 110

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Rad

### Prep Batch: 603854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	PrecSep-21	
MB 160-603854/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-603854/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCS D 160-603854/25-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 603857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	PrecSep_0	
MB 160-603857/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-603857/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCS D 160-603857/25-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 604032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-604032/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-604032/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 604379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	PrecSep-7	
MB 160-604379/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-604379/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

### Prep Batch: 605397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-605397/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-605397/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

### Prep Batch: 605724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	ExtChrom	
MB 160-605724/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-605724/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

### Prep Batch: 606326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129907-1	Outfall001_20230305_Comp	Total/NA	Water	Evaporation	
MB 160-606326/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-606326/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCS B 160-606326/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

**Client Sample ID: Outfall001\_20230305\_Comp**

**Lab Sample ID: 570-129907-1**

**Date Collected: 03/05/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.00 mL	1.0 g	606326	04/06/23 10:28	MST	EET SL
Total/NA	Analysis	900.0		1			606892	04/11/23 06:11	SCB	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	604032	03/17/23 14:08	SEH	EET SL
Total/NA	Analysis	901.1		1			605206	03/28/23 22:12	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			751.22 mL	1.0 g	603854	03/16/23 07:58	DJP	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	606587	04/07/23 10:46	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			751.22 mL	1.0 g	603857	03/16/23 09:45	DJP	EET SL
Total/NA	Analysis	904.0		1			605623	03/30/23 12:08	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep-7			509.43 mL	1.0 g	604379	03/20/23 13:22	DJP	EET SL
Total/NA	Analysis	905		1			605412	03/29/23 16:06	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	LSC_Dist_Susp			101.49 mL	1.0 g	605397	03/29/23 11:02	SEH	EET SL
Total/NA	Analysis	906.0		1			606179	04/04/23 19:51	REV	EET SL
Instrument ID: LSCAQUA										
Total/NA	Prep	ExtChrom			298.2 mL	1.0 mL	605724	03/30/23 15:31	CMM	EET SL
Total/NA	Analysis	A-01-R		1			606111	04/04/23 20:40	EJS	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
 Comp

Job ID: 570-129907-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Comp

Job ID: 570-129907-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129907-1	Outfall001_20230305_Comp	Water	03/05/23 08:25	03/06/23 17:00

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15









ICOC No  
570-209419

**Containers**

<u>Count</u>	<u>Container Type</u>	<u>Preservative</u>
1	Amber Glass 1 liter - unpreserved	None
1	Plastic 2.5 Gallon	None



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler	Lab PM: Patel, Virendra		Carrier Tracking No(s): 570-209419.1	
Client Contact Shipping/Receiving		Phone	E-Mail: Virendra.Patel@eurofins.com		State of Origin: California	
Company: TestAmerica Laboratories, Inc.		Address: 13715 Rider Trail North, City: Earth City, State, Zip: MO, 63045		Job #: 570-129907-3		Page: Page 1 of 1
Due Date Requested: 4/6/2023		TAT Requested (days):		Preservation Codes:		
PO #	WO #	Project #	57013187	Analysis Requested		
Address: 314-298-8566(Tel) 314-298-8757(Fax)		Site: Boeing NPDES SSFL - Routine Outfall 001 - Comp		900.0/Evaporation Gross Alpha/Beta		
Sample Date	3/5/23	Sample Time	08:25 Pacific	906.0/S_C_Dist_Susp Tritium	X	
Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/Oil)	Water	905.590/PreSep_7 Strontium-90	X	
Sample ID (Lab ID)	Outfall_20230305_Comp (570-129907-1)	Preservation Code:		904.0/PreSep_0 Radium-228	X	
Special Instructions/Note:		Boeing SSFL; DO NOT FILTER; use prep date from preservation		901.1_Ca/Fill_Geo_0 K-40 and Cesium-137	X	
Total Number of Containers		2		Special Instructions/Note:		

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: 03/07/23 10:30  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: MAR 08 2023 10:30  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Company: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Company: \_\_\_\_\_

Method of Shipment: \_\_\_\_\_  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements:

Cooler Temperature(s) °C and Other Remarks



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129907-3

**Login Number: 129907**

**List Number: 1**

**Creator: Cruise, Noel**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129907-3

**Login Number: 129907**

**List Number: 2**

**Creator: Worthington, Sierra M**

**List Source: Eurofins St. Louis**

**List Creation: 03/08/23 01:51 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	False	Refer to Job Narrative for details.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/22/2023 6:54:54 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall 001 - Grab

## JOB NUMBER

570-129989-1

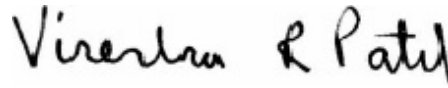
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/22/2023 6:54:54 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-129989-1

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grab

Job ID: 570-129989-1

---

## Job ID: 570-129989-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-129989-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/6/2023 5:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6° C.

#### GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-309627. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-310236.

Method: 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

**Client Sample ID: Outfall001\_20230306\_Grab**

**Lab Sample ID: 570-129989-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	190		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230306**

**Lab Sample ID: 570-129989-3**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230306\_Grab**

**Date Collected: 03/06/23 08:25**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129989-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/07/23 17:46	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/07/23 17:46	1
Trichloroethene	ND		0.50	0.17	ug/L			03/07/23 17:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					03/07/23 17:46	1
Toluene-d8 (Surr)	98		60 - 140					03/07/23 17:46	1

**Client Sample ID: TB-20230306**

**Date Collected: 03/06/23 08:25**

**Date Received: 03/06/23 17:00**

**Lab Sample ID: 570-129989-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/07/23 16:17	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/07/23 16:17	1
Trichloroethene	ND		0.50	0.17	ug/L			03/07/23 16:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		60 - 140					03/07/23 16:17	1
Toluene-d8 (Surr)	98		60 - 140					03/07/23 16:17	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## General Chemistry

Client Sample ID: Outfall001\_20230306\_Grab

Date Collected: 03/06/23 08:25

Date Received: 03/06/23 17:00

Lab Sample ID: 570-129989-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		1.0	0.52	mg/L		03/09/23 10:10	03/10/23 07:51	1
<b>Specific Conductance (SM 2510B)</b>	<b>190</b>		1.0	1.0	umhos/cm			03/16/23 15:34	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			03/07/23 13:34	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL
		(60-140)	(60-140)
570-129989-1	Outfall001_20230306_Grab	97	98
570-129989-3	TB-20230306	99	98
LCS 570-309627/1003	Lab Control Sample	99	98
LCSD 570-309627/4	Lab Control Sample Dup	97	99
MB 570-309627/6	Method Blank	95	98

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-309627/6**  
**Matrix: Water**  
**Analysis Batch: 309627**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/07/23 15:33	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/07/23 15:33	1
Trichloroethene	ND		0.50	0.17	ug/L			03/07/23 15:33	1
Surrogate	MB	MB	Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	95		60 - 140				03/07/23 15:33	1	
Toluene-d8 (Surr)	98		60 - 140				03/07/23 15:33	1	

**Lab Sample ID: LCS 570-309627/1003**  
**Matrix: Water**  
**Analysis Batch: 309627**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
								1,1-Dichloroethene
1,2-Dichloroethane	10.0	9.51		ug/L		95	70 - 130	
Trichloroethene	10.0	10.1		ug/L		101	65 - 135	
Surrogate	LCS	LCS	Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene (Surr)	99		60 - 140					
Toluene-d8 (Surr)	98		60 - 140					

**Lab Sample ID: LCSD 570-309627/4**  
**Matrix: Water**  
**Analysis Batch: 309627**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloroethane	10.0	9.21		ug/L		92	70 - 130	3	49
Trichloroethene	10.0	10.5		ug/L		105	65 - 135	4	48
Surrogate	LCSD	LCSD	Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
4-Bromofluorobenzene (Surr)	97		60 - 140						
Toluene-d8 (Surr)	99		60 - 140						

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-310236/1-A**  
**Matrix: Water**  
**Analysis Batch: 310507**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310236**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		03/09/23 10:10	03/10/23 07:51	1



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## Method: 1664A - HEM and SGT-HEM (Continued)

**Lab Sample ID: LCS 570-310236/2-A**  
**Matrix: Water**  
**Analysis Batch: 310507**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310236**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	37.3		mg/L		93	78 - 114

**Lab Sample ID: LCSD 570-310236/3-A**  
**Matrix: Water**  
**Analysis Batch: 310507**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310236**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	38.7		mg/L		97	78 - 114	4	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-312279/8**  
**Matrix: Water**  
**Analysis Batch: 312279**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			03/16/23 15:08	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## GC/MS VOA

### Analysis Batch: 309627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129989-1	Outfall001_20230306_Grab	Total/NA	Water	624.1	
570-129989-3	TB-20230306	Total/NA	Water	624.1	
MB 570-309627/6	Method Blank	Total/NA	Water	624.1	
LCS 570-309627/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-309627/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 309623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129989-1	Outfall001_20230306_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 310236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129989-1	Outfall001_20230306_Grab	Total/NA	Water	1664A	
MB 570-310236/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-310236/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-310236/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 310507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129989-1	Outfall001_20230306_Grab	Total/NA	Water	1664A	310236
MB 570-310236/1-A	Method Blank	Total/NA	Water	1664A	310236
LCS 570-310236/2-A	Lab Control Sample	Total/NA	Water	1664A	310236
LCSD 570-310236/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	310236

### Analysis Batch: 312279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-129989-1	Outfall001_20230306_Grab	Total/NA	Water	SM 2510B	
MB 570-312279/8	Method Blank	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

**Client Sample ID: Outfall001\_20230306\_Grab**

**Lab Sample ID: 570-129989-1**

**Date Collected: 03/06/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	309627	03/07/23 17:46	N1A	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			975 mL	1000 mL	310236	03/09/23 10:10	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			310507	03/10/23 07:51	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			312279	03/16/23 15:34	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	309623	03/07/23 13:34	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230306**

**Lab Sample ID: 570-129989-3**

**Date Collected: 03/06/23 08:25**

**Matrix: Water**

**Date Received: 03/06/23 17:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	309627	03/07/23 16:17	N1A	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Job ID: 570-129989-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-129989-1

Project/Site: Boeing NPDES SSFL - Routine Outfall 001 - Grat

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall 001 -  
Grab

Job ID: 570-129989-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-129989-1	Outfall001_20230306_Grab	Water	03/06/23 08:25	03/06/23 17:00
570-129989-3	TB-20230306	Water	03/06/23 08:25	03/06/23 17:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-129989-1

**Login Number: 129989**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Cruise, Noel**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	







# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/22/2023 7:19:05 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall - 001 - Comp

## JOB NUMBER

570-130078-1

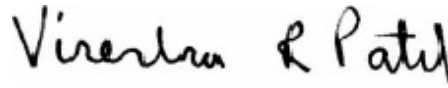
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/22/2023 7:19:05 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	30
Lab Chronicle . . . . .	35
Certification Summary . . . . .	37
Method Summary . . . . .	38
Sample Summary . . . . .	39
Chain of Custody . . . . .	40
Receipt Checklists . . . . .	42



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
BA	Relative percent difference out of control
BU	Sample was prepped beyond the specified holding time
IB	CCV recovery above limit; analyte not detected
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 - Comp

Job ID: 570-130078-1

## Job ID: 570-130078-1

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-130078-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/7/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 1.7° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### HPLC/IC

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-309785 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride and Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300.0: Due to the high concentration of Chloride and Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-309785 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 245.1: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 570-310128 and analytical batch 570-310348 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Methods 245.1, 7470A: The continuing calibration verification (CCV) associated with batch 570-310669 recovered above the upper control limit for Mercury. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Outfall001\_20230307\_Comp\_F (570-130078-3) and (CCV 570-310614/9-A).

Method Filtration: The following sample was not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230307\_Comp\_F (570-130078-3). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230307\_Comp\_F (570-130078-3), Outfall001\_20230307\_Comp\_F (570-130078-3[MS]) and Outfall001\_20230307\_Comp\_F (570-130078-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-312131 were outside control

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 - Comp

Job ID: 570-130078-1

---

## Job ID: 570-130078-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-310287. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. 608.3 PEST LL

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7.1		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.24		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	16		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.24		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	1.5	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	96		20	3.7	ug/L	1		200.8	Total Recoverable
Zinc	2.9	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Turbidity	1.3		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	130		10	8.7	mg/L	1		SM 2540C	Total/NA
Biochemical Oxygen Demand	1.7	J,DX	2.0	1.0	mg/L	1		SM 5210B	Total/NA

**Client Sample ID: Outfall001\_20230307\_Comp\_F**

**Lab Sample ID: 570-130078-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.3	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	46	BU	20	3.7	ug/L	1		200.8	Dissolved
Zinc	3.0	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.15	ug/L		03/10/23 12:12	03/13/23 22:34	1
2,4-Dinitrotoluene	ND		0.21	0.12	ug/L		03/10/23 12:12	03/13/23 22:34	1
Bis(2-ethylhexyl) phthalate	ND		5.2	3.8	ug/L		03/10/23 12:12	03/13/23 22:34	1
N-Nitrosodimethylamine	ND		0.21	0.19	ug/L		03/10/23 12:12	03/13/23 22:34	1
Pentachlorophenol	ND		1.0	0.88	ug/L		03/10/23 12:12	03/13/23 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	63		31 - 120	03/10/23 12:12	03/13/23 22:34	1
Phenol-d6 (Surr)	22		10 - 120	03/10/23 12:12	03/13/23 22:34	1
p-Terphenyl-d14 (Surr)	78		45 - 120	03/10/23 12:12	03/13/23 22:34	1
2,4,6-Tribromophenol	79		28 - 127	03/10/23 12:12	03/13/23 22:34	1
2-Fluorophenol	33		17 - 120	03/10/23 12:12	03/13/23 22:34	1
Nitrobenzene-d5	63		27 - 120	03/10/23 12:12	03/13/23 22:34	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Outfall001\_20230307\_Comp**

**Date Collected: 03/07/23 07:55**

**Date Received: 03/07/23 18:00**

**Lab Sample ID: 570-130078-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/09/23 12:21	03/13/23 22:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	50		20 - 139				03/09/23 12:21	03/13/23 22:44	1
<i>DCB Decachlorobiphenyl (Surr)</i>	102		20 - 154				03/09/23 12:21	03/13/23 22:44	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.1		1.0	0.36	mg/L			03/08/23 06:07	1
Nitrite as N	ND		0.10	0.043	mg/L			03/08/23 06:07	1
Nitrate as N	0.24		0.10	0.020	mg/L			03/08/23 06:07	1
Sulfate	16		1.0	0.24	mg/L			03/08/23 06:07	1

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/09/23 18:27	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.24		0.10	0.020	mg/L			03/10/23 16:06	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/08/23 08:49	03/08/23 11:51	1
<b>Copper</b>	<b>1.5</b>	<b>J,DX</b>	2.0	0.32	ug/L		03/08/23 08:49	03/08/23 11:51	1
<b>Iron</b>	<b>96</b>		20	3.7	ug/L		03/08/23 08:49	03/08/23 11:51	1
Lead	ND		1.0	0.12	ug/L		03/08/23 08:49	03/08/23 11:51	1
Selenium	ND		2.0	0.52	ug/L		03/08/23 08:49	03/08/23 11:51	1
<b>Zinc</b>	<b>2.9</b>	<b>J,DX</b>	20	2.8	ug/L		03/08/23 08:49	03/08/23 11:51	1

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230307\_Comp\_F

Lab Sample ID: 570-130078-3

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			03/08/23 14:29	1
<b>Copper</b>	<b>1.3</b>	<b>J,DX BU</b>	2.0	0.32	ug/L			03/08/23 14:29	1
<b>Iron</b>	<b>46</b>	<b>BU</b>	20	3.7	ug/L			03/08/23 14:29	1
Lead	ND	BU	1.0	0.12	ug/L			03/08/23 14:29	1
Selenium	ND	BU	2.0	0.52	ug/L			03/08/23 14:29	1
<b>Zinc</b>	<b>3.0</b>	<b>J,DX BU</b>	20	2.8	ug/L			03/08/23 14:29	1

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/08/23 22:19	03/09/23 12:49	1

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230307\_Comp\_F

Lab Sample ID: 570-130078-3

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	IB	0.20	0.12	ug/L		03/08/23 17:10	03/10/23 14:26	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## General Chemistry

**Client Sample ID: Outfall001\_20230307\_Comp**

**Date Collected: 03/07/23 07:55**

**Date Received: 03/07/23 18:00**

**Lab Sample ID: 570-130078-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		03/13/23 13:40	03/13/23 15:48	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			03/14/23 19:36	1
<b>Turbidity (SM 2130B)</b>	<b>1.3</b>		0.05	0.05	NTU			03/08/23 12:58	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>130</b>		10	8.7	mg/L			03/10/23 18:35	1
Total Suspended Solids (SM 2540D)	ND		1.0	0.83	mg/L			03/10/23 12:07	1
<b>Biochemical Oxygen Demand (SM 5210B)</b>	<b>1.7</b>	<b>J,DX</b>	2.0	1.0	mg/L		03/08/23 16:04	03/08/23 16:50	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		03/08/23 13:18	03/08/23 15:27	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-130078-1	Outfall001_20230307_Comp	63	22	78	79	33	63
LCS 570-310496/2-A	Lab Control Sample	80	34	92	90	51	73
LCSD 570-310496/3-A	Lab Control Sample Dup	73	33	86	87	47	68
MB 570-310496/1-A	Method Blank	64	27	82	63	41	68

#### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
570-130078-1	Outfall001_20230307_Comp	50	102
LCS 570-310287/2-A	Lab Control Sample	53	72
LCSD 570-310287/3-A	Lab Control Sample Dup	63	77
MB 570-310287/1-A	Method Blank	36	61

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-310496/1-A**  
**Matrix: Water**  
**Analysis Batch: 311097**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310496**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		03/10/23 06:36	03/13/23 19:26	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		03/10/23 06:36	03/13/23 19:26	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		03/10/23 06:36	03/13/23 19:26	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		03/10/23 06:36	03/13/23 19:26	1
Pentachlorophenol	ND		1.0	0.84	ug/L		03/10/23 06:36	03/13/23 19:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	64		31 - 120	03/10/23 06:36	03/13/23 19:26	1
Phenol-d6 (Surr)	27		10 - 120	03/10/23 06:36	03/13/23 19:26	1
p-Terphenyl-d14 (Surr)	82		45 - 120	03/10/23 06:36	03/13/23 19:26	1
2,4,6-Tribromophenol	63		28 - 127	03/10/23 06:36	03/13/23 19:26	1
2-Fluorophenol	41		17 - 120	03/10/23 06:36	03/13/23 19:26	1
Nitrobenzene-d5	68		27 - 120	03/10/23 06:36	03/13/23 19:26	1

**Lab Sample ID: LCS 570-310496/2-A**  
**Matrix: Water**  
**Analysis Batch: 311097**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310496**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	18.4		ug/L		92	52 - 129
2,4-Dinitrotoluene	20.0	21.4		ug/L		107	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	20.6		ug/L		103	29 - 137
N-Nitrosodimethylamine	20.0	11.2		ug/L		56	20 - 120
Pentachlorophenol	20.0	10.5		ug/L		53	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	80		31 - 120
Phenol-d6 (Surr)	34		10 - 120
p-Terphenyl-d14 (Surr)	92		45 - 120
2,4,6-Tribromophenol	90		28 - 127
2-Fluorophenol	51		17 - 120
Nitrobenzene-d5	73		27 - 120

**Lab Sample ID: LCSD 570-310496/3-A**  
**Matrix: Water**  
**Analysis Batch: 311097**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310496**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	17.0		ug/L		85	52 - 129	8	35
2,4-Dinitrotoluene	20.0	20.3		ug/L		102	48 - 127	5	25
Bis(2-ethylhexyl) phthalate	20.0	19.3		ug/L		97	29 - 137	6	50
N-Nitrosodimethylamine	20.0	10.5		ug/L		52	20 - 120	7	21
Pentachlorophenol	20.0	10.2		ug/L		51	38 - 152	3	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	73		31 - 120

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-310496/3-A**  
**Matrix: Water**  
**Analysis Batch: 311097**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310496**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Phenol-d6 (Surr)	33		10 - 120
p-Terphenyl-d14 (Surr)	86		45 - 120
2,4,6-Tribromophenol	87		28 - 127
2-Fluorophenol	47		17 - 120
Nitrobenzene-d5	68		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-310287/1-A**  
**Matrix: Water**  
**Analysis Batch: 310461**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310287**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
alpha-BHC	ND		0.0013	0.0012	ug/L		03/09/23 12:21	03/10/23 17:22	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	36		20 - 139	03/09/23 12:21	03/10/23 17:22	1
DCB Decachlorobiphenyl (Surr)	61		20 - 154	03/09/23 12:21	03/10/23 17:22	1

**Lab Sample ID: LCS 570-310287/2-A**  
**Matrix: Water**  
**Analysis Batch: 311052**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310287**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
alpha-BHC	0.0333	0.0183		ug/L		55	37 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	53		20 - 139
DCB Decachlorobiphenyl (Surr)	72		20 - 154

**Lab Sample ID: LCSD 570-310287/3-A**  
**Matrix: Water**  
**Analysis Batch: 311052**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310287**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
alpha-BHC	0.0333	0.0205		ug/L		62	37 - 140	11	36

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	63		20 - 139
DCB Decachlorobiphenyl (Surr)	77		20 - 154

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-309784/6**  
**Matrix: Water**  
**Analysis Batch: 309784**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			03/08/23 03:48	1
Nitrate as N	ND		0.10	0.020	mg/L			03/08/23 03:48	1

**Lab Sample ID: LCS 570-309784/7**  
**Matrix: Water**  
**Analysis Batch: 309784**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.65		mg/L		106	90 - 110
Nitrate as N	5.00	5.05		mg/L		101	90 - 110

**Lab Sample ID: LCSD 570-309784/8**  
**Matrix: Water**  
**Analysis Batch: 309784**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.55		mg/L		102	90 - 110	4	15
Nitrate as N	5.00	4.95		mg/L		99	90 - 110	2	15

**Lab Sample ID: MB 570-309785/6**  
**Matrix: Water**  
**Analysis Batch: 309785**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			03/08/23 03:48	1
Sulfate	ND		1.0	0.24	mg/L			03/08/23 03:48	1

**Lab Sample ID: LCS 570-309785/7**  
**Matrix: Water**  
**Analysis Batch: 309785**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.8		mg/L		98	90 - 110
Sulfate	50.0	49.7		mg/L		99	90 - 110

**Lab Sample ID: LCSD 570-309785/8**  
**Matrix: Water**  
**Analysis Batch: 309785**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	48.0		mg/L		96	90 - 110	2	15
Sulfate	50.0	48.8		mg/L		98	90 - 110	2	15

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 314.0 - Perchlorate (IC)

**Lab Sample ID: MB 570-310301/7**  
**Matrix: Water**  
**Analysis Batch: 310301**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/09/23 16:18	1

**Lab Sample ID: LCS 570-310301/8**  
**Matrix: Water**  
**Analysis Batch: 310301**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.3		ug/L		101	85 - 115

**Lab Sample ID: LCSD 570-310301/9**  
**Matrix: Water**  
**Analysis Batch: 310301**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.9		ug/L		100	85 - 115	2	15

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-309830/1-A**  
**Matrix: Water**  
**Analysis Batch: 309984**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309830**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/08/23 08:49	03/08/23 11:45	1
Copper	ND		2.0	0.32	ug/L		03/08/23 08:49	03/08/23 11:45	1
Iron	ND		20	3.7	ug/L		03/08/23 08:49	03/08/23 11:45	1
Lead	ND		1.0	0.12	ug/L		03/08/23 08:49	03/08/23 11:45	1
Selenium	ND		2.0	0.52	ug/L		03/08/23 08:49	03/08/23 11:45	1
Zinc	ND		20	2.8	ug/L		03/08/23 08:49	03/08/23 11:45	1

**Lab Sample ID: LCS 570-309830/2-A**  
**Matrix: Water**  
**Analysis Batch: 309984**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309830**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	81.1		ug/L		101	85 - 115
Copper	80.0	81.4		ug/L		102	85 - 115
Iron	800	843		ug/L		105	85 - 115
Lead	80.0	83.3		ug/L		104	85 - 115
Selenium	80.0	80.9		ug/L		101	85 - 115
Zinc	80.0	78.8		ug/L		99	85 - 115

**Lab Sample ID: LCSD 570-309830/3-A**  
**Matrix: Water**  
**Analysis Batch: 309984**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309830**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	79.3		ug/L		99	85 - 115	2	20
Copper	80.0	80.1		ug/L		100	85 - 115	2	20

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-309830/3-A**  
**Matrix: Water**  
**Analysis Batch: 309984**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309830**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Iron	800	822		ug/L		103	85 - 115	2	20	
Lead	80.0	82.1		ug/L		103	85 - 115	1	20	
Selenium	80.0	77.9		ug/L		97	85 - 115	4	20	
Zinc	80.0	77.2		ug/L		96	85 - 115	2	20	

**Lab Sample ID: 570-130078-1 MS**  
**Matrix: Water**  
**Analysis Batch: 309984**

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309830**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	80.6		ug/L		101	80 - 120			
Copper	1.5	J,DX	80.0	82.1		ug/L		101	80 - 120			
Iron	96		800	922		ug/L		103	80 - 120			
Lead	ND		80.0	81.7		ug/L		102	80 - 120			
Selenium	ND		80.0	79.9		ug/L		100	80 - 120			
Zinc	2.9	J,DX	80.0	79.8		ug/L		96	80 - 120			

**Lab Sample ID: 570-130078-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 309984**

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 309830**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	78.5		ug/L		98	80 - 120	3	20	
Copper	1.5	J,DX	80.0	80.8		ug/L		99	80 - 120	2	20	
Iron	96		800	899		ug/L		100	80 - 120	2	20	
Lead	ND		80.0	79.1		ug/L		99	80 - 120	3	20	
Selenium	ND		80.0	76.4		ug/L		95	80 - 120	4	20	
Zinc	2.9	J,DX	80.0	78.2		ug/L		94	80 - 120	2	20	

**Lab Sample ID: 570-130078-3 MS**  
**Matrix: Water**  
**Analysis Batch: 310017**

**Client Sample ID: Outfall001\_20230307\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND	BU	80.0	70.9	BU	ug/L		89	80 - 120			
Copper	1.3	J,DX BU	80.0	70.1	BU	ug/L		86	80 - 120			
Iron	46	BU	800	757	BU	ug/L		89	80 - 120			
Lead	ND	BU	80.0	67.0	BU	ug/L		84	80 - 120			
Selenium	ND	BU	80.0	73.6	BU	ug/L		92	80 - 120			
Zinc	3.0	J,DX BU	80.0	70.2	BU	ug/L		84	80 - 120			

**Lab Sample ID: 570-130078-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 310017**

**Client Sample ID: Outfall001\_20230307\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND	BU	80.0	72.4	BU	ug/L		91	80 - 120	2	20	
Copper	1.3	J,DX BU	80.0	72.6	BU	ug/L		89	80 - 120	4	20	
Iron	46	BU	800	785	BU	ug/L		92	80 - 120	4	20	

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 570-130078-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 310017**

**Client Sample ID: Outfall001\_20230307\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample		Spike Added	MSD			D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier	Unit			Limits	RPD		
Lead	ND	BU	80.0	69.6	BU	ug/L		87	80 - 120	4	20	
Selenium	ND	BU	80.0	74.9	BU	ug/L		94	80 - 120	2	20	
Zinc	3.0	J,DX BU	80.0	72.3	BU	ug/L		87	80 - 120	3	20	

**Lab Sample ID: MB 570-309983/1-A**  
**Matrix: Water**  
**Analysis Batch: 310023**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cadmium	ND		1.0	0.13	ug/L			03/08/23 14:29	1
Copper	ND		2.0	0.32	ug/L			03/08/23 14:29	1
Iron	ND		20	3.7	ug/L			03/08/23 14:29	1
Lead	ND		1.0	0.12	ug/L			03/08/23 14:29	1
Selenium	ND		2.0	0.52	ug/L			03/08/23 14:29	1
Zinc	ND		20	2.8	ug/L			03/08/23 14:29	1

**Lab Sample ID: LCS 570-309983/2-A**  
**Matrix: Water**  
**Analysis Batch: 310023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS			D	%Rec	%Rec	
		Result	Qualifier	Unit			Limits	RPD
Cadmium	80.0	73.5		ug/L		92	85 - 115	
Copper	80.0	75.3		ug/L		94	85 - 115	
Iron	800	790		ug/L		99	85 - 115	
Lead	80.0	78.0		ug/L		98	85 - 115	
Selenium	80.0	74.3		ug/L		93	85 - 115	
Zinc	80.0	71.1		ug/L		89	85 - 115	

**Lab Sample ID: LCSD 570-309983/3-A**  
**Matrix: Water**  
**Analysis Batch: 310023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD			D	%Rec	%Rec		RPD	Limit
		Result	Qualifier	Unit			Limits	RPD		
Cadmium	80.0	71.0		ug/L		89	85 - 115	3	20	
Copper	80.0	73.2		ug/L		91	85 - 115	3	20	
Iron	800	758		ug/L		95	85 - 115	4	20	
Lead	80.0	75.9		ug/L		95	85 - 115	3	20	
Selenium	80.0	71.1		ug/L		89	85 - 115	4	20	
Zinc	80.0	68.7		ug/L		86	85 - 115	3	20	

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-310128/1-A**  
**Matrix: Water**  
**Analysis Batch: 310348**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310128**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.20	0.12	ug/L		03/08/23 22:19	03/09/23 12:44	1

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 570-310128/2-A**  
**Matrix: Water**  
**Analysis Batch: 310348**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310128**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.61		ug/L		108	85 - 115

**Lab Sample ID: LCSD 570-310128/3-A**  
**Matrix: Water**  
**Analysis Batch: 310348**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310128**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.70		ug/L		109	85 - 115	1	10

**Lab Sample ID: 570-130078-1 MS**  
**Matrix: Water**  
**Analysis Batch: 310348**

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 310128**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.68		ug/L		96	85 - 115

**Lab Sample ID: 570-130078-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 310348**

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 310128**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.67	BA	ug/L		108	85 - 115	12	10

**Lab Sample ID: MB 570-309778/1-B**  
**Matrix: Water**  
**Analysis Batch: 310669**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 309780**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/08/23 17:10	03/10/23 14:10	1

**Lab Sample ID: LCS 570-309778/2-B**  
**Matrix: Water**  
**Analysis Batch: 310669**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 309780**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.29		ug/L		104	85 - 115

**Lab Sample ID: LCSD 570-309778/3-B**  
**Matrix: Water**  
**Analysis Batch: 310669**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 309780**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.64		ug/L		108	85 - 115	4	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-130078-3 MS  
 Matrix: Water  
 Analysis Batch: 310669

Client Sample ID: Outfall001\_20230307\_Comp\_F  
 Prep Type: Dissolved  
 Prep Batch: 309780

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Mercury	ND	IB	8.00	8.28	IB	ug/L		103	85 - 115	

Lab Sample ID: 570-130078-3 MSD  
 Matrix: Water  
 Analysis Batch: 310669

Client Sample ID: Outfall001\_20230307\_Comp\_F  
 Prep Type: Dissolved  
 Prep Batch: 309780

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits			
Mercury	ND	IB	8.00	8.39	IB	ug/L		105	85 - 115	1	10	

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-311129/5-A  
 Matrix: Water  
 Analysis Batch: 311145

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 311129

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ammonia	ND		0.075	0.032	mg/L		03/13/23 13:40	03/13/23 15:19	1

Lab Sample ID: LCS 570-311129/6-A  
 Matrix: Water  
 Analysis Batch: 311145

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 311129

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Ammonia	0.500	0.518		mg/L		104	90 - 110	

Lab Sample ID: LCSD 570-311129/7-A  
 Matrix: Water  
 Analysis Batch: 311145

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 311129

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits			
Ammonia	0.500	0.498		mg/L		100	90 - 110	4	20	

Lab Sample ID: 570-130078-1 MS  
 Matrix: Water  
 Analysis Batch: 311145

Client Sample ID: Outfall001\_20230307\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 311129

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Ammonia	ND		0.500	0.531		mg/L		106	90 - 110	

Lab Sample ID: 570-130078-1 MSD  
 Matrix: Water  
 Analysis Batch: 311145

Client Sample ID: Outfall001\_20230307\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 311129

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits			
Ammonia	ND		0.500	0.515		mg/L		103	90 - 110	3	25	

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

**Lab Sample ID: MB 570-312131/14**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			03/14/23 19:36	1

**Lab Sample ID: LCS 570-312131/16**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	252		ug/L		101	90 - 110

**Lab Sample ID: LCSD 570-312131/17**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	266		ug/L		107	90 - 110	5	20

**Lab Sample ID: MRL 570-312131/13**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	6.06		ug/L		121	50 - 150

## Method: SM 2130B - Turbidity

**Lab Sample ID: LCSSRM 570-309933/1**  
**Matrix: Water**  
**Analysis Batch: 309933**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		100.6	99.0 - 101.0

**Lab Sample ID: LCSSRM 570-309933/2**  
**Matrix: Water**  
**Analysis Batch: 309933**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0

**Lab Sample ID: LCSSRM 570-309933/3**  
**Matrix: Water**  
**Analysis Batch: 309933**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-310762/1  
 Matrix: Water  
 Analysis Batch: 310762

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			03/10/23 18:35	1

Lab Sample ID: LCS 570-310762/2  
 Matrix: Water  
 Analysis Batch: 310762

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	960		mg/L		96	84 - 108

Lab Sample ID: LCSD 570-310762/3  
 Matrix: Water  
 Analysis Batch: 310762

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	986		mg/L		99	84 - 108	3	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-310629/1  
 Matrix: Water  
 Analysis Batch: 310629

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/10/23 12:07	1

Lab Sample ID: LCS 570-310629/2  
 Matrix: Water  
 Analysis Batch: 310629

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	102		mg/L		102	77 - 116

Lab Sample ID: LCSD 570-310629/3  
 Matrix: Water  
 Analysis Batch: 310629

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	101		mg/L		101	77 - 116	1	10

## Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-309842/2-A  
 Matrix: Water  
 Analysis Batch: 311089

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 309842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	198		mg/L		100	84.6 - 115.4

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Method: SM 5210B - BOD, 5-Day (Continued)

**Lab Sample ID: SCB 570-311089/3**  
**Matrix: Water**  
**Analysis Batch: 311089**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		0.0000020	0.0000010	mg/L			03/08/23 09:18	1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

**Lab Sample ID: MB 570-310315/5-A**  
**Matrix: Water**  
**Analysis Batch: 310028**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 310315**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		03/08/23 13:18	03/08/23 15:21	1

**Lab Sample ID: LCS 570-310315/6-A**  
**Matrix: Water**  
**Analysis Batch: 310028**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 310315**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.445		mg/L		89	83 - 122

**Lab Sample ID: LCSD 570-310315/7-A**  
**Matrix: Water**  
**Analysis Batch: 310028**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 310315**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit
MBAS	0.500	0.459		mg/L		92	83 - 122	3 / 10

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## GC/MS Semi VOA

### Prep Batch: 310496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	625	
MB 570-310496/1-A	Method Blank	Total/NA	Water	625	
LCS 570-310496/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-310496/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 311097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	625.1 SIM	310496
MB 570-310496/1-A	Method Blank	Total/NA	Water	625.1 SIM	310496
LCS 570-310496/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	310496
LCSD 570-310496/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	310496

## GC Semi VOA

### Prep Batch: 310287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	608	
MB 570-310287/1-A	Method Blank	Total/NA	Water	608	
LCS 570-310287/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-310287/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 310461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-310287/1-A	Method Blank	Total/NA	Water	608.3	310287

### Analysis Batch: 311052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	608.3	310287
LCS 570-310287/2-A	Lab Control Sample	Total/NA	Water	608.3	310287
LCSD 570-310287/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	310287

## HPLC/IC

### Analysis Batch: 309784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	300.0	
MB 570-309784/6	Method Blank	Total/NA	Water	300.0	
LCS 570-309784/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-309784/8	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 309785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	300.0	
MB 570-309785/6	Method Blank	Total/NA	Water	300.0	
LCS 570-309785/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-309785/8	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 310301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	314.0	
MB 570-310301/7	Method Blank	Total/NA	Water	314.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## HPLC/IC (Continued)

### Analysis Batch: 310301 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-310301/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-310301/9	Lab Control Sample Dup	Total/NA	Water	314.0	

### Analysis Batch: 310704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Filtration Batch: 309778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-3	Outfall001_20230307_Comp_F	Dissolved	Water	Filtration	
MB 570-309778/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-309778/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-309778/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-130078-3 MS	Outfall001_20230307_Comp_F	Dissolved	Water	Filtration	
570-130078-3 MSD	Outfall001_20230307_Comp_F	Dissolved	Water	Filtration	

### Prep Batch: 309780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-3	Outfall001_20230307_Comp_F	Dissolved	Water	245.1	309778
MB 570-309778/1-B	Method Blank	Dissolved	Water	245.1	309778
LCS 570-309778/2-B	Lab Control Sample	Dissolved	Water	245.1	309778
LCSD 570-309778/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	309778
570-130078-3 MS	Outfall001_20230307_Comp_F	Dissolved	Water	245.1	309778
570-130078-3 MSD	Outfall001_20230307_Comp_F	Dissolved	Water	245.1	309778

### Prep Batch: 309830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total Recoverable	Water	200.8	
MB 570-309830/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-309830/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-309830/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-130078-1 MS	Outfall001_20230307_Comp	Total Recoverable	Water	200.8	
570-130078-1 MSD	Outfall001_20230307_Comp	Total Recoverable	Water	200.8	

### Filtration Batch: 309983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-3	Outfall001_20230307_Comp_F	Dissolved	Water	Filtration	
MB 570-309983/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-309983/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-309983/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-130078-3 MS	Outfall001_20230307_Comp_F	Dissolved	Water	Filtration	
570-130078-3 MSD	Outfall001_20230307_Comp_F	Dissolved	Water	Filtration	

### Analysis Batch: 309984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total Recoverable	Water	200.8	309830
MB 570-309830/1-A	Method Blank	Total Recoverable	Water	200.8	309830
LCS 570-309830/2-A	Lab Control Sample	Total Recoverable	Water	200.8	309830

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## Metals (Continued)

### Analysis Batch: 309984 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-309830/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	309830
570-130078-1 MS	Outfall001_20230307_Comp	Total Recoverable	Water	200.8	309830
570-130078-1 MSD	Outfall001_20230307_Comp	Total Recoverable	Water	200.8	309830

### Analysis Batch: 310017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-3	Outfall001_20230307_Comp_F	Dissolved	Water	200.8	309983
570-130078-3 MS	Outfall001_20230307_Comp_F	Dissolved	Water	200.8	309983
570-130078-3 MSD	Outfall001_20230307_Comp_F	Dissolved	Water	200.8	309983

### Analysis Batch: 310023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-309983/1-A	Method Blank	Dissolved	Water	200.8	309983
LCS 570-309983/2-A	Lab Control Sample	Dissolved	Water	200.8	309983
LCSD 570-309983/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	309983

### Prep Batch: 310128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	245.1	
MB 570-310128/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-310128/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-310128/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-130078-1 MS	Outfall001_20230307_Comp	Total/NA	Water	245.1	
570-130078-1 MSD	Outfall001_20230307_Comp	Total/NA	Water	245.1	

### Analysis Batch: 310348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	245.1	310128
MB 570-310128/1-A	Method Blank	Total/NA	Water	245.1	310128
LCS 570-310128/2-A	Lab Control Sample	Total/NA	Water	245.1	310128
LCSD 570-310128/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	310128
570-130078-1 MS	Outfall001_20230307_Comp	Total/NA	Water	245.1	310128
570-130078-1 MSD	Outfall001_20230307_Comp	Total/NA	Water	245.1	310128

### Analysis Batch: 310669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-3	Outfall001_20230307_Comp_F	Dissolved	Water	245.1	309780
MB 570-309778/1-B	Method Blank	Dissolved	Water	245.1	309780
LCS 570-309778/2-B	Lab Control Sample	Dissolved	Water	245.1	309780
LCSD 570-309778/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	309780
570-130078-3 MS	Outfall001_20230307_Comp_F	Dissolved	Water	245.1	309780
570-130078-3 MSD	Outfall001_20230307_Comp_F	Dissolved	Water	245.1	309780

## General Chemistry

### Prep Batch: 309842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	BOD Prep	
LCS 570-309842/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

Eurofins Calscience



# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

## General Chemistry

### Analysis Batch: 309933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-309933/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-309933/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-309933/3	Lab Control Sample	Total/NA	Water	SM 2130B	

### Analysis Batch: 310028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	SM 5540C	310315
MB 570-310315/5-A	Method Blank	Total/NA	Water	SM 5540C	310315
LCS 570-310315/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	310315
LCSD 570-310315/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	310315

### Prep Batch: 310315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	SM 5540C	
MB 570-310315/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-310315/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-310315/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

### Analysis Batch: 310629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	SM 2540D	
MB 570-310629/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-310629/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-310629/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

### Analysis Batch: 310762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	SM 2540C	
MB 570-310762/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-310762/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-310762/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

### Analysis Batch: 311089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	SM 5210B	309842
SCB 570-311089/3	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-309842/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	309842

### Prep Batch: 311129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-311129/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-311129/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-311129/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-130078-1 MS	Outfall001_20230307_Comp	Total/NA	Water	Distill/Ammonia	
570-130078-1 MSD	Outfall001_20230307_Comp	Total/NA	Water	Distill/Ammonia	

# QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## General Chemistry

### Analysis Batch: 311145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	350.1	311129
MB 570-311129/5-A	Method Blank	Total/NA	Water	350.1	311129
LCS 570-311129/6-A	Lab Control Sample	Total/NA	Water	350.1	311129
LCSD 570-311129/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	311129
570-130078-1 MS	Outfall001_20230307_Comp	Total/NA	Water	350.1	311129
570-130078-1 MSD	Outfall001_20230307_Comp	Total/NA	Water	350.1	311129

### Analysis Batch: 312131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	Kelada 01	
MB 570-312131/14	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-312131/16	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-312131/17	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-312131/13	Lab Control Sample	Total/NA	Water	Kelada 01	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			956.9 mL	2 mL	310496	03/10/23 12:12	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	311097	03/13/23 22:34	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	310287	03/09/23 12:21	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	311052	03/13/23 22:44	N5Y3	EET CAL 4
		Instrument ID: GC52A								
Total/NA	Analysis	300.0		1	4 mL	4 mL	309784	03/08/23 06:07	PS	EET CAL 4
		Instrument ID: IC9								
Total/NA	Analysis	300.0		1	4 mL	4 mL	309785	03/08/23 06:07	PS	EET CAL 4
		Instrument ID: IC9								
Total/NA	Analysis	314.0		1	4 mL	4 mL	310301	03/09/23 18:27	PS	EET CAL 4
		Instrument ID: IC13								
Total/NA	Analysis	NO2NO3 Calc		1			310704	03/10/23 16:06	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	309830	03/08/23 08:49	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			309984	03/08/23 11:51	Y2WS	EET CAL 4
		Instrument ID: ICPMS10								
Total/NA	Prep	245.1			25 mL	50 mL	310128	03/08/23 22:19	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			310348	03/09/23 12:49	C0YH	EET CAL 4
		Instrument ID: HG8								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	311129	03/13/23 13:40	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	311145	03/13/23 15:48	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	312131	03/14/23 19:36	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			309933	03/08/23 12:58	ZVB7	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	310762	03/10/23 18:35	ZL7L	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	310629	03/10/23 12:07	WVA4	EET CAL 4
		Instrument ID: BAL71								
Total/NA	Prep	BOD Prep					309842	03/08/23 16:04	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	311089	03/08/23 16:50	TN8Z	EET CAL 4
		Instrument ID: BOD3								
Total/NA	Prep	SM 5540C			100 mL	100 mL	310315	03/08/23 13:18	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	310028	03/08/23 15:27	TXA8	EET CAL 4
		Instrument ID: UV8								

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-1

**Client Sample ID: Outfall001\_20230307\_Comp\_F**

**Lab Sample ID: 570-130078-3**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	309983	03/08/23 13:45	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			310017	03/08/23 14:29	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Dissolved	Filtration	Filtration			25 mL	25 mL	309778	03/08/23 00:17	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	309780	03/08/23 17:10	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			310669	03/10/23 14:26	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

#### Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130078-1	Outfall001_20230307_Comp	Water	03/07/23 07:55	03/07/23 18:00
570-130078-3	Outfall001_20230307_Comp_F	Water	03/07/23 07:55	03/07/23 18:00

1

2

3

4

5

6

7

8

9

10

11

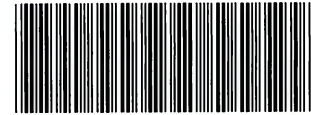
12

13

14

15

CHAIN OF CUSTODY FORM



570-130078 Chain of Custody

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		<b>ANALYSIS REQUIRED</b>												
<b>Eurofins Calscience Project Manager:</b> Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405:1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E25.1)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E825)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments
<b>TestAmerica's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.</b>																
<b>Sampler:</b> Adrian Mobeka																

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405:1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E25.1)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E825)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments					
1 Outfall 001	Outfall001_20230307_Comp	3/7/2023 10:35	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X											X	X	Outfall 001 analyze for Fe.				
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	1L Poly	1	None	115	No			X															
			WM	500 mL Poly	2	None	120	No				X														
			WM	500 mL Poly	2	None	130	No						X											48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>	
			WM	500 mL Poly	1	None	150	No							X										48 hour holding time for turbidity	
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No										X								
			WM	1 L Glass Amber	2	None	170	No											X							
			WM	1 L Glass Amber	2	None	180	No													X					
			WM	1L Poly	1	None	185	No									X									
2	Outfall001_20230307_Comp_Extra	3/7/2023 10:55	WM	1 L Glass Amber	2	None	110	No		H													Hold			
			WM	500 mL Poly	2	None	120	No				H												Hold		
			WM	500 mL Poly	2	None	130	No					H											Hold		
			WM	1 L Glass Amber	2	None	170	No											H					Hold		
			WM	1 L Glass Amber	2	None	180	No												H				Hold		

**Legend: C=Conditional, R=Routine**

Relinquished By: <i>[Signature]</i> Date/Time: 3-7-2023 13:30 Company: H:A	Received By: <i>[Signature]</i> Date/Time: 3-7-23 13:30 Company: EL	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____  Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>
Relinquished By: <i>[Signature]</i> Date/Time: 3-7-23 18:00 Company: EL	Received By: <i>[Signature]</i> Date/Time: 3-7-23 18:00 Company: AF BC	
Relinquished By: _____ Date/Time: _____ Company: _____	Received By: _____ Date/Time: _____ Company: _____	

1.7/1.7 1.5/1.5 SC11



CHAIN OF CUSTODY FORM

R R R R R C

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108									Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp									ANALYSIS REQUIRED														
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187									Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)									Comments														
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.									Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)									Total Dissolved Metals: (E200.8): Zn (E200.6): Cu, Pb, Cd, Se Cyanide (SM4500-CN-E / E335.2) Gross Alpha(E900.0), Gross Beta(E900.0), Tridium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)														
Sampler: Adrian Mobeka																		Total Dissolved Metals: Mercury (E245.1) Total Dissolved Metals: (E200.8): Fe														
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): Zn (E200.6): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tridium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals: (E200.8): Fe																			
Outfall 001	Outfall001_20230307_Comp_F	3/7/2023 10:55	WM	1L Poly	1	None	200	Yes	X				X	Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.																		
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.																		
	Outfall001_20230307_Comp	3/7/2023 10:55	WM	500 mL Poly	1	NaOH	220	No		X																						
			WM	2.5 Gal Cube	1	None	225	No			X				Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.																	
WM	1 L Glass Amber	1	None	230	No																											

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By: <i>Mark Dominick</i> Date/Time: 3-7-2023 / 13:30 Company: H&A	Received By: <i>EC</i> Date/Time: 3-7-23 13:30	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>EC</i> Date/Time: 3-7-23 18:00 Company: EC	Received By: <i>RF EC</i> Date/Time: 3-7-23 18:00	Sample Integrity: (Check) Intact: _____ On Ice: _____
Relinquished By: _____ Date/Time: _____ Company: _____	Received By: _____ Date/Time: _____	Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130078-1

SDG Number:

**Login Number: 130078**

**List Number: 1**

**Creator: Cruise, Noel**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/3/2023 2:50:01 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 - Comp

**JOB NUMBER**

570-130078-2

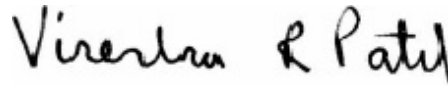
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/3/2023 2:50:01 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	25

# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 - Comp

Job ID: 570-130078-2

---

## Job ID: 570-130078-2

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-130078-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/7/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 1.7° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

#### Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 12D5 exceeded this criteria: Outfall001\_20230307\_Comp (570-130078-1), (CCV 320-663420/2), (LCS 320-662474/2-A), (LCSD 320-662474/3-A) and (MB 320-662474/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.0000024	J,DX q	0.000048	0.0000024	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000022	J,DX MB	0.000048	0.0000022	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000080	J,DX q	0.000048	0.0000080	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.0000063	J,DX MB	0.000048	0.0000063	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.0000033	J,DX q MB	0.000048	0.0000033	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.0000057	J,DX q MB	0.000048	0.0000057	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.0000037	J,DX MB	0.000048	0.0000037	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000035	J,DX q MB	0.000048	0.0000035	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.0000024	J,DX q MB	0.000048	0.0000024	ug/L	1		1613B	Total/NA
OCDD	0.000022	J,DX MB	0.000095	0.000022	ug/L	1		1613B	Total/NA
OCDF	0.0000054	J,DX MB	0.000095	0.0000054	ug/L	1		1613B	Total/NA
Total TCDD	0.0000031	J,DX	0.000095	0.0000031	ug/L	1		1613B	Total/NA
Total PeCDF	0.0000024	J,DX q	0.000048	0.0000024	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000030	J,DX q MB	0.000048	0.0000030	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000026	J,DX q MB	0.000048	0.0000026	ug/L	1		1613B	Total/NA
Total HpCDD	0.0000074	J,DX q MB	0.000048	0.0000074	ug/L	1		1613B	Total/NA
Total HpCDF	0.0000037	J,DX q MB	0.000048	0.0000037	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230307\_Comp**

**Date Collected: 03/07/23 07:55**

**Date Received: 03/07/23 18:00**

**Lab Sample ID: 570-130078-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.0000006	ug/L		03/22/23 04:36	03/24/23 23:43	1
2,3,7,8-TCDF	ND		0.0000095	0.0000002	ug/L		03/22/23 04:36	03/24/23 23:43	1
1,2,3,7,8-PeCDD	ND		0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,7,8-PeCDF</b>	<b>0.00000024</b>	<b>J,DX q</b>	0.000048	0.0000002	ug/L		03/22/23 04:36	03/24/23 23:43	1
2,3,4,7,8-PeCDF	ND		0.000048	0.0000002	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.00000022</b>	<b>J,DX MB</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.00000080</b>	<b>J,DX q</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
1,2,3,7,8,9-HxCDD	ND		0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.00000063</b>	<b>J,DX MB</b>	0.000048	0.0000001	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.00000033</b>	<b>J,DX q MB</b>	0.000048	0.0000001	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.00000057</b>	<b>J,DX q MB</b>	0.000048	0.0000001	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.00000037</b>	<b>J,DX MB</b>	0.000048	0.0000001	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.00000035</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.00000024</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
1,2,3,4,7,8,9-HpCDF	ND		0.000048	0.0000004	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>OCDD</b>	<b>0.00000022</b>	<b>J,DX MB</b>	0.000095	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>OCDF</b>	<b>0.00000054</b>	<b>J,DX MB</b>	0.000095	0.0000002	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Total TCDD</b>	<b>0.00000031</b>	<b>J,DX</b>	0.0000095	0.0000006	ug/L		03/22/23 04:36	03/24/23 23:43	1
Total TCDF	ND		0.0000095	0.0000002	ug/L		03/22/23 04:36	03/24/23 23:43	1
Total PeCDD	ND		0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Total PeCDF</b>	<b>0.00000024</b>	<b>J,DX q</b>	0.000048	0.0000002	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Total HxCDD</b>	<b>0.00000030</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Total HxCDF</b>	<b>0.00000026</b>	<b>J,DX q MB</b>	0.000048	0.0000001	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Total HpCDD</b>	<b>0.00000074</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Total HpCDF</b>	<b>0.00000037</b>	<b>J,DX q MB</b>	0.000048	0.0000003	ug/L		03/22/23 04:36	03/24/23 23:43	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	79		25 - 164				03/22/23 04:36	03/24/23 23:43	1
13C-2,3,7,8-TCDF	86		24 - 169				03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,7,8-PeCDD	81		25 - 181				03/22/23 04:36	03/24/23 23:43	1

Euofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -

Comp

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,7,8-PeCDF	89		24 - 185	03/22/23 04:36	03/24/23 23:43	1
13C-2,3,4,7,8-PeCDF	90		21 - 178	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,4,7,8-HxCDD	81		32 - 141	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,6,7,8-HxCDD	90		28 - 130	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,4,7,8-HxCDF	83		26 - 152	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,6,7,8-HxCDF	98		26 - 123	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,7,8,9-HxCDF	95		29 - 147	03/22/23 04:36	03/24/23 23:43	1
13C-2,3,4,6,7,8-HxCDF	96		28 - 136	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,4,6,7,8-HpCDF	84		28 - 143	03/22/23 04:36	03/24/23 23:43	1
13C-1,2,3,4,7,8,9-HpCDF	91		26 - 138	03/22/23 04:36	03/24/23 23:43	1
13C-OCDD	93		17 - 157	03/22/23 04:36	03/24/23 23:43	1
13C-OCDF	104		17 - 157	03/22/23 04:36	03/24/23 23:43	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
37Cl4-2,3,7,8-TCDD	91		35 - 197	03/22/23 04:36	03/24/23 23:43	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-130078-1	Outfall001_20230307_Comp	91
MB 320-662474/1-A	Method Blank	90

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-662474/2-A	Lab Control Sample	91
LCSD 320-662474/3-A	Lab Control Sample Dup	91

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-130078-1	Outfall001_20230307_Comp	79	86	81	89	90	81	90	83
MB 320-662474/1-A	Method Blank	86	94	86	98	96	84	94	89

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-130078-1	Outfall001_20230307_Comp	98	95	96	82	84	91	93	104
MB 320-662474/1-A	Method Blank	104	102	102	82	85	94	92	104

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-662474/2-A	Lab Control Sample	87	95	89	99	98	85	96	92
LCSD 320-662474/3-A	Lab Control Sample Dup	87	94	88	98	97	83	97	89

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-662474/2-A	Lab Control Sample	106	104	103	86	88	98	98	111
LCSD 320-662474/3-A	Lab Control Sample Dup	106	106	105	86	88	98	98	110

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -

Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

Job ID: 570-130078-2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-662474/1-A**

**Client Sample ID: Method Blank**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663420**

**Prep Batch: 662474**

<b>Analyte</b>	<b>MB</b>	<b>MB</b>	<b>RL</b>	<b>EDL</b>	<b>Unit</b>	<b>D</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
	<b>Result</b>	<b>Qualifier</b>							
2,3,7,8-TCDD	ND		0.000010	0.0000006	ug/L		03/22/23 04:36	03/24/23 20:32	1
				6					
2,3,7,8-TCDF	ND		0.000010	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				8					
1,2,3,7,8-PeCDD	ND		0.000050	0.0000003	ug/L		03/22/23 04:36	03/24/23 20:32	1
				1					
1,2,3,7,8-PeCDF	ND		0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				4					
2,3,4,7,8-PeCDF	ND		0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				7					
1,2,3,4,7,8-HxCDD	0.00000212	J,DX	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				7					
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				9					
1,2,3,7,8,9-HxCDD	ND		0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				5					
1,2,3,4,7,8-HxCDF	0.000000407	J,DX	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				2					
1,2,3,6,7,8-HxCDF	0.000000287	J,DX q	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				2					
1,2,3,7,8,9-HxCDF	0.000000381	J,DX	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				5					
2,3,4,6,7,8-HxCDF	0.000000354	J,DX	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				1					
1,2,3,4,6,7,8-HpCDD	0.00000127	J,DX q	0.000050	0.0000003	ug/L		03/22/23 04:36	03/24/23 20:32	1
				1					
1,2,3,4,6,7,8-HpCDF	0.00000137	J,DX	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				4					
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				7					
OCDD	0.00000721	J,DX	0.00010	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				9					
OCDF	0.00000266	J,DX	0.00010	0.0000003	ug/L		03/22/23 04:36	03/24/23 20:32	1
				3					
Total TCDD	ND		0.000010	0.0000006	ug/L		03/22/23 04:36	03/24/23 20:32	1
				6					
Total TCDF	ND		0.000010	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				8					
Total PeCDD	ND		0.000050	0.0000004	ug/L		03/22/23 04:36	03/24/23 20:32	1
				1					
Total PeCDF	ND		0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				7					
Total HxCDD	0.00000343	J,DX q	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				7					
Total HxCDF	0.00000143	J,DX q	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				2					
Total HpCDD	0.00000335	J,DX q	0.000050	0.0000003	ug/L		03/22/23 04:36	03/24/23 20:32	1
				1					
Total HpCDF	0.00000190	J,DX	0.000050	0.0000002	ug/L		03/22/23 04:36	03/24/23 20:32	1
				5					

<b>Isotope Dilution</b>	<b>MB</b>	<b>MB</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
	<b>%Recovery</b>	<b>Qualifier</b>				
13C-2,3,7,8-TCDD	86		25 - 164	03/22/23 04:36	03/24/23 20:32	1
13C-2,3,7,8-TCDF	94		24 - 169	03/22/23 04:36	03/24/23 20:32	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-662474/1-A**  
**Matrix: Water**  
**Analysis Batch: 663420**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 662474**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDD	86		25 - 181	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,7,8-PeCDF	98		24 - 185	03/22/23 04:36	03/24/23 20:32	1
13C-2,3,4,7,8-PeCDF	96		21 - 178	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,4,7,8-HxCDD	84		32 - 141	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,6,7,8-HxCDD	94		28 - 130	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,4,7,8-HxCDF	89		26 - 152	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,6,7,8-HxCDF	104		26 - 123	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,7,8,9-HxCDF	102		29 - 147	03/22/23 04:36	03/24/23 20:32	1
13C-2,3,4,6,7,8-HxCDF	102		28 - 136	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,4,6,7,8-HpCDD	82		23 - 140	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,4,6,7,8-HpCDF	85		28 - 143	03/22/23 04:36	03/24/23 20:32	1
13C-1,2,3,4,7,8,9-HpCDF	94		26 - 138	03/22/23 04:36	03/24/23 20:32	1
13C-OCDD	92		17 - 157	03/22/23 04:36	03/24/23 20:32	1
13C-OCDF	104		17 - 157	03/22/23 04:36	03/24/23 20:32	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	90		35 - 197	03/22/23 04:36	03/24/23 20:32	1

**Lab Sample ID: LCS 320-662474/2-A**  
**Matrix: Water**  
**Analysis Batch: 663420**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 662474**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDF	0.000200	0.000228		ug/L		114	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.00101		ug/L		101	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.00104		ug/L		104	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.00106		ug/L		106	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000995		ug/L		100	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.00108		ug/L		108	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.00101		ug/L		101	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000983		ug/L		98	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.00100		ug/L		100	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.00102		ug/L		102	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.00104		ug/L		104	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.00109		ug/L		109	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.00104		ug/L		104	78 - 138
OCDD	0.00200	0.00212		ug/L		106	78 - 144
OCDF	0.00200	0.00209		ug/L		105	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	87		20 - 175
13C-2,3,7,8-TCDF	95		22 - 152
13C-1,2,3,7,8-PeCDD	89		21 - 227
13C-1,2,3,7,8-PeCDF	99		21 - 192
13C-2,3,4,7,8-PeCDF	98		13 - 328

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-662474/2-A**  
**Matrix: Water**  
**Analysis Batch: 663420**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 662474**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,7,8-HxCDD	85		21 - 193
13C-1,2,3,6,7,8-HxCDD	96		25 - 163
13C-1,2,3,4,7,8-HxCDF	92		19 - 202
13C-1,2,3,6,7,8-HxCDF	106		21 - 159
13C-1,2,3,7,8,9-HxCDF	104		17 - 205
13C-2,3,4,6,7,8-HxCDF	103		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	88		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	98		20 - 186
13C-OCDD	98		13 - 199
13C-OCDF	111		13 - 199
Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	91		31 - 191

**Lab Sample ID: LCSD 320-662474/3-A**  
**Matrix: Water**  
**Analysis Batch: 663420**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 662474**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000213		ug/L		107	67 - 158	0	50	
2,3,7,8-TCDF	0.000200	0.000233		ug/L		116	75 - 158	2	50	
1,2,3,7,8-PeCDD	0.00100	0.00107		ug/L		107	70 - 142	5	50	
1,2,3,7,8-PeCDF	0.00100	0.00106		ug/L		106	80 - 134	2	50	
2,3,4,7,8-PeCDF	0.00100	0.00108		ug/L		108	68 - 160	2	50	
1,2,3,4,7,8-HxCDD	0.00100	0.00101		ug/L		101	70 - 164	2	50	
1,2,3,6,7,8-HxCDD	0.00100	0.00109		ug/L		109	76 - 134	1	50	
1,2,3,7,8,9-HxCDD	0.00100	0.00104		ug/L		104	64 - 162	4	50	
1,2,3,4,7,8-HxCDF	0.00100	0.00101		ug/L		101	72 - 134	3	50	
1,2,3,6,7,8-HxCDF	0.00100	0.00103		ug/L		103	84 - 130	1	50	
1,2,3,7,8,9-HxCDF	0.00100	0.00100		ug/L		100	78 - 130	0	50	
2,3,4,6,7,8-HxCDF	0.00100	0.00104		ug/L		104	70 - 156	2	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.00106		ug/L		106	70 - 140	2	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.00109		ug/L		109	82 - 122	0	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.00105		ug/L		105	78 - 138	1	50	
OCDD	0.00200	0.00214		ug/L		107	78 - 144	1	50	
OCDF	0.00200	0.00212		ug/L		106	63 - 170	1	50	

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	87		20 - 175
13C-2,3,7,8-TCDF	94		22 - 152
13C-1,2,3,7,8-PeCDD	88		21 - 227
13C-1,2,3,7,8-PeCDF	98		21 - 192
13C-2,3,4,7,8-PeCDF	97		13 - 328
13C-1,2,3,4,7,8-HxCDD	83		21 - 193
13C-1,2,3,6,7,8-HxCDD	97		25 - 163
13C-1,2,3,4,7,8-HxCDF	89		19 - 202



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-662474/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 663420

Prep Batch: 662474

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,6,7,8-HxCDF	106		21 - 159
13C-1,2,3,7,8,9-HxCDF	106		17 - 205
13C-2,3,4,6,7,8-HxCDF	105		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	86		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	88		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	98		20 - 186
13C-OCDD	98		13 - 199
13C-OCDF	110		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	91		31 - 191

# QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Specialty Organics

### Prep Batch: 662474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	1613B	
MB 320-662474/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-662474/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-662474/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 663420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	1613B	662474
MB 320-662474/1-A	Method Blank	Total/NA	Water	1613B	662474
LCS 320-662474/2-A	Lab Control Sample	Total/NA	Water	1613B	662474
LCSD 320-662474/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	662474

# Lab Chronicle

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1048.3 mL	20.0 uL	662474	03/22/23 04:36	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	663420	03/24/23 23:43	DB	EET SAC

Instrument ID: 12D5

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	03-29-23
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-2

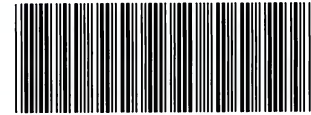
---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130078-1	Outfall001_20230307_Comp	Water	03/07/23 07:55	03/07/23 18:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

130078

CHAIN OF CUSTODY FORM



570-130078 Chain of Custody

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		<b>ANALYSIS REQUIRED</b>												
<b>Eurofins Calscience Project Manager:</b> Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405:1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E25.1)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments
<b>TestAmerica's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.</b>																
<b>Sampler:</b> Adrian Mobeka																

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405:1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E25.1)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments					
1 Outfall 001	Outfall001_20230307_Comp	3/7/2023 10:35	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X											X	X	Outfall 001 analyze for Fe.				
			WM	1 L Glass Amber	2	None	110	No		X																
			WM	1L Poly	1	None	115	No			X															
			WM	500 mL Poly	2	None	120	No				X														
			WM	500 mL Poly	2	None	130	No						X											48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>	
			WM	500 mL Poly	1	None	150	No							X										48 hour holding time for turbidity	
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No										X								
			WM	1 L Glass Amber	2	None	170	No											X							
			WM	1 L Glass Amber	2	None	180	No												X						
			WM	1L Poly	1	None	185	No									X									
2	Outfall001_20230307_Comp_Extra	3/7/2023 10:55	WM	1 L Glass Amber	2	None	110	No		H													Hold			
			WM	500 mL Poly	2	None	120	No				H												Hold		
			WM	500 mL Poly	2	None	130	No					H											Hold		
			WM	1 L Glass Amber	2	None	170	No											H					Hold		
			WM	1 L Glass Amber	2	None	180	No												H				Hold		

**Legend: C=Conditional, R=Routine**

Relinquished By: <i>[Signature]</i> Date/Time: 3-7-2023 13:30 Company: H:A	Received By: <i>[Signature]</i> Date/Time: 3-7-23 13:30	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____  Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>
Relinquished By: <i>[Signature]</i> Date/Time: 3-7-23 18:00 Company: EL	Received By: <i>[Signature]</i> Date/Time: 3-7-23 18:00	
Relinquished By: _____ Date/Time: _____ Company: _____	Received By: _____ Date/Time: _____	

1.7/1.7 1.5/1.5 SC11

CHAIN OF CUSTODY FORM

R R R R R C

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108				<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp					<b>ANALYSIS REQUIRED</b>																
<b>Eurofins Calscience Project Manager:</b> Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187				<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell)					<b>Comments</b>																
<small>TestAmerica's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.</small>				<b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)					Total Dissolved Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se Cyanide (SM4500-CN-E / E335.2) Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) Total Dissolved Metals: Mercury (E245.1) Total Dissolved Metals: (E200.8); Fe																
<b>Sampler:</b> Adrian Mobeka																									
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals: (E200.8); Fe												
3 Outfall 001	Outfall001_20230307_Comp_F	3/7/2023 10:55	WM	1L Poly	1	None	200	Yes	X				X	Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.											
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.											
	1 Outfall001_20230307_Comp	3/7/2023 10:55	WM	500 mL Poly	1	NaOH	220	No		X															
			WM	2.5 Gal Cube	1	None	225	No							Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.										
WM	1 L Glass Amber	1	None	230	No																				

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By: <i>Mark Dominick</i> Date/Time: 3-7-2023 / 13:30 Company: H&A	Received By: <i>EC</i> Date/Time: 3-7-23 13:30	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>EC</i> Date/Time: 3-7-23 18:00 Company: EC	Received By: <i>RF EC</i> Date/Time: 3-7-23 18:00	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>



# Chain of Custody Record



Environment Testing



<b>Client Information (Sub Contract Lab)</b> Lab PM: Patel, Virendra E-Mail: Virendra.Patel@et.eurofins.com Shipping/Receiving Company: Eurofins Environment Testing Northern Ca State Program - California		Carrier Tracking No(s): 570-209600.1 Page: Page 1 of 1 Job #: 570-130078-1	
Due Date Requested: 3/17/2023 TAT Requested (days):		<b>Analysis Requested</b> Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals <input checked="" type="checkbox"/> 1613B/1613B_Sox_Sep_P (MOD) Standard List w/ Totals (Hold) <input checked="" type="checkbox"/> Total Number of Containers: 2	
Project Name: Boeing NPDES SSFL - Routine Outfall - 001 - Comp Site:		Matrix (Water, Sewer, On-water, Oil) Preservation Code: Water Sample Type (C=Comp, G=grab) Sample Time: 07:55 Pacific Sample Date: 3/7/23 Date: 3/7/23	
Sample Identification - Client ID (Lab ID) Outfall001_20230307_Comp (570-130078-1) Outfall001_20230307_Comp_Extra (570-130078-2)		Special Instructions/Note: See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware. See QAS, Boeing_w/u to zero, ug/L; Use Boeing glassware.	
Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.			
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by:			
Relinquished by: [Signature] Date: 3/08/23 10:07 Company: EC		Received by: [Signature] Date: 3/9/23 9:15 Company: [Signature]	
Relinquished by: [Signature] Date: [Signature]		Received by: [Signature] Date: [Signature]	
Relinquished by: [Signature] Date: [Signature]		Received by: [Signature] Date: [Signature]	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: [Signature]		Cooler Temperature(s) °C and Other Remarks: 3.12	





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130078-2

SDG Number:

**Login Number: 130078**

**List Number: 1**

**Creator: Cruise, Noel**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is < /= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is < 6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130078-2

SDG Number:

**Login Number: 130078**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 03/09/23 05:02 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/12/2023 7:36:18 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall - 001 - Comp

## JOB NUMBER

570-130078-3

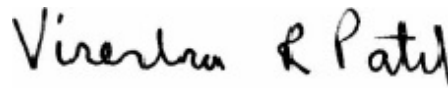
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization

 Generated  
4/12/2023 7:36:18 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	21
Lab Chronicle . . . . .	22
Certification Summary . . . . .	23
Method Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	29



# Definitions/Glossary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Qualifiers

### Rad

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 - Comp

Job ID: 570-130078-3

## Job ID: 570-130078-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-130078-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/7/2023 6:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.5° C and 1.7° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

#### RAD

Method 900.0: Gross Alpha Beta prep batch 160-606236:

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-606326 and analytical batch 160-606671 were outside control limits for one or more analytes. In addition RER/RPD was also outside of control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 900.0: Gross Alpha Beta prep batch 160-606326:

The detection goal was not met for the following sample(s). The samples and batch QC were prepped at full volume. Matrix interferences are suspected because the method blank achieved the detection goal demonstrating acceptable sample preparation and instrument performance. (570-129852-R-1-F)

Method 900.0: Gross Alpha Beta prep batch 160-606326:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230307\_Comp (570-130078-1), (LCS 160-606326/2-A), (LCSB 160-606326/3-A), (MB 160-606326/1-A), (570-129852-R-1-F), (570-129852-R-1-J MS), (570-129852-R-1-L MSBT), (570-129852-R-1-M MSBTD) and (570-129852-R-1-K MSD)

Method 901.1: Gamma Prep Batch 160-604032

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 - Comp

Job ID: 570-130078-3

## Job ID: 570-130078-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

\*\*The method blank (MB) Z-score is within limits and is located in the level IV raw data.

Outfall001\_20230307\_Comp (570-130078-1), (570-128840-R-1-D) and (570-128840-R-1-E DU)

Methods 903.0, 9315: Radium-226 prep batch 160-604353:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230307\_Comp (570-130078-1), (LCS 160-604353/2-A), (LCSD 160-604353/3-A) and (MB 160-604353/1-A)

Methods 904.0, 9320: Radium-228 batch 604358

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230307\_Comp (570-130078-1), (LCS 160-604358/2-A), (LCSD 160-604358/3-A) and (MB 160-604358/1-A)

Method 905: Strontium-90 batch 604379

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230307\_Comp (570-130078-1), (LCS 160-604379/2-A), (MB 160-604379/1-A), (570-129852-R-1-D), (570-129852-L-1-E MS) and (570-129852-L-1-F MSD)

Method 906.0: Tritium 605397

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230307\_Comp (570-130078-1), (LCS 160-605397/2-A), (MB 160-605397/1-A), (570-129852-Q-1-B), (570-129852-K-1-D MS) and (570-129852-K-1-E MSD)

Method 906.0: The matrix spike duplicate (MSD) recovery was inadvertently not spiked. However the matrix spike (MS) was within range and all other QC was within limits. Per client, the data will be reported with this narrative. Outfall001\_20230307\_Comp (570-130078-1), (570-129852-Q-1-B), (570-129852-K-1-D MS) and (570-129852-K-1-E MSD)

Method A-01-R: Isotopic Uranium Batch 605724

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230307\_Comp (570-130078-1), (LCS 160-605724/2-A), (MB 160-605724/1-A), (570-129852-R-1-E), (570-129852-L-1-G MS) and (570-129852-L-1-H MSD)

Method ExtChrom: Uranium Prep Batch 160-605724:

The following sample was prepared at a reduced aliquot due to sediment and discoloration: Outfall001\_20230307\_Comp

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 - Comp

Job ID: 570-130078-3

---

## Job ID: 570-130078-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

(570-130078-1).

Method PrecSep\_0: Radium-228 Prep Batch 160-604358

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230307\_Comp (570-130078-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium-226 Prep Batch 160-604353

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230307\_Comp (570-130078-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.765	U F	1.01	1.01	3.00	1.69	pCi/L	04/06/23 10:28	04/11/23 06:08	1
<b>Gross Beta</b>	<b>1.07</b>		0.595	0.604	4.00	0.867	pCi/L	04/06/23 10:28	04/11/23 06:08	1



# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0156	U	8.53	8.53	20.0	11.4	pCi/L	03/17/23 14:08	03/29/23 17:49	1
Potassium-40	-31.4	U	113	113		172	pCi/L	03/17/23 14:08	03/29/23 17:49	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Date Collected: 03/07/23 07:55**  
**Date Received: 03/07/23 18:00**

**Lab Sample ID: 570-130078-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0638	U	0.0779	0.0781	1.00	0.126	pCi/L	03/20/23 11:13	04/11/23 06:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		30 - 110					03/20/23 11:13	04/11/23 06:43	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Date Collected: 03/07/23 07:55**  
**Date Received: 03/07/23 18:00**

**Lab Sample ID: 570-130078-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.565	U	0.426	0.429	1.00	0.904	pCi/L	03/20/23 11:35	04/05/23 11:39	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		30 - 110					03/20/23 11:35	04/05/23 11:39	1
Y Carrier	90.8		30 - 110					03/20/23 11:35	04/05/23 11:39	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230307\_Comp**  
**Date Collected: 03/07/23 07:55**  
**Date Received: 03/07/23 18:00**

**Lab Sample ID: 570-130078-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.405	U	0.433	0.434	3.00	0.849	pCi/L	03/20/23 13:22	03/29/23 16:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	84.1		30 - 110					03/20/23 13:22	03/29/23 16:07	1
Y Carrier	68.8		30 - 110					03/20/23 13:22	03/29/23 16:07	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230307\_Comp

Lab Sample ID: 570-130078-1

Date Collected: 03/07/23 07:55

Matrix: Water

Date Received: 03/07/23 18:00

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	117	U F	147	147	500	245	pCi/L	03/29/23 11:02	04/04/23 22:07	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.439		0.252	0.253	1.00	0.177	pCi/L	03/30/23 15:31	04/04/23 20:41	1
Tracer	%Yield	Qualifier	Limits							
Uranium-232	89.2		30 - 110							
								Prepared	Analyzed	Dil Fac
								03/30/23 15:31	04/04/23 20:41	1



# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

			Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (30-110)		
570-130078-1	Outfall001_20230307_Comp	83.2		
LCS 160-604353/2-A	Lab Control Sample	90.5		
LCSD 160-604353/3-A	Lab Control Sample Dup	93.6		
MB 160-604353/1-A	Method Blank	90.5		
<b>Tracer/Carrier Legend</b>				
Ba = Ba Carrier				

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

			Percent Yield (Acceptance Limits)		
Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)		
570-130078-1	Outfall001_20230307_Comp	83.2	90.8		
LCS 160-604358/2-A	Lab Control Sample	90.5	90.8		
LCSD 160-604358/3-A	Lab Control Sample Dup	93.6	85.2		
MB 160-604358/1-A	Method Blank	90.5	86.4		
<b>Tracer/Carrier Legend</b>					
Ba = Ba Carrier					
Y = Y Carrier					

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

			Percent Yield (Acceptance Limits)		
Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)		
570-130078-1	Outfall001_20230307_Comp	84.1	68.8		
LCS 160-604379/2-A	Lab Control Sample	85.6	76.6		
MB 160-604379/1-A	Method Blank	79.3	70.3		
<b>Tracer/Carrier Legend</b>					
Sr = Sr Carrier					
Y = Y Carrier					

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

			Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	U-232 (30-110)		
570-130078-1	Outfall001_20230307_Comp	89.2		
LCS 160-605724/2-A	Lab Control Sample	92.1		
MB 160-605724/1-A	Method Blank	92.8		
<b>Tracer/Carrier Legend</b>				
U-232 = Uranium-232				

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-606326/1-A**  
**Matrix: Water**  
**Analysis Batch: 606671**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Gross Alpha	0.4133	U	0.657	0.658	3.00	1.12	pCi/L	04/06/23 10:28	04/10/23 20:47		1	
Gross Beta	0.02677	U	0.496	0.496	4.00	0.874	pCi/L	04/06/23 10:28	04/10/23 20:47		1	

**Lab Sample ID: LCS 160-606326/2-A**  
**Matrix: Water**  
**Analysis Batch: 606895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	51.96		7.62	3.00	2.05	pCi/L	103	75 - 125

**Lab Sample ID: LCSB 160-606326/3-A**  
**Matrix: Water**  
**Analysis Batch: 606671**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.4	74.51		7.98	4.00	0.927	pCi/L	102	75 - 125

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-604032/1-A**  
**Matrix: Water**  
**Analysis Batch: 604760**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604032**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Cesium-137	-0.4655	U	10.3	10.3	20.0	12.1	pCi/L	03/17/23 14:08	03/22/23 19:49		1	
Potassium-40	12.53	U	78.9	78.9		135	pCi/L	03/17/23 14:08	03/22/23 19:49		1	

**Lab Sample ID: LCS 160-604032/2-A**  
**Matrix: Water**  
**Analysis Batch: 604760**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604032**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Americium-241	135000	143200		17000		415	pCi/L	106	75 - 125
Cesium-137	40900	41780		4980	20.0	92.9	pCi/L	102	75 - 125
Cobalt-60	17800	18360		2190		50.3	pCi/L	103	75 - 125

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-604353/1-A**  
**Matrix: Water**  
**Analysis Batch: 606895**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604353**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.03495	U	0.0804	0.0804	1.00	0.172	pCi/L	03/20/23 11:13	04/11/23 06:30	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	90.5		30 - 110					03/20/23 11:13	04/11/23 06:30	1

**Lab Sample ID: LCS 160-604353/2-A**  
**Matrix: Water**  
**Analysis Batch: 606896**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604353**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.56		1.21	1.00	0.118	pCi/L	102	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	90.5		30 - 110					03/20/23 11:13	04/11/23 06:30

**Lab Sample ID: LCSD 160-604353/3-A**  
**Matrix: Water**  
**Analysis Batch: 606896**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 604353**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	11.64		1.22	1.00	0.130	pCi/L	103	75 - 125	0.03	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	93.6		30 - 110					03/20/23 11:13	04/05/23 11:42	1	

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-604358/1-A**  
**Matrix: Water**  
**Analysis Batch: 606261**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604358**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.09792	U	0.271	0.272	1.00	0.484	pCi/L	03/20/23 11:35	04/05/23 11:42	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	90.5		30 - 110					03/20/23 11:35	04/05/23 11:42	1
Y Carrier	86.4		30 - 110		03/20/23 11:35	04/05/23 11:42	1			

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: 904.0 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-604358/2-A**  
**Matrix: Water**  
**Analysis Batch: 606261**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604358**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Radium-228	8.06	8.920		1.20	1.00	0.395	pCi/L	111	75 - 125	
<b>Carrier</b>	<b>%Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>							
Ba Carrier	90.5		30 - 110							
Y Carrier	90.8		30 - 110							

**Lab Sample ID: LCSD 160-604358/3-A**  
**Matrix: Water**  
**Analysis Batch: 606261**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 604358**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	8.06	8.860		1.20	1.00	0.421	pCi/L	110	75 - 125	0.03	1
<b>Carrier</b>	<b>%Yield</b>	<b>LCSD Qualifier</b>	<b>Limits</b>								
Ba Carrier	93.6		30 - 110								
Y Carrier	85.2		30 - 110								

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-604379/1-A**  
**Matrix: Water**  
**Analysis Batch: 605413**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604379**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.1030	U	0.268	0.268	3.00	0.492	pCi/L	03/20/23 13:22	03/29/23 15:59	1
<b>Carrier</b>	<b>%Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>							
Sr Carrier	79.3		30 - 110							
Y Carrier	70.3		30 - 110							
								<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
								03/20/23 13:22	03/29/23 15:59	1
								03/20/23 13:22	03/29/23 15:59	1

**Lab Sample ID: LCS 160-604379/2-A**  
**Matrix: Water**  
**Analysis Batch: 605413**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604379**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90	7.35	7.405		0.842	3.00	0.323	pCi/L	101	75 - 125
<b>Carrier</b>	<b>%Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>						
Sr Carrier	85.6		30 - 110						
Y Carrier	76.6		30 - 110						

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-605397/1-A  
 Matrix: Water  
 Analysis Batch: 606179

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605397

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	81.53	U	151	151	500	263	pCi/L	03/29/23 11:02	04/04/23 16:05	1

Lab Sample ID: LCS 160-605397/2-A  
 Matrix: Water  
 Analysis Batch: 606179

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605397

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Tritium	2090	1744		317	500	251	pCi/L	83	75 - 125

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-605724/1-A  
 Matrix: Water  
 Analysis Batch: 606117

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605724

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Total Uranium	0.03149	U	0.08996	0.09003	1.00	0.148	pCi/L	03/30/23 15:31	04/04/23 20:40	1

Tracer	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Uranium-232	92.8		30 - 110	03/30/23 15:31	04/04/23 20:40	1

Lab Sample ID: LCS 160-605724/2-A  
 Matrix: Water  
 Analysis Batch: 606357

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605724

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec
				Uncert. (2σ+/-)					Limits
Uranium-234	12.7	13.25		1.55	1.00	0.113	pCi/L	104	75 - 125
Uranium-238	13.0	13.61		1.58	1.00	0.123	pCi/L	105	75 - 125

Tracer	LCS %Yield	LCS Qualifier	Limits
Uranium-232	92.1		30 - 110



# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Rad

### Prep Batch: 604032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-604032/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-604032/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 604353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	PrecSep-21	
MB 160-604353/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-604353/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-604353/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 604358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	PrecSep_0	
MB 160-604358/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-604358/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-604358/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 604379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	PrecSep-7	
MB 160-604379/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-604379/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

### Prep Batch: 605397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-605397/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-605397/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

### Prep Batch: 605724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	ExtChrom	
MB 160-605724/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-605724/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

### Prep Batch: 606326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130078-1	Outfall001_20230307_Comp	Total/NA	Water	Evaporation	
MB 160-606326/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-606326/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-606326/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

**Client Sample ID: Outfall001\_20230307\_Comp**

**Lab Sample ID: 570-130078-1**

**Date Collected: 03/07/23 07:55**

**Matrix: Water**

**Date Received: 03/07/23 18:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			200.04 mL	1.0 g	606326	04/06/23 10:28	MST	EET SL
Total/NA	Analysis	900.0		1			606895	04/11/23 06:08	SCB	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	604032	03/17/23 14:08	SEH	EET SL
Total/NA	Analysis	901.1		1			605381	03/29/23 17:49	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			755.13 mL	1.0 g	604353	03/20/23 11:13	DJP	EET SL
Total/NA	Analysis	903.0		1			606893	04/11/23 06:43	SCB	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			755.13 mL	1.0 g	604358	03/20/23 11:35	DJP	EET SL
Total/NA	Analysis	904.0		1			606159	04/05/23 11:39	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep-7			505.36 mL	1.0 g	604379	03/20/23 13:22	DJP	EET SL
Total/NA	Analysis	905		1			605412	03/29/23 16:07	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	LSC_Dist_Susp			105.22 mL	1.0 g	605397	03/29/23 11:02	SEH	EET SL
Total/NA	Analysis	906.0		1			606179	04/04/23 22:07	REV	EET SL
Instrument ID: LSCAQUA										
Total/NA	Prep	ExtChrom			304.6 mL	1.0 mL	605724	03/30/23 15:31	CMM	EET SL
Total/NA	Analysis	A-01-R		1			606116	04/04/23 20:41	EJS	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
 Comp

Job ID: 570-130078-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130078-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy

EPA = US Environmental Protection Agency

None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 -  
Comp

Job ID: 570-130078-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130078-1	Outfall001_20230307_Comp	Water	03/07/23 07:55	03/07/23 18:00

1

2

3

4

5

6

7

8

9

10

11

12

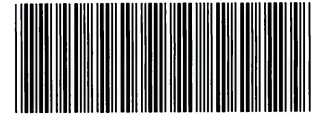
13

14

15

130078

CHAIN OF CUSTODY FORM



570-130078 Chain of Custody

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		<b>ANALYSIS REQUIRED</b>												
<b>Eurofins Calscience Project Manager:</b> Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187		<b>Project Manager:</b> Katherine Miller 520.289.8606, 520.904.6944 (cell) <b>Field Manager:</b> Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405:1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E25.1)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments
<b>TestAmerica's services under this CoC shall be performed in accordance with the T&amp;Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley &amp; Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.</b>																
<b>Sampler:</b> Adrian Mobeka																

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405:1(SM5210B_BODCalc))	Surfactants (MBAS) (SM5540C/E25.1)	Cl <sup>-</sup> , SO <sub>4</sub> <sup>2-</sup> , Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6-TCP, 2,4-Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments				
1 Outfall 001	Outfall001_20230307_Comp	3/7/2023 10:35	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X											X	X	Outfall 001 analyze for Fe.			
			WM	1 L Glass Amber	2	None	110	No		X															
			WM	1L Poly	1	None	115	No			X														
			WM	500 mL Poly	2	None	120	No				X													
			WM	500 mL Poly	2	None	130	No						X											48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>
			WM	500 mL Poly	1	None	150	No							X										48 hour holding time for turbidity
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No										X							
			WM	1 L Glass Amber	2	None	170	No											X						
			WM	1 L Glass Amber	2	None	180	No												X					
			WM	1L Poly	1	None	185	No									X								
2	Outfall001_20230307_Comp_Extra	3/7/2023 10:55	WM	1 L Glass Amber	2	None	110	No		H													Hold		
			WM	500 mL Poly	2	None	120	No				H												Hold	
			WM	500 mL Poly	2	None	130	No					H											Hold	
			WM	1 L Glass Amber	2	None	170	No											H					Hold	
			WM	1 L Glass Amber	2	None	180	No												H				Hold	

**Legend: C=Conditional, R=Routine**

Relinquished By: <i>[Signature]</i> Date/Time: 3-7-2023 13:30 Company: H:A	Received By: <i>[Signature]</i> Date/Time: 3-7-23 13:30 Company: EL	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>[Signature]</i> Date/Time: 3-7-23 18:00 Company: EL	Received By: <i>[Signature]</i> Date/Time: 3-7-23 18:00 Company: AF BC	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>

1.7/1.7 1.5/1.5 SC11

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108				Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp				ANALYSIS REQUIRED													
Eurofins Calscience Project Manager: Virendra Patel 2841 Dow Avenue, Suite #100 Tustin, CA 92780 Tel: 714-895-5494 ECI Project #57013187				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)				Comments													
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.				Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)				Total Dissolved Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se Cyanide (SM4500-CN-E / E335.2) Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1) Total Dissolved Metals: Mercury (E245.1) Total Dissolved Metals: (E200.8); Fe													
Sampler: Adrian Mobeka				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)				Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals: (E200.8); Fe								
3 Outfall 001	Outfall001_20230307_Comp_F	3/7/2023 10:55	WM	1L Poly	1	None	200	Yes	X				X	Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.							
			WM	borosilicate vials	1	None	320	No				X		Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.							
	1 Outfall001_20230307_Comp	3/7/2023 10:55	WM	500 mL Poly	1	NaOH	220	No		X											
			WM	2.5 Gal Cube	1	None	225	No			X				Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.						
WM	1 L Glass Amber	1	None	230	No																
Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual																					
Relinquished By: <i>Mark Dominick</i> Date/Time: 3-7-2023/13:30 Company: H&A				Received By: <i>EC</i> Date/Time: 3-7-23 13:30				Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____													
Relinquished By: <i>EC</i> Date/Time: 3-7-23 18:00 Company: EC				Received By: <i>RF EC</i> Date/Time: 3-7-23 18:00				Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>													





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130078-3

SDG Number:

**Login Number: 130078**

**List Number: 1**

**Creator: Cruise, Noel**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130078-3

SDG Number:

**Login Number: 130078**

**List Number: 2**

**Creator: Worthington, Sierra M**

**List Source: Eurofins St. Louis**

**List Creation: 03/09/23 03:21 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	False	Refer to Job Narrative for details.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 3/22/2023 7:56:37 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall - 001 Grab

## JOB NUMBER

570-130857-1

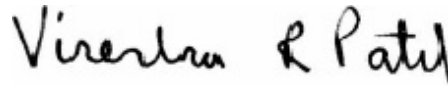
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
3/22/2023 7:56:37 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grab

Job ID: 570-130857-1

---

**Job ID: 570-130857-1**

---

**Laboratory: Eurofins Calscience**

---

**Narrative**

**Job Narrative  
570-130857-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 3/13/2023 7:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8° C.

**Receipt Exceptions**

Method SM 2540F: The following sample was received outside of holding time: Outfall001\_20230310\_Grab (570-130857-1).

**GC/MS VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**GC Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**VOA Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

**Client Sample ID: Outfall001\_20230310\_Grab**

**Lab Sample ID: 570-130857-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	200		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230310**

**Lab Sample ID: 570-130857-3**

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

This Detection Summary does not include radiochemical test results.



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230310\_Grab**

**Date Collected: 03/10/23 09:15**

**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130857-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/14/23 17:19	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/14/23 17:19	1
Trichloroethene	ND		0.50	0.17	ug/L			03/14/23 17:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					03/14/23 17:19	1
Toluene-d8 (Surr)	97		60 - 140					03/14/23 17:19	1
Dibromofluoromethane (Surr)	86		60 - 140					03/14/23 17:19	1
1,2-Dichloroethane-d4 (Surr)	86		60 - 140					03/14/23 17:19	1

**Client Sample ID: TB-20230310**

**Date Collected: 03/10/23 09:15**

**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130857-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/14/23 16:35	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/14/23 16:35	1
Trichloroethene	ND		0.50	0.17	ug/L			03/14/23 16:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		60 - 140					03/14/23 16:35	1
Toluene-d8 (Surr)	94		60 - 140					03/14/23 16:35	1
Dibromofluoromethane (Surr)	89		60 - 140					03/14/23 16:35	1
1,2-Dichloroethane-d4 (Surr)	86		60 - 140					03/14/23 16:35	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## General Chemistry

Client Sample ID: Outfall001\_20230310\_Grab

Date Collected: 03/10/23 09:15

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130857-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		0.98	0.50	mg/L		03/14/23 10:20	03/14/23 14:08	1
<b>Specific Conductance (SM 2510B)</b>	<b>200</b>		1.0	1.0	umhos/cm			03/20/23 20:19	1
Settleable Solids (SM 2540F)	ND	BU BV	0.10	0.10	mL/L			03/14/23 11:03	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	TOL	DBFM	DCA
		(60-140)	(60-140)	(60-140)	(60-140)
570-130857-1	Outfall001_20230310_Grab	97	97	86	86
570-130857-3	TB-20230310	98	94	89	86
LCS 570-311452/1003	Lab Control Sample	96	99	97	89
LCSD 570-311452/4	Lab Control Sample Dup	98	95	94	90
MB 570-311452/6	Method Blank	94	98	88	87

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-311452/6**  
**Matrix: Water**  
**Analysis Batch: 311452**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/14/23 15:49	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/14/23 15:49	1
Trichloroethene	ND		0.50	0.17	ug/L			03/14/23 15:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		60 - 140		03/14/23 15:49	1
Toluene-d8 (Surr)	98		60 - 140		03/14/23 15:49	1
Dibromofluoromethane (Surr)	88		60 - 140		03/14/23 15:49	1
1,2-Dichloroethane-d4 (Surr)	87		60 - 140		03/14/23 15:49	1

**Lab Sample ID: LCS 570-311452/1003**  
**Matrix: Water**  
**Analysis Batch: 311452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	10.0	9.27		ug/L		93	50 - 150
1,2-Dichloroethane	10.0	8.71		ug/L		87	70 - 130
Trichloroethene	10.0	9.35		ug/L		93	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		60 - 140
Toluene-d8 (Surr)	99		60 - 140
Dibromofluoromethane (Surr)	97		60 - 140
1,2-Dichloroethane-d4 (Surr)	89		60 - 140

**Lab Sample ID: LCSD 570-311452/4**  
**Matrix: Water**  
**Analysis Batch: 311452**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	9.61		ug/L		96	50 - 150	4	32
1,2-Dichloroethane	10.0	8.84		ug/L		88	70 - 130	1	49
Trichloroethene	10.0	9.88		ug/L		99	65 - 135	6	48

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		60 - 140
Toluene-d8 (Surr)	95		60 - 140
Dibromofluoromethane (Surr)	94		60 - 140
1,2-Dichloroethane-d4 (Surr)	90		60 - 140

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-311356/1-A**  
**Matrix: Water**  
**Analysis Batch: 311464**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 311356**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		03/14/23 10:20	03/14/23 14:08	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: LCS 570-311356/2-A**  
**Matrix: Water**  
**Analysis Batch: 311464**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 311356**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	38.2		mg/L		95	78 - 114

**Lab Sample ID: LCSD 570-311356/3-A**  
**Matrix: Water**  
**Analysis Batch: 311464**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 311356**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	36.2		mg/L		91	78 - 114	5	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-313431/7**  
**Matrix: Water**  
**Analysis Batch: 313431**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			03/20/23 19:15	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## GC/MS VOA

### Analysis Batch: 311452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130857-1	Outfall001_20230310_Grab	Total/NA	Water	624.1	
570-130857-3	TB-20230310	Total/NA	Water	624.1	
MB 570-311452/6	Method Blank	Total/NA	Water	624.1	
LCS 570-311452/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-311452/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Prep Batch: 311356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130857-1	Outfall001_20230310_Grab	Total/NA	Water	1664A	
MB 570-311356/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-311356/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-311356/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 311384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130857-1	Outfall001_20230310_Grab	Total/NA	Water	SM 2540F	

### Analysis Batch: 311464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130857-1	Outfall001_20230310_Grab	Total/NA	Water	1664A	311356
MB 570-311356/1-A	Method Blank	Total/NA	Water	1664A	311356
LCS 570-311356/2-A	Lab Control Sample	Total/NA	Water	1664A	311356
LCSD 570-311356/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	311356

### Analysis Batch: 313431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130857-1	Outfall001_20230310_Grab	Total/NA	Water	SM 2510B	
MB 570-313431/7	Method Blank	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

**Client Sample ID: Outfall001\_20230310\_Grab**

**Lab Sample ID: 570-130857-1**

**Date Collected: 03/10/23 09:15**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	311452	03/14/23 17:19	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			1024 mL	1000 mL	311356	03/14/23 10:20	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			311464	03/14/23 14:08	L6IE	EET CAL 4
Instrument ID: NO EQUIP										
Total/NA	Analysis	SM 2510B		1			313431	03/20/23 20:19	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	311384	03/14/23 11:03	GG0B	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230310**

**Lab Sample ID: 570-130857-3**

**Date Collected: 03/10/23 09:15**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	311452	03/14/23 16:35	A1W	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23





# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-130857-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

- 1664A = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Grab

Job ID: 570-130857-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130857-1	Outfall001_20230310_Grab	Water	03/10/23 09:15	03/13/23 19:25
570-130857-3	TB-20230310	Water	03/10/23 09:15	03/13/23 19:25

1

2

3

4

5

6

7

8

9

10

11

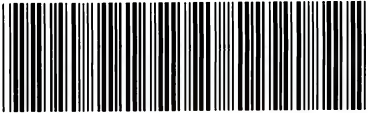
12

13

14

15

CHAIN OF CUSTODY FORM



R R R R

R72HCY46

<b>Client Name/Address:</b> Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		<b>Project:</b> Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Grab				<b>ANALYSIS REQUIRED</b>										<b>Field Readings</b> <b>Meter serial #</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
<b>Eurofins Calscience Irvine Contact:</b> Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project #57013187						<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> </td></tr> <tr><td style="width:5%;"> </td><td style="width:5%;"> </td><td style="width:5%;"> &lt;/</td></tr></table>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		</																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130857-1

**Login Number: 130857**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/9/2023 1:16:47 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Comp

**JOB NUMBER**

570-130859-1

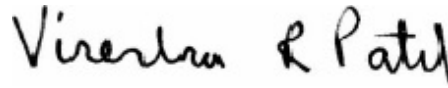
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/9/2023 1:16:47 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	6
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Surrogate Summary . . . . .	19
QC Sample Results . . . . .	20
QC Association Summary . . . . .	31
Lab Chronicle . . . . .	36
Certification Summary . . . . .	38
Method Summary . . . . .	39
Sample Summary . . . . .	40
Chain of Custody . . . . .	41
Receipt Checklists . . . . .	43

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Qualifiers

### HPLC/IC

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BV	Sample received after holding time expired

### Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
BU	Analyzed out of holding time
J,DX	Estimated value; value < lowest standard (MQL), but > than MDL
LM	MS and/or MSD above acceptance limits. See Blank Spike (LCS)
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)
LQ	LCS/LCSD recovery above method control limits

### General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time
BU	Sample was prepped beyond the specified holding time
BV	Sample received after holding time expired

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

---

## Glossary (Continued)

---

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

---

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-130859-1

---

## Job ID: 570-130859-1

---

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-130859-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/13/2023 7:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.5° C.

#### Receipt Exceptions

Methods 300.0, SM 5210B, SM 5540C: The following sample was received outside of holding time: Outfall001\_20230311\_Comp (570-130859-1).

The container labels for the following samples did not match the information listed on the Chain-of-Custody (COC): Outfall001\_20230311\_Comp (570-130859-1), Outfall001\_20230311\_Comp (570-130859-1[MS]), Outfall001\_20230311\_Comp (570-130859-1[MSD]), Outfall001\_20230311\_Comp\_Extra (570-130859-2), Outfall001\_20230311\_Comp\_F (570-130859-3), Outfall001\_20230311\_Comp\_F (570-130859-3[MS]) and Outfall001\_20230311\_Comp\_F (570-130859-3[MSD]). The container labels list collection time 09:15, while the COC lists collection time 08:00.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### HPLC/IC

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 570-311256 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride and Sulfate in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 300.0: Due to the high concentration of Sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 570-311256 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 300.0: The following sample was received outside of holding time: Outfall001\_20230311\_Comp (570-130859-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Metals

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-312120 and analytical batch 570-312206 were outside control limits for Zinc. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 245.1: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 570-311254, 570-311580 and 570-311609 and analytical batch 570-311965 recovered outside control limits for the following analytes: Mercury. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 245.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-311609 and analytical batch 570-311965 were outside control limits. The samples associated with this MS/MSD were non-detects for the affected analytes; therefore, the data have been reported.

Method 245.1: The following sample was analyzed outside of analytical holding time : Outfall001\_20230311\_Comp\_F (570-130859-3).

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-130859-1

---

## Job ID: 570-130859-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230311\_Comp\_F (570-130859-3), Outfall001\_20230311\_Comp\_F (570-130859-3[MS]) and Outfall001\_20230311\_Comp\_F (570-130859-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

Method SM 5540C: The following sample was received outside of holding time: Outfall001\_20230311\_Comp (570-130859-1).

Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-312131 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 2130B: The following sample was received outside of holding time: Outfall001\_20230311\_Comp (570-130859-1).

Method SM 5210B: The following sample was analyzed outside of analytical holding time due to log in error: Outfall001\_20230311\_Comp (570-130859-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-312577. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PEST LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-311840. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method:625 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Client Sample ID: Outfall001\_20230311\_Comp

## Lab Sample ID: 570-130859-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.0		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.28	BU BV	0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	13		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.28		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	2.7		2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	1900		20	3.7	ug/L	1		200.8	Total Recoverable
Lead	1.2		1.0	0.12	ug/L	1		200.8	Total Recoverable
Zinc	12	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Turbidity	55	BU BV	0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	120		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	27		2.0	1.7	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: Outfall001\_20230311\_Comp\_F

## Lab Sample ID: 570-130859-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.4	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	74	BU	20	3.7	ug/L	1		200.8	Dissolved
Zinc	3.8	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

**Date Collected: 03/11/23 08:00**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.94	0.13	ug/L		03/15/23 13:38	03/23/23 19:06	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		03/15/23 13:38	03/23/23 19:06	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		03/15/23 13:38	03/23/23 19:06	1
N-Nitrosodimethylamine	ND		0.19	0.17	ug/L		03/15/23 13:38	03/23/23 19:06	1
Pentachlorophenol	ND		0.94	0.79	ug/L		03/15/23 13:38	03/23/23 19:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	63		31 - 120	03/15/23 13:38	03/23/23 19:06	1
Phenol-d6 (Surr)	29		10 - 120	03/15/23 13:38	03/23/23 19:06	1
p-Terphenyl-d14 (Surr)	74		45 - 120	03/15/23 13:38	03/23/23 19:06	1
2,4,6-Tribromophenol	85		28 - 127	03/15/23 13:38	03/23/23 19:06	1
2-Fluorophenol	42		17 - 120	03/15/23 13:38	03/23/23 19:06	1
Nitrobenzene-d5	66		27 - 120	03/15/23 13:38	03/23/23 19:06	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001\_20230311\_Comp

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/17/23 12:20	03/23/23 14:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	60		20 - 139				03/17/23 12:20	03/23/23 14:02	1
DCB Decachlorobiphenyl (Surr)	42		20 - 154				03/17/23 12:20	03/23/23 14:02	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230311\_Comp

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.0		1.0	0.36	mg/L			03/14/23 09:27	1
Nitrite as N	ND	BU BV	0.10	0.043	mg/L			03/14/23 09:27	1
Nitrate as N	0.28	BU BV	0.10	0.020	mg/L			03/14/23 09:27	1
Sulfate	13		1.0	0.24	mg/L			03/14/23 09:27	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230311\_Comp

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/14/23 19:24	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230311\_Comp

Lab Sample ID: 570-130859-1

Date Collected: 03/11/23 08:00

Matrix: Water

Date Received: 03/13/23 19:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.28		0.10	0.020	mg/L			03/20/23 12:49	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230311\_Comp

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/15/23 08:38	03/15/23 11:51	1
Copper	2.7		2.0	0.32	ug/L		03/15/23 08:38	03/15/23 11:51	1
Iron	1900		20	3.7	ug/L		03/15/23 08:38	03/15/23 11:51	1
Lead	1.2		1.0	0.12	ug/L		03/15/23 08:38	03/15/23 11:51	1
Selenium	ND		2.0	0.52	ug/L		03/15/23 08:38	03/15/23 11:51	1
Zinc	12	J,DX	20	2.8	ug/L		03/15/23 08:38	03/15/23 11:51	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230311\_Comp\_F

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			03/16/23 12:37	1
<b>Copper</b>	<b>1.4</b>	<b>J,DX BU</b>	2.0	0.32	ug/L			03/16/23 12:37	1
<b>Iron</b>	<b>74</b>	<b>BU</b>	20	3.7	ug/L			03/16/23 12:37	1
Lead	ND	BU	1.0	0.12	ug/L			03/16/23 12:37	1
Selenium	ND	BU	2.0	0.52	ug/L			03/16/23 12:37	1
<b>Zinc</b>	<b>3.8</b>	<b>J,DX BU</b>	20	2.8	ug/L			03/16/23 12:37	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230311\_Comp

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	LQ	0.20	0.12	ug/L		03/14/23 22:32	03/15/23 19:24	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230311\_Comp\_F

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		03/14/23 19:37	03/16/23 19:33	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## General Chemistry

**Client Sample ID: Outfall001\_20230311\_Comp**

**Date Collected: 03/11/23 08:00**

**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		03/23/23 12:55	03/23/23 14:56	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			03/14/23 19:36	1
<b>Turbidity (SM 2130B)</b>	<b>55</b>	<b>BU BV</b>	0.05	0.05	NTU			03/14/23 17:40	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>120</b>		10	8.7	mg/L			03/15/23 18:27	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>27</b>		2.0	1.7	mg/L			03/15/23 18:42	1
Biochemical Oxygen Demand (SM 5210B)	ND	BU BV	2.0	1.0	mg/L		03/22/23 17:07	03/22/23 20:17	1
MBAS (SM 5540C)	ND	BU BV	0.20	0.050	mg/L		03/14/23 17:30	03/14/23 19:49	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-130859-1	Outfall001_20230311_Comp	63	29	74	85	42	66
LCS 570-311840/2-A	Lab Control Sample	75	42	85	95	60	75
LCSD 570-311840/3-A	Lab Control Sample Dup	79	46	96	99	65	78
MB 570-311840/1-A	Method Blank	74	33	81	50	49	81

#### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (20-139)	DCB1 (20-154)
570-130859-1	Outfall001_20230311_Comp	60	42

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (20-139)	DCB1 (20-154)
LCS 570-312577/2-A	Lab Control Sample	57	73
LCSD 570-312577/3-A	Lab Control Sample Dup	63	70
MB 570-312577/1-A	Method Blank	53	56

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-311840/1-A**  
**Matrix: Water**  
**Analysis Batch: 314108**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 311840**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		03/15/23 13:38	03/23/23 11:25	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		03/15/23 13:38	03/23/23 11:25	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		03/15/23 13:38	03/23/23 11:25	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		03/15/23 13:38	03/23/23 11:25	1
Pentachlorophenol	ND		1.0	0.84	ug/L		03/15/23 13:38	03/23/23 11:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	74		31 - 120	03/15/23 13:38	03/23/23 11:25	1
Phenol-d6 (Surr)	33		10 - 120	03/15/23 13:38	03/23/23 11:25	1
p-Terphenyl-d14 (Surr)	81		45 - 120	03/15/23 13:38	03/23/23 11:25	1
2,4,6-Tribromophenol	50		28 - 127	03/15/23 13:38	03/23/23 11:25	1
2-Fluorophenol	49		17 - 120	03/15/23 13:38	03/23/23 11:25	1
Nitrobenzene-d5	81		27 - 120	03/15/23 13:38	03/23/23 11:25	1

**Lab Sample ID: LCS 570-311840/2-A**  
**Matrix: Water**  
**Analysis Batch: 314108**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 311840**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	19.2		ug/L		96	52 - 129
2,4-Dinitrotoluene	20.0	21.1		ug/L		106	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	25.4		ug/L		127	29 - 137
N-Nitrosodimethylamine	20.0	9.67		ug/L		48	20 - 120
Pentachlorophenol	20.0	17.0		ug/L		85	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	75		31 - 120
Phenol-d6 (Surr)	42		10 - 120
p-Terphenyl-d14 (Surr)	85		45 - 120
2,4,6-Tribromophenol	95		28 - 127
2-Fluorophenol	60		17 - 120
Nitrobenzene-d5	75		27 - 120

**Lab Sample ID: LCSD 570-311840/3-A**  
**Matrix: Water**  
**Analysis Batch: 314108**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 311840**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	19.3		ug/L		97	52 - 129	0	35
2,4-Dinitrotoluene	20.0	21.4		ug/L		107	48 - 127	1	25
Bis(2-ethylhexyl) phthalate	20.0	26.0		ug/L		130	29 - 137	3	50
N-Nitrosodimethylamine	20.0	10.8		ug/L		54	20 - 120	11	21
Pentachlorophenol	20.0	15.6		ug/L		78	38 - 152	9	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	79		31 - 120



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-311840/3-A**  
**Matrix: Water**  
**Analysis Batch: 314108**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 311840**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Phenol-d6 (Surr)	46		10 - 120
p-Terphenyl-d14 (Surr)	96		45 - 120
2,4,6-Tribromophenol	99		28 - 127
2-Fluorophenol	65		17 - 120
Nitrobenzene-d5	78		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-312577/1-A**  
**Matrix: Water**  
**Analysis Batch: 312740**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 312577**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/17/23 12:20	03/20/23 18:04	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	53		20 - 139	03/17/23 12:20	03/20/23 18:04	1
DCB Decachlorobiphenyl (Surr)	56		20 - 154	03/17/23 12:20	03/20/23 18:04	1

**Lab Sample ID: LCS 570-312577/2-A**  
**Matrix: Water**  
**Analysis Batch: 312740**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 312577**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0196		ug/L		59	37 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	57		20 - 139
DCB Decachlorobiphenyl (Surr)	73		20 - 154

**Lab Sample ID: LCSD 570-312577/3-A**  
**Matrix: Water**  
**Analysis Batch: 312740**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 312577**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
alpha-BHC	0.0333	0.0237		ug/L		71	37 - 140	19	36

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	63		20 - 139
DCB Decachlorobiphenyl (Surr)	70		20 - 154

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-311256/5**  
**Matrix: Water**  
**Analysis Batch: 311256**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			03/14/23 06:38	1
Sulfate	ND		1.0	0.24	mg/L			03/14/23 06:38	1

**Lab Sample ID: LCS 570-311256/6**  
**Matrix: Water**  
**Analysis Batch: 311256**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.2		mg/L		98	90 - 110
Sulfate	50.0	49.4		mg/L		99	90 - 110

**Lab Sample ID: LCSD 570-311256/7**  
**Matrix: Water**  
**Analysis Batch: 311256**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	49.2		mg/L		98	90 - 110	0	15
Sulfate	50.0	49.4		mg/L		99	90 - 110	0	15

**Lab Sample ID: MB 570-311257/5**  
**Matrix: Water**  
**Analysis Batch: 311257**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			03/14/23 06:38	1
Nitrate as N	ND		0.10	0.020	mg/L			03/14/23 06:38	1

**Lab Sample ID: LCS 570-311257/6**  
**Matrix: Water**  
**Analysis Batch: 311257**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.54		mg/L		101	90 - 110
Nitrate as N	5.00	4.93		mg/L		99	90 - 110

**Lab Sample ID: LCSD 570-311257/7**  
**Matrix: Water**  
**Analysis Batch: 311257**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.53		mg/L		101	90 - 110	0	15
Nitrate as N	5.00	4.96		mg/L		99	90 - 110	1	15

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 570-311491/7  
 Matrix: Water  
 Analysis Batch: 311491

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/14/23 18:01	1

Lab Sample ID: LCS 570-311491/8  
 Matrix: Water  
 Analysis Batch: 311491

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.0		ug/L		100	85 - 115

Lab Sample ID: LCSD 570-311491/9  
 Matrix: Water  
 Analysis Batch: 311491

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	25.1		ug/L		100	85 - 115	0	15

## Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-311681/1-A  
 Matrix: Water  
 Analysis Batch: 311853

Client Sample ID: Method Blank  
 Prep Type: Total Recoverable  
 Prep Batch: 311681

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/15/23 08:38	03/15/23 11:38	1
Copper	ND		2.0	0.32	ug/L		03/15/23 08:38	03/15/23 11:38	1
Iron	ND		20	3.7	ug/L		03/15/23 08:38	03/15/23 11:38	1
Lead	ND		1.0	0.12	ug/L		03/15/23 08:38	03/15/23 11:38	1
Selenium	ND		2.0	0.52	ug/L		03/15/23 08:38	03/15/23 11:38	1
Zinc	ND		20	2.8	ug/L		03/15/23 08:38	03/15/23 11:38	1

Lab Sample ID: LCS 570-311681/2-A  
 Matrix: Water  
 Analysis Batch: 311853

Client Sample ID: Lab Control Sample  
 Prep Type: Total Recoverable  
 Prep Batch: 311681

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	78.5		ug/L		98	85 - 115
Copper	80.0	78.8		ug/L		98	85 - 115
Iron	800	797		ug/L		100	85 - 115
Lead	80.0	79.7		ug/L		100	85 - 115
Selenium	80.0	76.7		ug/L		96	85 - 115
Zinc	80.0	76.8		ug/L		96	85 - 115

Lab Sample ID: LCSD 570-311681/3-A  
 Matrix: Water  
 Analysis Batch: 311853

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total Recoverable  
 Prep Batch: 311681

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	78.0		ug/L		98	85 - 115	1	20
Copper	80.0	78.2		ug/L		98	85 - 115	1	20

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-311681/3-A**  
**Matrix: Water**  
**Analysis Batch: 311853**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 311681**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	800	797		ug/L		100	85 - 115	0	20
Lead	80.0	79.2		ug/L		99	85 - 115	1	20
Selenium	80.0	75.2		ug/L		94	85 - 115	2	20
Zinc	80.0	76.2		ug/L		95	85 - 115	1	20

**Lab Sample ID: 570-130859-1 MS**  
**Matrix: Water**  
**Analysis Batch: 311853**

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 311681**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	77.8		ug/L		97	80 - 120		
Copper	2.7		80.0	81.6		ug/L		99	80 - 120		
Iron	1900		800	2690		ug/L		104	80 - 120		
Lead	1.2		80.0	80.0		ug/L		98	80 - 120		
Selenium	ND		80.0	71.5		ug/L		89	80 - 120		
Zinc	12	J,DX	80.0	86.5		ug/L		93	80 - 120		

**Lab Sample ID: 570-130859-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 311853**

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 311681**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND		80.0	79.1		ug/L		99	80 - 120	2	20
Copper	2.7		80.0	82.5		ug/L		100	80 - 120	1	20
Iron	1900		800	2650		ug/L		99	80 - 120	1	20
Lead	1.2		80.0	82.3		ug/L		101	80 - 120	3	20
Selenium	ND		80.0	74.8		ug/L		93	80 - 120	4	20
Zinc	12	J,DX	80.0	87.7		ug/L		94	80 - 120	1	20

**Lab Sample ID: MB 570-312120/1-A**  
**Matrix: Water**  
**Analysis Batch: 312206**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L			03/16/23 11:52	1
Copper	ND		2.0	0.32	ug/L			03/16/23 11:52	1
Iron	ND		20	3.7	ug/L			03/16/23 11:52	1
Lead	ND		1.0	0.12	ug/L			03/16/23 11:52	1
Selenium	ND		2.0	0.52	ug/L			03/16/23 11:52	1
Zinc	ND		20	2.8	ug/L			03/16/23 11:52	1

**Lab Sample ID: LCS 570-312120/2-A**  
**Matrix: Water**  
**Analysis Batch: 312206**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	77.6		ug/L		97	85 - 115
Copper	80.0	77.9		ug/L		97	85 - 115
Iron	800	797		ug/L		100	85 - 115

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 570-312120/2-A**  
**Matrix: Water**  
**Analysis Batch: 312206**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	80.3		ug/L		100	85 - 115
Selenium	80.0	75.4		ug/L		94	85 - 115
Zinc	80.0	75.1		ug/L		94	85 - 115

**Lab Sample ID: LCSD 570-312120/3-A**  
**Matrix: Water**  
**Analysis Batch: 312206**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	79.6		ug/L		99	85 - 115	3	20
Copper	80.0	79.2		ug/L		99	85 - 115	2	20
Iron	800	802		ug/L		100	85 - 115	1	20
Lead	80.0	82.0		ug/L		102	85 - 115	2	20
Selenium	80.0	79.0		ug/L		99	85 - 115	5	20
Zinc	80.0	76.9		ug/L		96	85 - 115	2	20

**Lab Sample ID: 570-130859-3 MS**  
**Matrix: Water**  
**Analysis Batch: 312206**

**Client Sample ID: Outfall001\_20230311\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND	BU	80.0	67.0	BU	ug/L		84	80 - 120
Copper	1.4	J,DX BU	80.0	69.4	BU	ug/L		85	80 - 120
Iron	74	BU	800	746	BU	ug/L		84	80 - 120
Lead	ND	BU	80.0	68.5	BU	ug/L		86	80 - 120
Selenium	ND	BU	80.0	65.3	BU	ug/L		82	80 - 120
Zinc	3.8	J,DX BU	80.0	71.6	BU	ug/L		85	80 - 120

**Lab Sample ID: 570-130859-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 312206**

**Client Sample ID: Outfall001\_20230311\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	66.0	BU	ug/L		82	80 - 120	2	20
Copper	1.4	J,DX BU	80.0	68.9	BU	ug/L		84	80 - 120	1	20
Iron	74	BU	800	738	BU	ug/L		83	80 - 120	1	20
Lead	ND	BU	80.0	67.6	BU	ug/L		85	80 - 120	1	20
Selenium	ND	BU	80.0	64.2	BU	ug/L		80	80 - 120	2	20
Zinc	3.8	J,DX BU	80.0	66.8	BU LN	ug/L		79	80 - 120	7	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-311609/1-A**  
**Matrix: Water**  
**Analysis Batch: 311965**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 311609**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/14/23 22:32	03/15/23 19:03	1

Euromins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 570-311609/2-A**  
**Matrix: Water**  
**Analysis Batch: 311965**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 311609**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	9.08		ug/L		113	85 - 115

**Lab Sample ID: LCSD 570-311609/3-A**  
**Matrix: Water**  
**Analysis Batch: 311965**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 311609**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	9.28	LQ	ug/L		116	85 - 115	2	10

**Lab Sample ID: 570-130859-1 MS**  
**Matrix: Water**  
**Analysis Batch: 311965**

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 311609**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	LQ	8.00	9.25	LM	ug/L		116	85 - 115

**Lab Sample ID: 570-130859-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 311965**

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 311609**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	LQ	8.00	9.11		ug/L		114	85 - 115	2	10

**Lab Sample ID: MB 570-311254/1-B**  
**Matrix: Water**  
**Analysis Batch: 312558**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 311580**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		03/14/23 19:37	03/16/23 19:08	1

**Lab Sample ID: LCS 570-311254/2-B**  
**Matrix: Water**  
**Analysis Batch: 312558**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 311580**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.24	BU	ug/L		103	85 - 115

**Lab Sample ID: LCSD 570-311254/3-B**  
**Matrix: Water**  
**Analysis Batch: 312558**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 311580**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.17	BU	ug/L		102	85 - 115	1	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-130859-3 MS  
 Matrix: Water  
 Analysis Batch: 312558

Client Sample ID: Outfall001\_20230311\_Comp\_F  
 Prep Type: Dissolved  
 Prep Batch: 311580

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	8.00	7.95	BU	ug/L		99	85 - 115

Lab Sample ID: 570-130859-3 MSD  
 Matrix: Water  
 Analysis Batch: 312558

Client Sample ID: Outfall001\_20230311\_Comp\_F  
 Prep Type: Dissolved  
 Prep Batch: 311580

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	ND	BU	8.00	8.07	BU	ug/L		101	85 - 115	2	10

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-314231/5-A  
 Matrix: Water  
 Analysis Batch: 314249

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 314231

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		03/23/23 12:55	03/23/23 14:28	1

Lab Sample ID: LCS 570-314231/6-A  
 Matrix: Water  
 Analysis Batch: 314249

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 314231

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.477		mg/L		95	90 - 110

Lab Sample ID: LCSD 570-314231/7-A  
 Matrix: Water  
 Analysis Batch: 314249

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 314231

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Ammonia	0.500	0.476		mg/L		95	90 - 110	0	20

Lab Sample ID: 570-130859-1 MS  
 Matrix: Water  
 Analysis Batch: 314249

Client Sample ID: Outfall001\_20230311\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 314231

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		0.500	0.504		mg/L		101	90 - 110

Lab Sample ID: 570-130859-1 MSD  
 Matrix: Water  
 Analysis Batch: 314249

Client Sample ID: Outfall001\_20230311\_Comp  
 Prep Type: Total/NA  
 Prep Batch: 314231

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Ammonia	ND		0.500	0.512		mg/L		102	90 - 110	2	25

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

**Lab Sample ID: MB 570-312131/14**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			03/14/23 19:36	1

**Lab Sample ID: LCS 570-312131/16**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	252		ug/L		101	90 - 110

**Lab Sample ID: LCSD 570-312131/17**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	266		ug/L		107	90 - 110	5	20

**Lab Sample ID: MRL 570-312131/13**  
**Matrix: Water**  
**Analysis Batch: 312131**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	6.06		ug/L		121	50 - 150

## Method: SM 2130B - Turbidity

**Lab Sample ID: LCSSRM 570-311520/3**  
**Matrix: Water**  
**Analysis Batch: 311520**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

## Method: SM 2540C - Solids, Total Dissolved (TDS)

**Lab Sample ID: MB 570-311975/1**  
**Matrix: Water**  
**Analysis Batch: 311975**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			03/15/23 18:27	1

**Lab Sample ID: LCS 570-311975/2**  
**Matrix: Water**  
**Analysis Batch: 311975**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1030		mg/L		103	84 - 108

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 570-311975/3  
 Matrix: Water  
 Analysis Batch: 311975

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1040		mg/L		104	84 - 108	1	10

Lab Sample ID: 570-130859-1 DU  
 Matrix: Water  
 Analysis Batch: 311975

Client Sample ID: Outfall001\_20230311\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	120		129		mg/L		10	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-311979/1  
 Matrix: Water  
 Analysis Batch: 311979

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/15/23 18:42	1

Lab Sample ID: LCS 570-311979/2  
 Matrix: Water  
 Analysis Batch: 311979

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	95.0		mg/L		95	77 - 116

Lab Sample ID: LCSD 570-311979/3  
 Matrix: Water  
 Analysis Batch: 311979

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	98.0		mg/L		98	77 - 116	3	10

## Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 570-313892/1-A  
 Matrix: Water  
 Analysis Batch: 315126

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 313892

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L		03/22/23 17:07	03/22/23 18:46	1

Lab Sample ID: LCS 570-313892/2-A  
 Matrix: Water  
 Analysis Batch: 315126

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 313892

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	199		mg/L		100	84.6 - 115.4

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

**Lab Sample ID: MB 570-311756/5-A**  
**Matrix: Water**  
**Analysis Batch: 311602**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 311756**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		03/14/23 17:30	03/14/23 19:30	1

**Lab Sample ID: LCS 570-311756/6-A**  
**Matrix: Water**  
**Analysis Batch: 311602**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 311756**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.462		mg/L		92	83 - 122

**Lab Sample ID: LCSD 570-311756/7-A**  
**Matrix: Water**  
**Analysis Batch: 311602**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 311756**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.500	0.472		mg/L		94	83 - 122	2	10

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## GC/MS Semi VOA

### Prep Batch: 311840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	625	
MB 570-311840/1-A	Method Blank	Total/NA	Water	625	
LCS 570-311840/2-A	Lab Control Sample	Total/NA	Water	625	
LCS 570-311840/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 314108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	625.1 SIM	311840
MB 570-311840/1-A	Method Blank	Total/NA	Water	625.1 SIM	311840
LCS 570-311840/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	311840
LCS 570-311840/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	311840

## GC Semi VOA

### Prep Batch: 312577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	608	
MB 570-312577/1-A	Method Blank	Total/NA	Water	608	
LCS 570-312577/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-312577/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 312740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-312577/1-A	Method Blank	Total/NA	Water	608.3	312577
LCS 570-312577/2-A	Lab Control Sample	Total/NA	Water	608.3	312577
LCS 570-312577/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	312577

### Analysis Batch: 313951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	608.3	312577

## HPLC/IC

### Analysis Batch: 311256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	300.0	
MB 570-311256/5	Method Blank	Total/NA	Water	300.0	
LCS 570-311256/6	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-311256/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 311257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	300.0	
MB 570-311257/5	Method Blank	Total/NA	Water	300.0	
LCS 570-311257/6	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-311257/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 311491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	314.0	
MB 570-311491/7	Method Blank	Total/NA	Water	314.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## HPLC/IC (Continued)

### Analysis Batch: 311491 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-311491/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-311491/9	Lab Control Sample Dup	Total/NA	Water	314.0	

### Analysis Batch: 313055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Filtration Batch: 311254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-3	Outfall001_20230311_Comp_F	Dissolved	Water	Filtration	
MB 570-311254/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-311254/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-311254/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-130859-3 MS	Outfall001_20230311_Comp_F	Dissolved	Water	Filtration	
570-130859-3 MSD	Outfall001_20230311_Comp_F	Dissolved	Water	Filtration	

### Prep Batch: 311580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-3	Outfall001_20230311_Comp_F	Dissolved	Water	245.1	311254
MB 570-311254/1-B	Method Blank	Dissolved	Water	245.1	311254
LCS 570-311254/2-B	Lab Control Sample	Dissolved	Water	245.1	311254
LCSD 570-311254/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	311254
570-130859-3 MS	Outfall001_20230311_Comp_F	Dissolved	Water	245.1	311254
570-130859-3 MSD	Outfall001_20230311_Comp_F	Dissolved	Water	245.1	311254

### Prep Batch: 311609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	245.1	
MB 570-311609/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-311609/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-311609/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-130859-1 MS	Outfall001_20230311_Comp	Total/NA	Water	245.1	
570-130859-1 MSD	Outfall001_20230311_Comp	Total/NA	Water	245.1	

### Prep Batch: 311681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total Recoverable	Water	200.8	
MB 570-311681/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-311681/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-311681/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-130859-1 MS	Outfall001_20230311_Comp	Total Recoverable	Water	200.8	
570-130859-1 MSD	Outfall001_20230311_Comp	Total Recoverable	Water	200.8	

### Analysis Batch: 311853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total Recoverable	Water	200.8	311681
MB 570-311681/1-A	Method Blank	Total Recoverable	Water	200.8	311681
LCS 570-311681/2-A	Lab Control Sample	Total Recoverable	Water	200.8	311681

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## Metals (Continued)

### Analysis Batch: 311853 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-311681/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	311681
570-130859-1 MS	Outfall001_20230311_Comp	Total Recoverable	Water	200.8	311681
570-130859-1 MSD	Outfall001_20230311_Comp	Total Recoverable	Water	200.8	311681

### Analysis Batch: 311965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	245.1	311609
MB 570-311609/1-A	Method Blank	Total/NA	Water	245.1	311609
LCS 570-311609/2-A	Lab Control Sample	Total/NA	Water	245.1	311609
LCSD 570-311609/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	311609
570-130859-1 MS	Outfall001_20230311_Comp	Total/NA	Water	245.1	311609
570-130859-1 MSD	Outfall001_20230311_Comp	Total/NA	Water	245.1	311609

### Filtration Batch: 312120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-3	Outfall001_20230311_Comp_F	Dissolved	Water	Filtration	
MB 570-312120/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-312120/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-312120/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-130859-3 MS	Outfall001_20230311_Comp_F	Dissolved	Water	Filtration	
570-130859-3 MSD	Outfall001_20230311_Comp_F	Dissolved	Water	Filtration	

### Analysis Batch: 312206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-3	Outfall001_20230311_Comp_F	Dissolved	Water	200.8	312120
MB 570-312120/1-A	Method Blank	Dissolved	Water	200.8	312120
LCS 570-312120/2-A	Lab Control Sample	Dissolved	Water	200.8	312120
LCSD 570-312120/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	312120
570-130859-3 MS	Outfall001_20230311_Comp_F	Dissolved	Water	200.8	312120
570-130859-3 MSD	Outfall001_20230311_Comp_F	Dissolved	Water	200.8	312120

### Analysis Batch: 312558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-3	Outfall001_20230311_Comp_F	Dissolved	Water	245.1	311580
MB 570-311254/1-B	Method Blank	Dissolved	Water	245.1	311580
LCS 570-311254/2-B	Lab Control Sample	Dissolved	Water	245.1	311580
LCSD 570-311254/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	311580
570-130859-3 MS	Outfall001_20230311_Comp_F	Dissolved	Water	245.1	311580
570-130859-3 MSD	Outfall001_20230311_Comp_F	Dissolved	Water	245.1	311580

## General Chemistry

### Analysis Batch: 311520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-311520/3	Lab Control Sample	Total/NA	Water	SM 2130B	

### Analysis Batch: 311602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	SM 5540C	311756

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

## General Chemistry (Continued)

### Analysis Batch: 311602 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-311756/5-A	Method Blank	Total/NA	Water	SM 5540C	311756
LCS 570-311756/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	311756
LCSD 570-311756/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	311756

### Prep Batch: 311756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	SM 5540C	
MB 570-311756/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-311756/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-311756/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

### Analysis Batch: 311975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	SM 2540C	
MB 570-311975/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-311975/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-311975/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
570-130859-1 DU	Outfall001_20230311_Comp	Total/NA	Water	SM 2540C	

### Analysis Batch: 311979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	SM 2540D	
MB 570-311979/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-311979/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-311979/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

### Analysis Batch: 312131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	Kelada 01	
MB 570-312131/14	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-312131/16	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-312131/17	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-312131/13	Lab Control Sample	Total/NA	Water	Kelada 01	

### Prep Batch: 313892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	BOD Prep	
USB 570-313892/1-A	Method Blank	Total/NA	Water	BOD Prep	
LCS 570-313892/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

### Prep Batch: 314231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-314231/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-314231/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-314231/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	
570-130859-1 MS	Outfall001_20230311_Comp	Total/NA	Water	Distill/Ammonia	
570-130859-1 MSD	Outfall001_20230311_Comp	Total/NA	Water	Distill/Ammonia	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## General Chemistry

### Analysis Batch: 314249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	350.1	314231
MB 570-314231/5-A	Method Blank	Total/NA	Water	350.1	314231
LCS 570-314231/6-A	Lab Control Sample	Total/NA	Water	350.1	314231
LCSD 570-314231/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	314231
570-130859-1 MS	Outfall001_20230311_Comp	Total/NA	Water	350.1	314231
570-130859-1 MSD	Outfall001_20230311_Comp	Total/NA	Water	350.1	314231

### Analysis Batch: 315126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	SM 5210B	313892
USB 570-313892/1-A	Method Blank	Total/NA	Water	SM 5210B	313892
LCS 570-313892/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	313892

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

**Date Collected: 03/11/23 08:00**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1066.7 mL	2 mL	311840	03/15/23 13:38	UM1W	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	314108	03/23/23 19:06	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	312577	03/17/23 12:20	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	313951	03/23/23 14:02	N5Y3	EET CAL 4
		Instrument ID: GC52A								
Total/NA	Analysis	300.0		1	4 mL	4 mL	311256	03/14/23 09:27	PS	EET CAL 4
		Instrument ID: IC7								
Total/NA	Analysis	300.0		1	4 mL	4 mL	311257	03/14/23 09:27	PS	EET CAL 4
		Instrument ID: IC7								
Total/NA	Analysis	314.0		1	4 mL	4 mL	311491	03/14/23 19:24	PS	EET CAL 4
		Instrument ID: IC8								
Total/NA	Analysis	NO2NO3 Calc		1			313055	03/20/23 12:49	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	311681	03/15/23 08:38	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			311853	03/15/23 11:51	Y2WS	EET CAL 4
		Instrument ID: ICPMS10								
Total/NA	Prep	245.1			25 mL	50 mL	311609	03/14/23 22:32	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			311965	03/15/23 19:24	T1W	EET CAL 4
		Instrument ID: HG7								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	314231	03/23/23 12:55	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	314249	03/23/23 14:56	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	312131	03/14/23 19:36	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			311520	03/14/23 17:40	ZVB7	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	311975	03/15/23 18:27	UWCT	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	500 mL	1000 mL	311979	03/15/23 18:42	WVA4	EET CAL 4
		Instrument ID: BAL71								
Total/NA	Prep	BOD Prep					313892	03/22/23 17:07	TN8Z	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	315126	03/22/23 20:17	U7UR	EET CAL 4
		Instrument ID: BOD3								
Total/NA	Prep	SM 5540C			100 mL	100 mL	311756	03/14/23 17:30	ZVB7	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	311602	03/14/23 19:49	TXA8	EET CAL 4
		Instrument ID: UV9								



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

**Client Sample ID: Outfall001\_20230311\_Comp\_F**

**Lab Sample ID: 570-130859-3**

**Date Collected: 03/11/23 08:00**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	312120	03/16/23 10:02	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			312206	03/16/23 12:37	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Dissolved	Filtration	Filtration			25 mL	25 mL	311254	03/14/23 04:21	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	311580	03/14/23 19:37	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			312558	03/16/23 19:33	C0YH	EET CAL 4
Instrument ID: HG7										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130859-1	Outfall001_20230311_Comp	Water	03/11/23 08:00	03/13/23 19:25
570-130859-3	Outfall001_20230311_Comp_F	Water	03/11/23 08:00	03/13/23 19:25

1

2

3

4

5

6

7

8

9

10

11

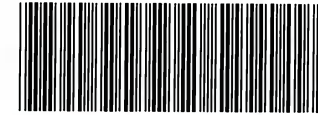
12

13

14

15

CHAIN OF CUSTODY FORM



570-130859 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		ANALYSIS REQUIRED																	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project #57013187		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl <sup>-</sup> , SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -NO <sub>2</sub> -N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2) (SM2540D)	Ammonia-N (350.2)	alpha-BHC (E608)	2,4-D TCP, 2,4-Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E525)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments					
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																					
Sampler: Adrian Mobeka																					
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD													
Outfall 001	Outfall001_20230311_Comp	3/11/2023 10:00	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X								Outfall 001 analyze for Fe.				
			WM	1 L Glass Amber	2	None	110	No			X										
			WM	1L Poly	1	None	115	No					X								
			WM	500 mL Poly	2	None	120	No						X							
			WM	500 mL Poly	2	None	130	No							X				48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>		
			WM	500 mL Poly	1	None	150	No								X				48 hour holding time for turbidity	
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No						X							
			WM	1 L Glass Amber	2	None	170	No							X						
			WM	1 L Glass Amber	2	None	180	No								X					
			WM	1L Poly	1	None	185	No								X					
Outfall 001	Outfall001_20230311_Comp_Extra	3/11/2023 10:00	WM	1 L Glass Amber	2	None	110	No			H							Hold			
			WM	500 mL Poly	2	None	120	No					H						Hold		
			WM	500 mL Poly	2	None	130	No						H						Hold	
			WM	1 L Glass Amber	2	None	170	No								H					Hold
			WM	1 L Glass Amber	2	None	180	No									H				

Legend: C=Conditional, R=Routine

Relinquished By: <i>Mark Dominick</i> Date/Time: 3-13-2023/1045 Company: <i>19: A</i>	Received By: <i>Adrian Mobeka</i> Date/Time: 3/13/23 1045 Company: <i>EC</i>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>Adrian Mobeka</i> Date/Time: 3/13/23 1925 Company: _____	Received By: <i>Adrian Mobeka</i> Date/Time: 3-13-23 19:25 Company: _____	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>

1.3/1.3      1.5/1.5      SC11



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130859-1

**Login Number: 130859**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004  
Generated 4/8/2023 10:58:41 AM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall - 001 Comp

## JOB NUMBER

570-130859-2



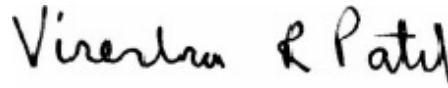
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/8/2023 10:58:41 AM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	24

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-130859-2

---

## Job ID: 570-130859-2

---

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-130859-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/13/2023 7:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.5° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were preserved to the appropriate pH in the laboratory.

The container labels for the following samples did not match the information listed on the Chain-of-Custody (COC):

Outfall001\_20230311\_Comp (570-130859-1), Outfall001\_20230311\_Comp (570-130859-1[MS]), Outfall001\_20230311\_Comp (570-130859-1[MSD]), Outfall001\_20230311\_Comp\_Extra (570-130859-2), Outfall001\_20230311\_Comp\_F (570-130859-3), Outfall001\_20230311\_Comp\_F (570-130859-3[MS]) and Outfall001\_20230311\_Comp\_F (570-130859-3[MSD]). The container labels list collection time 09:15, while the COC lists collection time 08:00.

#### Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument 12D5 exceeded this criteria: Outfall001\_20230311\_Comp (570-130859-1), (CCV 320-664723/2), (LCS 320-664296/2-A), (LCSD 320-664296/3-A) and (MB 320-664296/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDD	0.0000049	J,DX q	0.000047	0.0000038	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDD	0.0000019	J,DX MB	0.000047	0.00000051	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDD	0.0000010	J,DX MB	0.000047	0.00000048	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDD	0.00000056	J,DX MB	0.000047	0.00000044	ug/L	1		1613B	Total/NA
1,2,3,4,7,8-HxCDF	0.00000069	J,DX q MB	0.000047	0.00000023	ug/L	1		1613B	Total/NA
1,2,3,6,7,8-HxCDF	0.00000045	J,DX q MB	0.000047	0.00000021	ug/L	1		1613B	Total/NA
1,2,3,7,8,9-HxCDF	0.00000052	J,DX q MB	0.000047	0.00000023	ug/L	1		1613B	Total/NA
2,3,4,6,7,8-HxCDF	0.00000068	J,DX MB	0.000047	0.00000018	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDD	0.0000017	J,DX MB	0.000047	0.00000080	ug/L	1		1613B	Total/NA
1,2,3,4,6,7,8-HpCDF	0.00000075	J,DX MB	0.000047	0.00000079	ug/L	1		1613B	Total/NA
OCDD	0.00018	MB	0.000094	0.00000086	ug/L	1		1613B	Total/NA
OCDF	0.000015	J,DX MB	0.000094	0.00000045	ug/L	1		1613B	Total/NA
Total PeCDD	0.00000049	J,DX q	0.000047	0.00000038	ug/L	1		1613B	Total/NA
Total HxCDD	0.0000058	J,DX q MB	0.000047	0.00000044	ug/L	1		1613B	Total/NA
Total HxCDF	0.0000043	J,DX q MB	0.000047	0.00000018	ug/L	1		1613B	Total/NA
Total HpCDD	0.000034	J,DX MB	0.000047	0.00000080	ug/L	1		1613B	Total/NA
Total HpCDF	0.000014	J,DX MB	0.000047	0.00000079	ug/L	1		1613B	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

Client Sample ID: Outfall001\_20230311\_Comp

Date Collected: 03/11/23 08:00

Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1

Matrix: Water

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000094	0.0000004	ug/L		03/30/23 06:55	04/04/23 20:56	1
2,3,7,8-TCDF	ND		0.0000094	0.0000001	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,7,8-PeCDD</b>	<b>0.00000049</b>	<b>J,DX q</b>	0.000047	0.0000003	ug/L		03/30/23 06:55	04/04/23 20:56	1
1,2,3,7,8-PeCDF	ND		0.000047	0.0000002	ug/L		03/30/23 06:55	04/04/23 20:56	1
2,3,4,7,8-PeCDF	ND		0.000047	0.0000002	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,4,7,8-HxCDD</b>	<b>0.0000019</b>	<b>J,DX MB</b>	0.000047	0.0000005	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,6,7,8-HxCDD</b>	<b>0.0000010</b>	<b>J,DX MB</b>	0.000047	0.0000004	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,7,8,9-HxCDD</b>	<b>0.00000056</b>	<b>J,DX MB</b>	0.000047	0.0000004	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,4,7,8-HxCDF</b>	<b>0.00000069</b>	<b>J,DX q MB</b>	0.000047	0.0000002	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,6,7,8-HxCDF</b>	<b>0.00000045</b>	<b>J,DX q MB</b>	0.000047	0.0000002	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,7,8,9-HxCDF</b>	<b>0.00000052</b>	<b>J,DX q MB</b>	0.000047	0.0000002	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>2,3,4,6,7,8-HxCDF</b>	<b>0.00000068</b>	<b>J,DX MB</b>	0.000047	0.0000001	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.000017</b>	<b>J,DX MB</b>	0.000047	0.0000008	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.0000075</b>	<b>J,DX MB</b>	0.000047	0.0000007	ug/L		03/30/23 06:55	04/04/23 20:56	1
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.0000008	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>OCDD</b>	<b>0.00018</b>	<b>MB</b>	0.000094	0.0000008	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>OCDF</b>	<b>0.000015</b>	<b>J,DX MB</b>	0.000094	0.0000004	ug/L		03/30/23 06:55	04/04/23 20:56	1
Total TCDD	ND		0.0000094	0.0000004	ug/L		03/30/23 06:55	04/04/23 20:56	1
Total TCDF	ND		0.0000094	0.0000001	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>Total PeCDD</b>	<b>0.00000049</b>	<b>J,DX q</b>	0.000047	0.0000003	ug/L		03/30/23 06:55	04/04/23 20:56	1
Total PeCDF	ND		0.000047	0.0000002	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>Total HxCDD</b>	<b>0.0000058</b>	<b>J,DX q MB</b>	0.000047	0.0000004	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>Total HxCDF</b>	<b>0.0000043</b>	<b>J,DX q MB</b>	0.000047	0.0000001	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>Total HpCDD</b>	<b>0.000034</b>	<b>J,DX MB</b>	0.000047	0.0000008	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>Total HpCDF</b>	<b>0.000014</b>	<b>J,DX MB</b>	0.000047	0.0000007	ug/L		03/30/23 06:55	04/04/23 20:56	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	74		25 - 164				03/30/23 06:55	04/04/23 20:56	1
13C-2,3,7,8-TCDF	68		24 - 169				03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,7,8-PeCDD	75		25 - 181				03/30/23 06:55	04/04/23 20:56	1

Euromins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230311\_Comp**

**Date Collected: 03/11/23 08:00**

**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**

**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,7,8-PeCDF	75		24 - 185	03/30/23 06:55	04/04/23 20:56	1
13C-2,3,4,7,8-PeCDF	71		21 - 178	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,4,7,8-HxCDD	66		32 - 141	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,6,7,8-HxCDD	74		28 - 130	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,4,7,8-HxCDF	58		26 - 152	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,6,7,8-HxCDF	71		26 - 123	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,7,8,9-HxCDF	77		29 - 147	03/30/23 06:55	04/04/23 20:56	1
13C-2,3,4,6,7,8-HxCDF	79		28 - 136	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,4,6,7,8-HpCDD	87		23 - 140	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,4,6,7,8-HpCDF	73		28 - 143	03/30/23 06:55	04/04/23 20:56	1
13C-1,2,3,4,7,8,9-HpCDF	87		26 - 138	03/30/23 06:55	04/04/23 20:56	1
13C-OCDD	90		17 - 157	03/30/23 06:55	04/04/23 20:56	1
13C-OCDF	87		17 - 157	03/30/23 06:55	04/04/23 20:56	1
<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
37Cl4-2,3,7,8-TCDD	88		35 - 197	03/30/23 06:55	04/04/23 20:56	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-130859-1	Outfall001_20230311_Comp	88
MB 320-664296/1-A	Method Blank	92

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-664296/2-A	Lab Control Sample	88
LCSD 320-664296/3-A	Lab Control Sample Dup	89

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD



# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-130859-1	Outfall001_20230311_Comp	74	68	75	75	71	66	74	58
MB 320-664296/1-A	Method Blank	72	70	72	71	70	62	73	56

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-130859-1	Outfall001_20230311_Comp	71	77	79	87	73	87	90	87
MB 320-664296/1-A	Method Blank	70	74	76	77	67	77	76	75

#### Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD  
 TCDF = 13C-2,3,7,8-TCDF  
 PeCDD = 13C-1,2,3,7,8-PeCDD  
 PeCDF = 13C-1,2,3,7,8-PeCDF  
 PeCF = 13C-2,3,4,7,8-PeCDF  
 HxCDD = 13C-1,2,3,4,7,8-HxCDD  
 HxDD = 13C-1,2,3,6,7,8-HxCDD  
 HxCDF = 13C-1,2,3,4,7,8-HxCDF  
 HxDF = 13C-1,2,3,6,7,8-HxCDF  
 HxCF = 13C-1,2,3,7,8,9-HxCDF  
 13CHxCF = 13C-2,3,4,6,7,8-HxCDF  
 HpCDD = 13C-1,2,3,4,6,7,8-HpCDD  
 HpCDF = 13C-1,2,3,4,6,7,8-HpCDF  
 HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF  
 OCDD = 13C-OCDD  
 OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-664296/2-A	Lab Control Sample	67	64	69	68	64	56	70	51
LCSD 320-664296/3-A	Lab Control Sample Dup	68	64	69	68	62	55	64	50

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-664296/2-A	Lab Control Sample	64	70	72	75	63	74	73	72
LCSD 320-664296/3-A	Lab Control Sample Dup	60	71	73	75	60	73	71	70

#### Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD  
 TCDF = 13C-2,3,7,8-TCDF  
 PeCDD = 13C-1,2,3,7,8-PeCDD  
 PeCDF = 13C-1,2,3,7,8-PeCDF  
 PeCF = 13C-2,3,4,7,8-PeCDF  
 HxCDD = 13C-1,2,3,4,7,8-HxCDD  
 HxDD = 13C-1,2,3,6,7,8-HxCDD  
 HxCDF = 13C-1,2,3,4,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001

## Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

Job ID: 570-130859-2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Lab Sample ID: MB 320-664296/1-A  
Matrix: Water  
Analysis Batch: 664723

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 664296

Analyte	MB	MB	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2,3,7,8-TCDD	ND		0.000010	0.0000006	ug/L		03/30/23 06:55	04/04/23 13:00	1
2,3,7,8-TCDF	ND		0.000010	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000004	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,7,8-PeCDF	ND		0.000050	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000004	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,4,7,8-HxCDD	0.00000154	J,DX q	0.000050	0.0000005	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,6,7,8-HxCDD	0.000000942	J,DX q	0.000050	0.0000005	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,7,8,9-HxCDD	0.000000652	J,DX q	0.000050	0.0000004	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,4,7,8-HxCDF	0.000000774	J,DX q	0.000050	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,6,7,8-HxCDF	0.000000560	J,DX q	0.000050	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,7,8,9-HxCDF	0.00000116	J,DX q	0.000050	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
2,3,4,6,7,8-HxCDF	0.000000471	J,DX	0.000050	0.0000002	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,4,6,7,8-HpCDD	0.00000275	J,DX	0.000050	0.0000005	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,4,6,7,8-HpCDF	0.00000113	J,DX q	0.000050	0.0000005	ug/L		03/30/23 06:55	04/04/23 13:00	1
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000006	ug/L		03/30/23 06:55	04/04/23 13:00	1
OCDD	0.0000123	J,DX q	0.00010	0.0000007	ug/L		03/30/23 06:55	04/04/23 13:00	1
OCDF	0.00000403	J,DX	0.00010	0.0000004	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total TCDD	0.00000159	J,DX q	0.000010	0.0000006	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total TCDF	ND		0.000010	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total PeCDD	ND		0.000050	0.0000004	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total PeCDF	ND		0.000050	0.0000004	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total HxCDD	0.00000313	J,DX q	0.000050	0.0000005	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total HxCDF	0.00000297	J,DX q	0.000050	0.0000003	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total HpCDD	0.00000546	J,DX q	0.000050	0.0000005	ug/L		03/30/23 06:55	04/04/23 13:00	1
Total HpCDF	0.00000113	J,DX q	0.000050	0.0000006	ug/L		03/30/23 06:55	04/04/23 13:00	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	72		25 - 164				03/30/23 06:55	04/04/23 13:00	1
13C-2,3,7,8-TCDF	70		24 - 169				03/30/23 06:55	04/04/23 13:00	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-664296/1-A**  
**Matrix: Water**  
**Analysis Batch: 664723**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664296**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDD	72		25 - 181	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,7,8-PeCDF	71		24 - 185	03/30/23 06:55	04/04/23 13:00	1
13C-2,3,4,7,8-PeCDF	70		21 - 178	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,4,7,8-HxCDD	62		32 - 141	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,6,7,8-HxCDD	73		28 - 130	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,4,7,8-HxCDF	56		26 - 152	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,6,7,8-HxCDF	70		26 - 123	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,7,8,9-HxCDF	74		29 - 147	03/30/23 06:55	04/04/23 13:00	1
13C-2,3,4,6,7,8-HxCDF	76		28 - 136	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,4,6,7,8-HpCDD	77		23 - 140	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,4,6,7,8-HpCDF	67		28 - 143	03/30/23 06:55	04/04/23 13:00	1
13C-1,2,3,4,7,8,9-HpCDF	77		26 - 138	03/30/23 06:55	04/04/23 13:00	1
13C-OCDD	76		17 - 157	03/30/23 06:55	04/04/23 13:00	1
13C-OCDF	75		17 - 157	03/30/23 06:55	04/04/23 13:00	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	92		35 - 197	03/30/23 06:55	04/04/23 13:00	1

**Lab Sample ID: LCS 320-664296/2-A**  
**Matrix: Water**  
**Analysis Batch: 664723**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664296**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDF	0.000200	0.000192		ug/L		96	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000869		ug/L		87	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000887		ug/L		89	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000899		ug/L		90	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000841		ug/L		84	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000910		ug/L		91	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000975		ug/L		98	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000853		ug/L		85	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000846		ug/L		85	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000855		ug/L		86	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000864		ug/L		86	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000871		ug/L		87	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000931		ug/L		93	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000885		ug/L		88	78 - 138
OCDD	0.00200	0.00176		ug/L		88	78 - 144
OCDF	0.00200	0.00177		ug/L		88	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	67		20 - 175
13C-2,3,7,8-TCDF	64		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	68		21 - 192
13C-2,3,4,7,8-PeCDF	64		13 - 328

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-664296/2-A**  
**Matrix: Water**  
**Analysis Batch: 664723**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664296**

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,7,8-HxCDD	56		21 - 193
13C-1,2,3,6,7,8-HxCDD	70		25 - 163
13C-1,2,3,4,7,8-HxCDF	51		19 - 202
13C-1,2,3,6,7,8-HxCDF	64		21 - 159
13C-1,2,3,7,8,9-HxCDF	70		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	75		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	63		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	74		20 - 186
13C-OCDD	73		13 - 199
13C-OCDF	72		13 - 199

Surrogate	LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	88		31 - 191

**Lab Sample ID: LCSD 320-664296/3-A**  
**Matrix: Water**  
**Analysis Batch: 664723**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664296**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	0.000200	0.000189		ug/L		94	67 - 158	3	50
2,3,7,8-TCDF	0.000200	0.000201		ug/L		101	75 - 158	4	50
1,2,3,7,8-PeCDD	0.00100	0.000919		ug/L		92	70 - 142	6	50
1,2,3,7,8-PeCDF	0.00100	0.000926		ug/L		93	80 - 134	4	50
2,3,4,7,8-PeCDF	0.00100	0.000942		ug/L		94	68 - 160	5	50
1,2,3,4,7,8-HxCDD	0.00100	0.000880		ug/L		88	70 - 164	5	50
1,2,3,6,7,8-HxCDD	0.00100	0.000927		ug/L		93	76 - 134	2	50
1,2,3,7,8,9-HxCDD	0.00100	0.00107		ug/L		107	64 - 162	10	50
1,2,3,4,7,8-HxCDF	0.00100	0.000866		ug/L		87	72 - 134	2	50
1,2,3,6,7,8-HxCDF	0.00100	0.000906		ug/L		91	84 - 130	7	50
1,2,3,7,8,9-HxCDF	0.00100	0.000865		ug/L		87	78 - 130	1	50
2,3,4,6,7,8-HxCDF	0.00100	0.000888		ug/L		89	70 - 156	3	50
1,2,3,4,6,7,8-HpCDD	0.00100	0.000886		ug/L		89	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF	0.00100	0.000947		ug/L		95	82 - 122	2	50
1,2,3,4,7,8,9-HpCDF	0.00100	0.000921		ug/L		92	78 - 138	4	50
OCDD	0.00200	0.00182		ug/L		91	78 - 144	3	50
OCDF	0.00200	0.00181		ug/L		90	63 - 170	2	50

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	68		20 - 175
13C-2,3,7,8-TCDF	64		22 - 152
13C-1,2,3,7,8-PeCDD	69		21 - 227
13C-1,2,3,7,8-PeCDF	68		21 - 192
13C-2,3,4,7,8-PeCDF	62		13 - 328
13C-1,2,3,4,7,8-HxCDD	55		21 - 193
13C-1,2,3,6,7,8-HxCDD	64		25 - 163
13C-1,2,3,4,7,8-HxCDF	50		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-664296/3-A

Matrix: Water

Analysis Batch: 664723

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 664296

<u>Isotope Dilution</u>	<u>LCSD LCSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
13C-1,2,3,6,7,8-HxCDF	60		21 - 159
13C-1,2,3,7,8,9-HxCDF	71		17 - 205
13C-2,3,4,6,7,8-HxCDF	73		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	75		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	60		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	73		20 - 186
13C-OCDD	71		13 - 199
13C-OCDF	70		13 - 199

<u>Surrogate</u>	<u>LCSD LCSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
37Cl4-2,3,7,8-TCDD	89		31 - 191

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-2

## Specialty Organics

### Prep Batch: 664296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	1613B	
MB 320-664296/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-664296/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-664296/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 664723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	1613B	664296
MB 320-664296/1-A	Method Blank	Total/NA	Water	1613B	664296
LCS 320-664296/2-A	Lab Control Sample	Total/NA	Water	1613B	664296
LCSD 320-664296/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	664296

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-2

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

**Date Collected: 03/11/23 08:00**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1061.3 mL	20.0 uL	664296	03/30/23 06:55	FC	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	664723	04/04/23 20:56	DB	EET SAC

Instrument ID: 12D5

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600





# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23 *
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

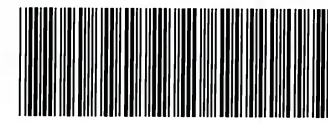
Job ID: 570-130859-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130859-1	Outfall001_20230311_Comp	Water	03/11/23 08:00	03/13/23 19:25

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

CHAIN OF CUSTODY FORM



570-130859 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		ANALYSIS REQUIRED																
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project #57013187		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl <sup>-</sup> , SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -NO <sub>2</sub> -N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2) (SM2540D)	Ammonia-N (350.2)	alpha-BHC (E608)	2,4-D TCP, 2,4-Dinitrofluorene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E525)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments				
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																				
Sampler: Adrian Mobeka																				
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
① Outfall 001	Outfall001_20230311_Comp	3/11/2023 10:00	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X								Outfall 001 analyze for Fe.			
			WM	1 L Glass Amber	2	None	110	No			X									
			WM	1L Poly	1	None	115	No				X								
			WM	500 mL Poly	2	None	120	No					X							
			WM	500 mL Poly	2	None	130	No						X					48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>	
			WM	500 mL Poly	1	None	150	No							X					48 hour holding time for turbidity
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No						X						
			WM	1 L Glass Amber	2	None	170	No							X					
			WM	1 L Glass Amber	2	None	180	No								X				
			WM	1L Poly	1	None	185	No						X						
②	Outfall001_20230311_Comp_Extra	3/11/2023 10:00	WM	1 L Glass Amber	2	None	110	No			H							Hold		
			WM	500 mL Poly	2	None	120	No					H						Hold	
			WM	500 mL Poly	2	None	130	No						H					Hold	
			WM	1 L Glass Amber	2	None	170	No							H				Hold	
			WM	1 L Glass Amber	2	None	180	No								H			Hold	

Legend: C=Conditional, R=Routine

Relinquished By: <i>Mark Dominick</i> Date/Time: 3-13-2023/1045 Company: <i>19: A</i>	Received By: <i>Adrian Mobeka</i> Date/Time: 3/13/23 1045 Company: <i>EC</i>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>Adrian Mobeka</i> Date/Time: 3/13/23 1925 Company: _____	Received By: <i>Adrian Mobeka</i> Date/Time: 3-13-23 19:25 Company: <i>EC</i>	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>

1.3/1.3      1.5/1.5      SC11



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b> Client Contact: Patel, Virendra Shipping/Receiving: Virendra.Patel@et.eurofins.com Company: State Program - California		Sampler: Lab PM: Patel, Virendra Phone: E-Mail: Virendra.Patel@et.eurofins.com		Carmer Tracking No(s): 570-210461.1 State of Origin: California Page: 1 of 1		COC No: 570-210461.1 Job #: 570-130859-2	
Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email:		Due Date Requested: 3/29/2023 TAT Requested (days): PO #: WO #: Project #: 57013187 Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp		<b>Analysis Requested</b> M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)		<b>Preservation Codes:</b> A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
<b>Sample Identification - Client ID (Lab ID)</b> Outfall001_20230311_Comp (570-130859-1)		Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=Air) Sample Type (C=comp, G=grab) Sample Time: 08:00 Pacific Sample Date: 3/11/23 Preservation Code: Water		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> X Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X 1613B/1613B_Box_Sep_P (MOD) Standard List w/ Totals		Total Number of Containers: 2 Special Instructions/Note: See QAS. Boeing_w/lu to zero, ug/L; Use Boeing glassware.	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>							
<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by: _____ Date: _____ Relinquished by: _____ Date: 03/14/23 9:40 Relinquished by: _____ Date/Time: _____ Relinquished by: _____ Date/Time: _____ Custody Seals Intact: _____ Δ Yes Δ No							
<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:							
Method of Shipment: _____ Received by: _____ Date/Time: 3-15-23 0920 Company: Eurofins Received by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: 36, 4.5°C							



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130859-2

**Login Number: 130859**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Patel, Virendra**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130859-2

**Login Number: 130859**

**List Number: 3**

**Creator: Oropeza, Salvador**

**List Source: Eurofins Sacramento**

**List Creation: 03/15/23 01:24 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6C, 4.5C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/17/2023 2:49:23 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Comp

**JOB NUMBER**

570-130859-3

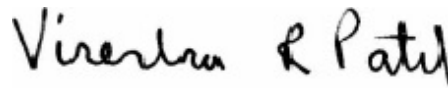
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/17/2023 2:49:23 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	21
Lab Chronicle . . . . .	22
Certification Summary . . . . .	23
Method Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	29



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-130859-3

## Job ID: 570-130859-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-130859-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/13/2023 7:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.3° C and 1.5° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfall001\_20230311\_Comp. The samples were preserved to the appropriate pH in the laboratory.

#### RAD

Method 900.0: Gross Alpha Beta prep batch 160-606236:

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 160-606326 and analytical batch 160-606671 were outside control limits for one or more analytes. In addition RER/RPD was also outside of control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 900.0: Gross Alpha Beta prep batch 160-606326:

The detection goal was not met for the following sample(s). The samples and batch QC were prepped at full volume. Matrix interferences are suspected because the method blank achieved the detection goal demonstrating acceptable sample preparation and instrument performance. (570-129852-R-1-F)

Method 900.0: Gross Alpha Beta prep batch 160-606326:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230311\_Comp (570-130859-1), (LCS 160-606326/2-A), (LCSB 160-606326/3-A), (MB 160-606326/1-A), (570-129852-R-1-F), (570-129852-R-1-J MS), (570-129852-R-1-L MSBT), (570-129852-R-1-M MSBTD) and (570-129852-R-1-K MSD)

Method 901.1: Gamma Prep Batch 160-604735

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-130859-3

## Job ID: 570-130859-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230311\_Comp (570-130859-1), (570-129084-R-1-F) and (570-129084-R-1-H DU)

Methods 903.0, 9315: Radium-226 batch 604617

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230311\_Comp (570-130859-1), (LCS 160-604617/2-A), (MB 160-604617/1-A), (280-173679-B-6-A), (280-173679-B-6-B MS) and (280-173679-B-6-C MSD)

Methods 904.0, 9320: Radium-228 prep batch 160-604706:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230311\_Comp (570-130859-1), (LCS 160-604706/2-A), (MB 160-604706/1-A), (280-173679-B-6-D), (280-173679-B-6-E MS) and (280-173679-B-6-F MSD)

Method 905: Strontium-90 batch 605090

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230311\_Comp (570-130859-1), (LCS 160-605090/2-A), (MB 160-605090/1-A), (380-41106-B-1-A) and (380-41106-C-1-A DU)

Method 906.0: Tritium 605783

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230311\_Comp (570-130859-1), (LCS 160-605783/2-A), (MB 160-605783/1-A), (160-49448-A-1-C), (160-49448-A-1-D MS), (570-130128-R-1-A) and (570-130128-R-1-B DU)

Method A-01-R: Isotopic Uranium Batch 605724

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230311\_Comp (570-130859-1), (LCS 160-605724/2-A), (MB 160-605724/1-A), (570-129852-R-1-E), (570-129852-L-1-G MS) and (570-129852-L-1-H MSD)

Method ExtChrom: Uranium Prep Batch 160-605724:

The following sample was prepared at a reduced aliquot due to sediment and discoloration: Outfall001\_20230311\_Comp (570-130859-1).

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-130859-3

---

## Job ID: 570-130859-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Method PrecSep\_0:

Method PrecSep-21:

Method PrecSep-7: Strontium 90 Prep Batch 160-605090

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230311\_Comp (570-130859-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-3

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

**Client Sample ID: Outfall001\_20230311\_Comp**

**Date Collected: 03/11/23 08:00**

**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**

**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	2.25	F	1.45	1.47	3.00	2.12	pCi/L	04/06/23 10:28	04/11/23 06:08	1
Gross Beta	1.90		0.709	0.734	4.00	0.937	pCi/L	04/06/23 10:28	04/11/23 06:08	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Client Sample ID: Outfall001\_20230311\_Comp**

**Date Collected: 03/11/23 08:00**

**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**

**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	7.54	U	7.31	7.37	20.0	8.16	pCi/L	03/22/23 16:26	03/30/23 08:09	1
<b>Potassium-40</b>	<b>123</b>		57.8	59.7		50.2	pCi/L	03/22/23 16:26	03/30/23 08:09	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Date Collected: 03/11/23 08:00**  
**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0485	U	0.149	0.149	1.00	0.277	pCi/L	03/22/23 11:47	04/14/23 14:41	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.4		30 - 110					03/22/23 11:47	04/14/23 14:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Date Collected: 03/11/23 08:00**  
**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.383	U	0.381	0.383	1.00	0.609	pCi/L	03/22/23 12:28	04/12/23 12:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.4		30 - 110					03/22/23 12:28	04/12/23 12:00	1
Y Carrier	81.5		30 - 110					03/22/23 12:28	04/12/23 12:00	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230311\_Comp**  
**Date Collected: 03/11/23 08:00**  
**Date Received: 03/13/23 19:25**

**Lab Sample ID: 570-130859-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	-0.0613	U	0.361	0.361	3.00	0.655	pCi/L	03/27/23 13:47	04/10/23 16:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	86.3		30 - 110					03/27/23 13:47	04/10/23 16:36	1
Y Carrier	78.5		30 - 110					03/27/23 13:47	04/10/23 16:36	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230311\_Comp  
 Date Collected: 03/11/23 08:00  
 Date Received: 03/13/23 19:25

Lab Sample ID: 570-130859-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	38.3	U	188	188	500	338	pCi/L	03/31/23 16:36	04/05/23 14:56	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

**Date Collected: 03/11/23 08:00**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
<b>Total Uranium</b>	<b>0.365</b>		0.289	0.289	1.00	0.287	pCi/L	03/30/23 15:31	04/04/23 20:42	1
Tracer	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Uranium-232	96.9		30 - 110					03/30/23 15:31	04/04/23 20:42	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)							
570-130859-1	Outfall001_20230311_Comp	87.4							
LCS 160-604617/2-A	Lab Control Sample	96.1							
MB 160-604617/1-A	Method Blank	91.5							

### Tracer/Carrier Legend

Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)						
570-130859-1	Outfall001_20230311_Comp	87.4	81.5						
LCS 160-604706/2-A	Lab Control Sample	96.1	80.4						
MB 160-604706/1-A	Method Blank	91.5	81.5						

### Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)						
570-130859-1	Outfall001_20230311_Comp	86.3	78.5						
LCS 160-605090/2-A	Lab Control Sample	83.8	75.9						
MB 160-605090/1-A	Method Blank	83.0	70.3						

### Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)							
570-130859-1	Outfall001_20230311_Comp	96.9							
LCS 160-605724/2-A	Lab Control Sample	92.1							
MB 160-605724/1-A	Method Blank	92.8							

### Tracer/Carrier Legend

U-232 = Uranium-232



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-606326/1-A**  
**Matrix: Water**  
**Analysis Batch: 606671**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Gross Alpha	0.4133	U	0.657	0.658	3.00	1.12	pCi/L	04/06/23 10:28	04/10/23 20:47		1	
Gross Beta	0.02677	U	0.496	0.496	4.00	0.874	pCi/L	04/06/23 10:28	04/10/23 20:47		1	

**Lab Sample ID: LCS 160-606326/2-A**  
**Matrix: Water**  
**Analysis Batch: 606895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	51.96		7.62	3.00	2.05	pCi/L	103	75 - 125

**Lab Sample ID: LCSB 160-606326/3-A**  
**Matrix: Water**  
**Analysis Batch: 606671**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606326**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.4	74.51		7.98	4.00	0.927	pCi/L	102	75 - 125

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-604735/1-A**  
**Matrix: Water**  
**Analysis Batch: 605378**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604735**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Cesium-137	5.575	U	11.5	11.5	20.0	14.5	pCi/L	03/22/23 16:26	03/29/23 21:25		1	
Potassium-40	-139.9	U	180	180		285	pCi/L	03/22/23 16:26	03/29/23 21:25		1	

**Lab Sample ID: LCS 160-604735/2-A**  
**Matrix: Water**  
**Analysis Batch: 605376**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604735**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Americium-241	135000	135500		16100		443	pCi/L	100	75 - 125
Cesium-137	40800	42170		5030	20.0	105	pCi/L	103	75 - 125
Cobalt-60	17800	18660		2230		54.8	pCi/L	105	75 - 125

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-604617/1-A**  
**Matrix: Water**  
**Analysis Batch: 607421**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604617**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03823	U	0.0834	0.0834	1.00	0.155	pCi/L	03/22/23 11:47	04/14/23 14:41	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	91.5		30 - 110					03/22/23 11:47	04/14/23 14:41	1

**Lab Sample ID: LCS 160-604617/2-A**  
**Matrix: Water**  
**Analysis Batch: 607421**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604617**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.43		1.18	1.00	0.142	pCi/L	92	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	96.1		30 - 110					03/22/23 11:47	04/14/23 14:41

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-604706/1-A**  
**Matrix: Water**  
**Analysis Batch: 607021**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 604706**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.02768	U	0.257	0.257	1.00	0.494	pCi/L	03/22/23 12:28	04/12/23 11:59	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	91.5		30 - 110					03/22/23 12:28	04/12/23 11:59	1
Y Carrier	81.5		30 - 110		03/22/23 12:28	04/12/23 11:59	1			

**Lab Sample ID: LCS 160-604706/2-A**  
**Matrix: Water**  
**Analysis Batch: 607021**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 604706**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	8.04	8.045		1.13	1.00	0.409	pCi/L	100	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	96.1		30 - 110					03/22/23 12:28	04/12/23 11:59
Y Carrier	80.4		30 - 110		03/22/23 12:28	04/12/23 11:59	1		

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-605090/1-A  
 Matrix: Water  
 Analysis Batch: 606669

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605090

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Strontium-90	0.09802	U	0.194	0.194	3.00	0.333	pCi/L	03/27/23 13:47	04/10/23 16:12	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Sr Carrier	83.0		30 - 110					03/27/23 13:47	04/10/23 16:12	1
Y Carrier	70.3		30 - 110		03/27/23 13:47	04/10/23 16:12	1			

Lab Sample ID: LCS 160-605090/2-A  
 Matrix: Water  
 Analysis Batch: 606671

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605090

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual	Uncert. (2σ+/-)					
Strontium-90	7.34	7.184		0.800	3.00	0.317	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Sr Carrier	83.8		30 - 110						
Y Carrier	75.9		30 - 110						

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-605783/1-A  
 Matrix: Water  
 Analysis Batch: 606300

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605783

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	-38.29	U	176	176	500	335	pCi/L	03/31/23 16:36	04/05/23 09:13	1

Lab Sample ID: LCS 160-605783/2-A  
 Matrix: Water  
 Analysis Batch: 606300

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 605783

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual	Uncert. (2σ+/-)					
Tritium	2090	2124		427	500	344	pCi/L	101	75 - 125

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-605724/1-A  
 Matrix: Water  
 Analysis Batch: 606117

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 605724

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Total Uranium	0.03149	U	0.08996	0.09003	1.00	0.148	pCi/L	03/30/23 15:31	04/04/23 20:40	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

**Lab Sample ID: MB 160-605724/1-A**  
**Matrix: Water**  
**Analysis Batch: 606117**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 605724**

<i>Tracer</i>	<i>MB MB</i>		<i>Limits</i>	<i>Prepared</i>		<i>Analyzed</i>		<i>Dil Fac</i>
	<i>%Yield</i>	<i>Qualifier</i>						
Uranium-232	92.8		30 - 110	03/30/23 15:31		04/04/23 20:40		1

**Lab Sample ID: LCS 160-605724/2-A**  
**Matrix: Water**  
**Analysis Batch: 606357**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 605724**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Uranium-238	13.0	13.61		1.58	1.00	0.123	pCi/L	105	75 - 125

<i>Tracer</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</i>	
Uranium-232	92.1		30 - 110

# QC Association Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-130859-3

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001

Comp

## Rad

### Prep Batch: 604617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	PrecSep-21	
MB 160-604617/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-604617/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 604706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	PrecSep_0	
MB 160-604706/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-604706/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

### Prep Batch: 604735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-604735/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-604735/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 605090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	PrecSep-7	
MB 160-605090/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-605090/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

### Prep Batch: 605724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	ExtChrom	
MB 160-605724/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-605724/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

### Prep Batch: 605783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-605783/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-605783/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

### Prep Batch: 606326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-130859-1	Outfall001_20230311_Comp	Total/NA	Water	Evaporation	
MB 160-606326/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-606326/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-606326/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

**Client Sample ID: Outfall001\_20230311\_Comp**

**Lab Sample ID: 570-130859-1**

**Date Collected: 03/11/23 08:00**

**Matrix: Water**

**Date Received: 03/13/23 19:25**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			199.97 mL	1.0 g	606326	04/06/23 10:28	MST	EET SL
Total/NA	Analysis	900.0		1			606895	04/11/23 06:08	SCB	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	604735	03/22/23 16:26	SEH	EET SL
Total/NA	Analysis	901.1		1			605601	03/30/23 08:09	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			755.99 mL	1.0 g	604617	03/22/23 11:47	DJP	EET SL
Total/NA	Analysis	903.0		1			607421	04/14/23 14:41	SCB	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			755.99 mL	1.0 g	604706	03/22/23 12:28	DJP	EET SL
Total/NA	Analysis	904.0		1			607021	04/12/23 12:00	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Prep	PrecSep-7			510.61 mL	1.0 g	605090	03/27/23 13:47	DJP	EET SL
Total/NA	Analysis	905		1			606671	04/10/23 16:36	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	LSC_Dist_Susp			96.56 mL	1.0 g	605783	03/31/23 16:36	SEH	EET SL
Total/NA	Analysis	906.0		1			606300	04/05/23 14:56	REV	EET SL
Instrument ID: LSCTEAL										
Total/NA	Prep	ExtChrom			199.9 mL	1.0 mL	605724	03/30/23 15:31	CMM	EET SL
Total/NA	Analysis	A-01-R		1			606071	04/04/23 20:42	EJS	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-130859-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-130859-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-130859-1	Outfall001_20230311_Comp	Water	03/11/23 08:00	03/13/23 19:25

1

2

3

4

5

6

7

8

9

10

11

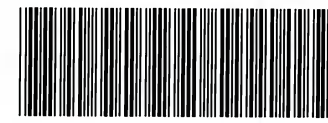
12

13

14

15

CHAIN OF CUSTODY FORM



570-130859 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		ANALYSIS REQUIRED																
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project #57013187		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)		Total Recoverable Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl <sup>-</sup> , SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -NO <sub>2</sub> -N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2) (SM2540D)	Ammonia-N (350.2)	alpha-BHC (E608)	2,4-D TCP, 2,4-Dinitrofluorene, Bis(2-ethylhexylphthalate), NDMA, PCP (SVOCs E525)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments				
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																				
Sampler: Adrian Mobeka																				
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD												
Outfall 001	Outfall001_20230311_Comp	3/11/2023 10:00	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X						X	X	Outfall 001 analyze for Fe. <del>Outfall 002 analyze for Fe.</del> <del>Outfall 044 analyze for As, Mn and Fe.</del>			
			WM	1 L Glass Amber	2	None	110	No			X									
			WM	1L Poly	1	None	115	No				X								
			WM	500 mL Poly	2	None	120	No					X							
			WM	500 mL Poly	2	None	130	No						X					48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>	
			WM	500 mL Poly	1	None	150	No							X					48 hour holding time for turbidity
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No						X						
			WM	1 L Glass Amber	2	None	170	No							X					
			WM	1 L Glass Amber	2	None	180	No								X				
			WM	1L Poly	1	None	185	No						X						
Outfall 001_20230311_Comp_Extra	Outfall001_20230311_Comp_Extra	3/11/2023 10:00	WM	1 L Glass Amber	2	None	110	No			H							Hold		
			WM	500 mL Poly	2	None	120	No					H						Hold	
			WM	500 mL Poly	2	None	130	No						H					Hold	
			WM	1 L Glass Amber	2	None	170	No							H				Hold	
			WM	1 L Glass Amber	2	None	180	No								H				Hold

Legend: C=Conditional, R=Routine

Relinquished By: <i>Mark Dominick</i> Date/Time: 3-13-2023/1045 Company: <i>HALEY &amp; ALDRICH</i>	Received By: <i>Adrian Mobeka</i> Date/Time: 3/13/23 1045 Company: <i>EC</i>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>Adrian Mobeka</i> Date/Time: 3/13/23 1925 Company: <i>EC</i>	Received By: <i>Adrian Mobeka</i> Date/Time: 3-13-23 19:25 Company: <i>EC</i>	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/>

1.3/1.3      1.5/1.5      SC11





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130859-3

**Login Number: 130859**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-130859-3

**Login Number: 130859**

**List Number: 2**

**Creator: Worthington, Sierra M**

**List Source: Eurofins St. Louis**

**List Creation: 03/15/23 12:27 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Refer to Job Narrative for details.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/7/2023 3:53:01 PM

**JOB DESCRIPTION**

Boeing - SSFL NPDES - Routine Outfall - 001 Grab

**JOB NUMBER**

570-131818-1

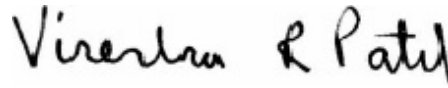
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/7/2023 3:53:01 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494





# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	20

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001 Grab

Job ID: 570-131818-1

**Job ID: 570-131818-1**

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-131818-1**

### Comments

No additional comments.

### Receipt

The samples were received on 3/20/2023 6:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8° C.

### Receipt Exceptions

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC):  
Outfall001\_20230320\_Grab (570-131818-1). Received 3 containers Of Amber Glass 1 Liter HCL, while the COC lists 2

Outfall001\_20230320\_Grab (570-131818-1). The laboratory did not receive 500 ml plastic container for Conductivity (SM2510B/E120.1) analysis that was requested on the Chain-of-Custody on the following sample.

### GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-313058. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-313706.

Method: 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-131818-1

Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001

Grab

**Client Sample ID: Outfall001\_20230320\_Grab**

**Lab Sample ID: 570-131818-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM (Oil & Grease)	0.68	J,DX	0.97	0.50	mg/L	1		1664A	Total/NA
Specific Conductance	200		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA

**Client Sample ID: TB-20230320**

**Lab Sample ID: 570-131818-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
 Grab

Job ID: 570-131818-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230320\_Grab**

**Date Collected: 03/20/23 11:45**

**Date Received: 03/20/23 18:45**

**Lab Sample ID: 570-131818-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/20/23 23:58	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/20/23 23:58	1
Trichloroethene	ND		0.50	0.17	ug/L			03/20/23 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		60 - 140		03/20/23 23:58	1
4-Bromofluorobenzene (Surr)	105		60 - 140		03/20/23 23:58	1
Dibromofluoromethane (Surr)	88		60 - 140		03/20/23 23:58	1
Toluene-d8 (Surr)	100		60 - 140		03/20/23 23:58	1

**Client Sample ID: TB-20230320**

**Date Collected: 03/20/23 11:45**

**Date Received: 03/20/23 18:45**

**Lab Sample ID: 570-131818-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/20/23 22:51	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/20/23 22:51	1
Trichloroethene	ND		0.50	0.17	ug/L			03/20/23 22:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		60 - 140		03/20/23 22:51	1
4-Bromofluorobenzene (Surr)	104		60 - 140		03/20/23 22:51	1
Dibromofluoromethane (Surr)	91		60 - 140		03/20/23 22:51	1
Toluene-d8 (Surr)	102		60 - 140		03/20/23 22:51	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

## General Chemistry

Client Sample ID: Outfall001\_20230320\_Grab

Date Collected: 03/20/23 11:45

Date Received: 03/20/23 18:45

Lab Sample ID: 570-131818-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	0.68	J,DX	0.97	0.50	mg/L		03/22/23 08:55	03/23/23 07:48	1
Specific Conductance (SM 2510B)	200		1.0	1.0	umhos/cm			03/22/23 19:59	1
Settleable Solids (SM 2540F)	ND		0.10	0.10	mL/L			03/21/23 14:15	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (60-140)	BFB (60-140)	DBFM (60-140)	TOL (60-140)
570-131818-1	Outfall001_20230320_Grab	98	105	88	100
570-131818-2	TB-20230320	104	104	91	102
LCS 570-313058/1003	Lab Control Sample	99	104	95	99
LCSD 570-313058/4	Lab Control Sample Dup	100	106	96	103
MB 570-313058/6	Method Blank	103	113	93	101

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
 Grab

Job ID: 570-131818-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-313058/6**  
**Matrix: Water**  
**Analysis Batch: 313058**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/20/23 15:10	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/20/23 15:10	1
Trichloroethene	ND		0.50	0.17	ug/L			03/20/23 15:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		60 - 140		03/20/23 15:10	1
4-Bromofluorobenzene (Surr)	113		60 - 140		03/20/23 15:10	1
Dibromofluoromethane (Surr)	93		60 - 140		03/20/23 15:10	1
Toluene-d8 (Surr)	101		60 - 140		03/20/23 15:10	1

**Lab Sample ID: LCS 570-313058/1003**  
**Matrix: Water**  
**Analysis Batch: 313058**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	10.0	10.6		ug/L		106	50 - 150
1,2-Dichloroethane	10.0	11.0		ug/L		110	70 - 130
Trichloroethene	10.0	10.7		ug/L		107	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		60 - 140
4-Bromofluorobenzene (Surr)	104		60 - 140
Dibromofluoromethane (Surr)	95		60 - 140
Toluene-d8 (Surr)	99		60 - 140

**Lab Sample ID: LCSD 570-313058/4**  
**Matrix: Water**  
**Analysis Batch: 313058**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	10.4		ug/L		104	50 - 150	2	32
1,2-Dichloroethane	10.0	11.5		ug/L		115	70 - 130	5	49
Trichloroethene	10.0	10.9		ug/L		109	65 - 135	2	48

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		60 - 140
4-Bromofluorobenzene (Surr)	106		60 - 140
Dibromofluoromethane (Surr)	96		60 - 140
Toluene-d8 (Surr)	103		60 - 140



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
 Grab

Job ID: 570-131818-1

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-313706/1-A**  
**Matrix: Water**  
**Analysis Batch: 314039**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 313706**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		03/22/23 08:55	03/23/23 07:48	1

**Lab Sample ID: LCS 570-313706/2-A**  
**Matrix: Water**  
**Analysis Batch: 314039**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 313706**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	39.3		mg/L		98	78 - 114

**Lab Sample ID: LCSD 570-313706/3-A**  
**Matrix: Water**  
**Analysis Batch: 314039**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 313706**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	39.5		mg/L		99	78 - 114	1	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-313959/7**  
**Matrix: Water**  
**Analysis Batch: 313959**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			03/22/23 19:27	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

## GC/MS VOA

### Analysis Batch: 313058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131818-1	Outfall001_20230320_Grab	Total/NA	Water	624.1	
570-131818-2	TB-20230320	Total/NA	Water	624.1	
MB 570-313058/6	Method Blank	Total/NA	Water	624.1	
LCS 570-313058/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-313058/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 313462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131818-1	Outfall001_20230320_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 313706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131818-1	Outfall001_20230320_Grab	Total/NA	Water	1664A	
MB 570-313706/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-313706/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-313706/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 313959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131818-1	Outfall001_20230320_Grab	Total/NA	Water	SM 2510B	
MB 570-313959/7	Method Blank	Total/NA	Water	SM 2510B	

### Analysis Batch: 314039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131818-1	Outfall001_20230320_Grab	Total/NA	Water	1664A	313706
MB 570-313706/1-A	Method Blank	Total/NA	Water	1664A	313706
LCS 570-313706/2-A	Lab Control Sample	Total/NA	Water	1664A	313706
LCSD 570-313706/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	313706

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
 Grab

Job ID: 570-131818-1

**Client Sample ID: Outfall001\_20230320\_Grab**

**Lab Sample ID: 570-131818-1**

**Date Collected: 03/20/23 11:45**

**Matrix: Water**

**Date Received: 03/20/23 18:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	313058	03/20/23 23:58	A1W	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			1027 mL	1000 mL	313706	03/22/23 08:55	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			314039	03/23/23 07:48	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			313959	03/22/23 19:59	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	313462	03/21/23 14:15	TXA8	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230320**

**Lab Sample ID: 570-131818-2**

**Date Collected: 03/20/23 11:45**

**Matrix: Water**

**Date Received: 03/20/23 18:45**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	313058	03/20/23 22:51	A1W	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

#### Protocol References:

- 1664A = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing - SSFL NPDES - Routine Outfall - 001  
Grab

Job ID: 570-131818-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-131818-1	Outfall001_20230320_Grab	Water	03/20/23 11:45	03/20/23 18:45
570-131818-2	TB-20230320	Water	03/20/23 11:45	03/20/23 18:45

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

## Virendra Patel

---

**From:** Miller, Katherine <KMiller@haleyaldrich.com>  
**Sent:** Tuesday, March 21, 2023 10:53 AM  
**To:** Virendra Patel; Dallalah, Michelle  
**Cc:** Dominick, Mark; Schiller, Stephen  
**Subject:** RE: Eurofins Calscience sample confirmation files from 570-131818-1 Boeing - SSFL NPDES - Routine Outfall - 001 Grab  
**Attachments:** Eurofins Calscience sample confirmation files from 570-131811-1 Boeing - SSFL NPDES - Routine Outfall - 008 Grab  
**Importance:** High

EXTERNAL EMAIL\*

Virendra-are you able to pull conductivity from another bottle?

Michelle-It looks like a bottle was mislabeled as this sample had 3 HCL, while the sample attached only had 1. Please pull Stephen to help with sample management today.

Katherine Miller  
**HALEY & ALDRICH**  
Tel: 520.289.8606

---

**From:** Virendra Patel <Virendra.Patel@et.eurofinsus.com>  
**Sent:** Tuesday, March 21, 2023 10:35 AM  
**To:** Miller, Katherine <KMiller@haleyaldrich.com>; Rapp, Kerry <KRapp@haleyaldrich.com>; Dallalah, Michelle <MDallalah@haleyaldrich.com>; Patel Virendra <Virendra.Patel@et.eurofinsus.com>  
**Subject:** Eurofins Calscience sample confirmation files from 570-131818-1 Boeing - SSFL NPDES - Routine Outfall - 001 Grab

**CAUTION: External Email**

---

Hello,

Attached please find the sample confirmation files for job 570-131818-1; Boeing - SSFL NPDES - Routine Outfall - 001 Grab

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC): Outfall001\_20230320\_Grab (570-131818-1). Received 3 containers Of Amber Glass 1 Liter HCL, while the COC lists 2

Outfall001\_20230320\_Grab (570-131818-1). The laboratory did not receive 500 ml plastic container for Conductivity (SM2510B/E120.1) analysis that was requested on the Chain-of-Custody on the following sample.

Please feel free to contact me if you have any questions.

Thank you.

**Virendra Patel**  
Project Manager

Eurofins Calscience  
Phone: 714-895-5494  
Mobile: 714-887-9901

E-mail: [Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
[www.eurofinsus.com/env](http://www.eurofinsus.com/env)



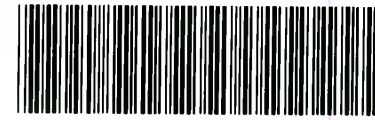
Reference: [570-440574]  
Attachments: 3

> > [Bank information has changed, please refer to remittance information on invoice.](#) < <

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!



CHAIN OF CUSTODY FORM



Loc: 570  
131818

570-131818 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Grab				ANALYSIS REQUIRED										Field Readings	Meter serial #							
"Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187"		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)				Oil & Grease (E1664A-HEM)	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM25-40F))	Conductivity (SM2510B / E120.1)													Field Readings: (Include units) Time of Readings: <u>1145</u> DO <u>7.22</u> mg/L pH <u>8.02</u> pH unit Temp <u>57.3</u> °C		
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																			Field readings QC Checked by: <u>MMD</u> Date/Time: <u>3/20/23 1300</u>			
Sampler: michelle dallalah		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																			Date/Time: <u>3/20/23 1300</u> Comments			
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Oil & Grease (E1664A-HEM)	VOCs - only 1,1-DCE, 1,2-DCA, TCE (E624)	Settleable Solids (E160.5 (SM25-40F))	Conductivity (SM2510B / E120.1)												
Outfall 001	Outfall001_20230320_Grab	3/20/2023 1145	WM	1 L Glass Amber	2	HCl	15	No	X															
			WM	40 mL VOA	3	HCl	30	No			X													
			WM	1L Poly	1	None	70	No				X												
			WM	500 mL Poly	1	None	75	No					X											
Trip Blanks	TB-20230320	3/20/2023	WQ	40 mL VOA	3	HCl	30	No	X															

Legend: R=Routine

Relinquished By: <u>Michelle Dallalah</u> Date/Time: <u>3/20/2023 1315</u> Company: <u>H&amp;A</u>	Received By: <u>[Signature]</u> Date/Time: <u>3/20/23 1315 EC</u>	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <u>[Signature]</u> Date/Time: <u>3/20/23 1845 EC</u> Company: <u>EC</u>	Received By: <u>[Signature]</u> Date/Time: <u>3/20/23 18:45 EC</u>	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>

1.9/1.8 sc12

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-131818-1

**Login Number: 131818**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/8/2023 8:34:13 AM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Comp

**JOB NUMBER**

570-131945-1

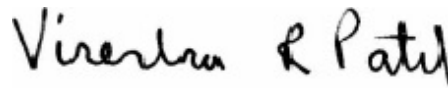
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/8/2023 8:34:13 AM

---

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	30
Lab Chronicle . . . . .	35
Certification Summary . . . . .	37
Method Summary . . . . .	38
Sample Summary . . . . .	39
Chain of Custody . . . . .	40
Receipt Checklists . . . . .	42

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LN	MS and/or MSD below acceptance limits. See Blank Spike (LCS)

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFI	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-131945-1

**Job ID: 570-131945-1**

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-131945-1**

### Comments

No additional comments.

### Receipt

The samples were received on 3/21/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 1.1° C.

### Receipt Exceptions

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC): Outfall001\_20230321\_Comp\_Extra (570-131945-2). Received 9 containers, while the COC lists 5.

1 container for MBAS, 2 containers for E300, and 1 additional container for TCDD. Not requested on the COC.

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC): Outfall001\_20230321\_Comp (570-131945-1), Outfall001\_20230321\_Comp (570-131945-1[MS]) and Outfall001\_20230321\_Comp (570-131945-1[MSD]). Received 14 containers, while the COC lists 18.

Did not receive containers for BOD, E300, and only 1 container for E625.

### GC/MS Semi VOA

Method 625.1 SIM: The laboratory control sample (LCS) for preparation batch 570-314349 and analytical batch 570-314965 recovered outside acceptance limits for 1,2,4-Trichlorobenzene and Hexachlorobenzene. There was insufficient sample to perform a re-extraction or re-analysis; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-313762 and analytical batch 570-313835 were outside control limits for Lead. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230321\_Comp\_F (570-131945-3), Outfall001\_20230321\_Comp\_F (570-131945-3[MS]) and Outfall001\_20230321\_Comp\_F (570-131945-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method: Outfall001\_20230321\_Comp\_F (570-131945-3), Outfall001\_20230321\_Comp\_F (570-131945-3[MS]) and Outfall001\_20230321\_Comp\_F (570-131945-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-131945-1

---

## Job ID: 570-131945-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

#### General Chemistry

Method SM 2540D: The sample duplicate (DUP) precision for analytical batch 570-314596 was outside control limits. Sample non-homogeneity is suspected.

Method SM 5210B: The following sample was diluted due to the nature of the sample matrix: Outfall001\_20230321\_Comp (570-131945-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-314171. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 608.3 PEST/PCB LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-314349. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Client Sample ID: Outfall001\_20230321\_Comp

## Lab Sample ID: 570-131945-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.8		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.18		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	49		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.18		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	1.5	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	67		20	3.7	ug/L	1		200.8	Total Recoverable
Lead	0.14	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	0.59	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Zinc	3.1	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Turbidity	1.3		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	190		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.4		1.1	0.87	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: Outfall001\_20230321\_Comp\_F

## Lab Sample ID: 570-131945-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.4	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	18	J,DX BU	20	3.7	ug/L	1		200.8	Dissolved
Selenium	0.58	J,DX BU	2.0	0.52	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230321\_Comp**

**Lab Sample ID: 570-131945-1**

**Date Collected: 03/21/23 09:20**

**Matrix: Water**

**Date Received: 03/21/23 17:10**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.95	0.13	ug/L		03/24/23 05:15	03/27/23 19:28	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		03/24/23 05:15	03/27/23 19:28	1
Bis(2-ethylhexyl) phthalate	ND		4.7	3.4	ug/L		03/24/23 05:15	03/27/23 19:28	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		03/24/23 05:15	03/27/23 19:28	1
Pentachlorophenol	ND		0.95	0.80	ug/L		03/24/23 05:15	03/27/23 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	50		31 - 120	03/24/23 05:15	03/27/23 19:28	1
Phenol-d6 (Surr)	25		10 - 120	03/24/23 05:15	03/27/23 19:28	1
p-Terphenyl-d14 (Surr)	100		45 - 120	03/24/23 05:15	03/27/23 19:28	1
2,4,6-Tribromophenol	88		28 - 127	03/24/23 05:15	03/27/23 19:28	1
2-Fluorophenol	32		17 - 120	03/24/23 05:15	03/27/23 19:28	1
Nitrobenzene-d5	61		27 - 120	03/24/23 05:15	03/27/23 19:28	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

**Client Sample ID: Outfall001\_20230321\_Comp**

**Date Collected: 03/21/23 09:20**

**Date Received: 03/21/23 17:10**

**Lab Sample ID: 570-131945-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/23/23 12:38	03/26/23 14:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Tetrachloro-m-xylene</i>	54		20 - 139				03/23/23 12:38	03/26/23 14:01	1
<i>DCB Decachlorobiphenyl (Surr)</i>	57		20 - 154				03/23/23 12:38	03/26/23 14:01	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230321\_Comp

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.8		1.0	0.36	mg/L			03/22/23 07:52	1
Nitrite as N	ND		0.10	0.043	mg/L			03/22/23 07:52	1
Nitrate as N	0.18		0.10	0.020	mg/L			03/22/23 07:52	1
Sulfate	49		1.0	0.24	mg/L			03/22/23 07:52	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230321\_Comp

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/22/23 17:54	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230321\_Comp

Lab Sample ID: 570-131945-1

Date Collected: 03/21/23 09:20

Matrix: Water

Date Received: 03/21/23 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.18		0.10	0.020	mg/L			03/24/23 10:42	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230321\_Comp

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/22/23 10:04	03/22/23 13:17	1
Copper	1.5	J,DX	2.0	0.32	ug/L		03/22/23 10:04	03/22/23 13:17	1
Iron	67		20	3.7	ug/L		03/22/23 10:04	03/22/23 13:17	1
Lead	0.14	J,DX	1.0	0.12	ug/L		03/22/23 10:04	03/22/23 13:17	1
Selenium	0.59	J,DX	2.0	0.52	ug/L		03/22/23 10:04	03/22/23 13:17	1
Zinc	3.1	J,DX	20	2.8	ug/L		03/22/23 10:04	03/22/23 13:17	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230321\_Comp\_F

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			03/22/23 13:24	1
<b>Copper</b>	<b>1.4</b>	<b>J,DX BU</b>	2.0	0.32	ug/L			03/22/23 13:24	1
<b>Iron</b>	<b>18</b>	<b>J,DX BU</b>	20	3.7	ug/L			03/22/23 13:24	1
Lead	ND	BU	1.0	0.12	ug/L			03/22/23 13:24	1
<b>Selenium</b>	<b>0.58</b>	<b>J,DX BU</b>	2.0	0.52	ug/L			03/22/23 13:24	1
Zinc	ND	BU	20	2.8	ug/L			03/22/23 13:24	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230321\_Comp

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/22/23 18:00	03/23/23 17:16	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230321\_Comp\_F

Lab Sample ID: 570-131945-3

Date Collected: 03/21/23 09:20

Matrix: Water

Date Received: 03/21/23 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		03/23/23 06:08	03/23/23 18:32	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## General Chemistry

**Client Sample ID: Outfall001\_20230321\_Comp**

**Date Collected: 03/21/23 09:20**

**Date Received: 03/21/23 17:10**

**Lab Sample ID: 570-131945-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		03/27/23 14:02	03/27/23 16:25	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			03/27/23 15:53	1
<b>Turbidity (SM 2130B)</b>	<b>1.3</b>		0.05	0.05	NTU			03/22/23 14:34	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>190</b>		10	8.7	mg/L			03/23/23 17:39	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>2.4</b>		1.1	0.87	mg/L			03/24/23 16:00	1
Biochemical Oxygen Demand (SM 5210B)	ND		2.0	1.0	mg/L		03/22/23 16:12	03/22/23 17:43	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		03/22/23 15:00	03/22/23 17:34	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-131945-1	Outfall001_20230321_Comp	50	25	100	88	32	61
LCS 570-314349/2-A	Lab Control Sample	71	37	99	95	47	67
LCSD 570-314349/3-A	Lab Control Sample Dup	69	35	101	90	47	66
MB 570-314349/1-A	Method Blank	46	25	81	66	35	57

### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX1 (20-139)	DCB1 (20-154)
570-131945-1	Outfall001_20230321_Comp	54	57
LCS 570-314171/2-A	Lab Control Sample	54	57
LCSD 570-314171/3-A	Lab Control Sample Dup	57	68

### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (20-139)	DCB1 (20-154)
MB 570-314171/1-A	Method Blank	88	101

### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-314349/1-A**  
**Matrix: Water**  
**Analysis Batch: 314965**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 314349**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		03/24/23 05:15	03/27/23 14:38	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		03/24/23 05:15	03/27/23 14:38	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		03/24/23 05:15	03/27/23 14:38	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		03/24/23 05:15	03/27/23 14:38	1
Pentachlorophenol	ND		1.0	0.84	ug/L		03/24/23 05:15	03/27/23 14:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	46		31 - 120	03/24/23 05:15	03/27/23 14:38	1
Phenol-d6 (Surr)	25		10 - 120	03/24/23 05:15	03/27/23 14:38	1
p-Terphenyl-d14 (Surr)	81		45 - 120	03/24/23 05:15	03/27/23 14:38	1
2,4,6-Tribromophenol	66		28 - 127	03/24/23 05:15	03/27/23 14:38	1
2-Fluorophenol	35		17 - 120	03/24/23 05:15	03/27/23 14:38	1
Nitrobenzene-d5	57		27 - 120	03/24/23 05:15	03/27/23 14:38	1

**Lab Sample ID: LCS 570-314349/2-A**  
**Matrix: Water**  
**Analysis Batch: 314965**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 314349**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	17.1		ug/L		85	52 - 129
2,4-Dinitrotoluene	20.0	22.6		ug/L		113	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	24.4		ug/L		122	29 - 137
N-Nitrosodimethylamine	20.0	9.98		ug/L		50	20 - 120
Pentachlorophenol	20.0	10.3		ug/L		51	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	71		31 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	99		45 - 120
2,4,6-Tribromophenol	95		28 - 127
2-Fluorophenol	47		17 - 120
Nitrobenzene-d5	67		27 - 120

**Lab Sample ID: LCSD 570-314349/3-A**  
**Matrix: Water**  
**Analysis Batch: 314965**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 314349**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	16.9		ug/L		84	52 - 129	1	35
2,4-Dinitrotoluene	20.0	21.2		ug/L		106	48 - 127	6	25
Bis(2-ethylhexyl) phthalate	20.0	23.0		ug/L		115	29 - 137	6	50
N-Nitrosodimethylamine	20.0	11.5		ug/L		57	20 - 120	14	21
Pentachlorophenol	20.0	9.33		ug/L		47	38 - 152	10	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	69		31 - 120

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-314349/3-A**  
**Matrix: Water**  
**Analysis Batch: 314965**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 314349**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Phenol-d6 (Surr)	35		10 - 120
p-Terphenyl-d14 (Surr)	101		45 - 120
2,4,6-Tribromophenol	90		28 - 127
2-Fluorophenol	47		17 - 120
Nitrobenzene-d5	66		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-314171/1-A**  
**Matrix: Water**  
**Analysis Batch: 314768**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 314171**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		03/23/23 12:38	03/26/23 01:29	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	88		20 - 139	03/23/23 12:38	03/26/23 01:29	1
DCB Decachlorobiphenyl (Surr)	101		20 - 154	03/23/23 12:38	03/26/23 01:29	1

**Lab Sample ID: LCS 570-314171/2-A**  
**Matrix: Water**  
**Analysis Batch: 314256**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 314171**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
alpha-BHC	0.0333	0.0196		ug/L		59	37 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	54		20 - 139
DCB Decachlorobiphenyl (Surr)	57		20 - 154

**Lab Sample ID: LCSD 570-314171/3-A**  
**Matrix: Water**  
**Analysis Batch: 314256**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 314171**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
alpha-BHC	0.0333	0.0210		ug/L		63	37 - 140	7	36

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	57		20 - 139
DCB Decachlorobiphenyl (Surr)	68		20 - 154

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-313627/5**  
**Matrix: Water**  
**Analysis Batch: 313627**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			03/22/23 03:56	1
Nitrate as N	ND		0.10	0.020	mg/L			03/22/23 03:56	1

**Lab Sample ID: LCS 570-313627/6**  
**Matrix: Water**  
**Analysis Batch: 313627**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.53		mg/L		101	90 - 110
Nitrate as N	5.00	5.01		mg/L		100	90 - 110

**Lab Sample ID: LCSD 570-313627/7**  
**Matrix: Water**  
**Analysis Batch: 313627**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.53		mg/L		101	90 - 110	0	15
Nitrate as N	5.00	5.03		mg/L		101	90 - 110	0	15

**Lab Sample ID: MB 570-313628/5**  
**Matrix: Water**  
**Analysis Batch: 313628**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			03/22/23 03:56	1
Sulfate	ND		1.0	0.24	mg/L			03/22/23 03:56	1

**Lab Sample ID: LCS 570-313628/6**  
**Matrix: Water**  
**Analysis Batch: 313628**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.2		mg/L		98	90 - 110
Sulfate	50.0	49.3		mg/L		99	90 - 110

**Lab Sample ID: LCSD 570-313628/7**  
**Matrix: Water**  
**Analysis Batch: 313628**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	49.3		mg/L		99	90 - 110	0	15
Sulfate	50.0	49.3		mg/L		99	90 - 110	0	15

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 314.0 - Perchlorate (IC)

**Lab Sample ID: MB 570-313743/7**  
**Matrix: Water**  
**Analysis Batch: 313743**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/22/23 13:02	1

**Lab Sample ID: LCS 570-313743/8**  
**Matrix: Water**  
**Analysis Batch: 313743**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	25.2		ug/L		101	85 - 115

**Lab Sample ID: LCSD 570-313743/9**  
**Matrix: Water**  
**Analysis Batch: 313743**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.4		ug/L		97	85 - 115	3	15

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-313733/1-A**  
**Matrix: Water**  
**Analysis Batch: 313834**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 313733**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/22/23 10:04	03/22/23 13:03	1
Copper	ND		2.0	0.32	ug/L		03/22/23 10:04	03/22/23 13:03	1
Iron	ND		20	3.7	ug/L		03/22/23 10:04	03/22/23 13:03	1
Lead	ND		1.0	0.12	ug/L		03/22/23 10:04	03/22/23 13:03	1
Selenium	ND		2.0	0.52	ug/L		03/22/23 10:04	03/22/23 13:03	1
Zinc	ND		20	2.8	ug/L		03/22/23 10:04	03/22/23 13:03	1

**Lab Sample ID: LCS 570-313733/2-A**  
**Matrix: Water**  
**Analysis Batch: 313834**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 313733**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	78.5		ug/L		98	85 - 115
Copper	80.0	75.2		ug/L		94	85 - 115
Iron	800	785		ug/L		98	85 - 115
Lead	80.0	73.6		ug/L		92	85 - 115
Selenium	80.0	77.6		ug/L		97	85 - 115
Zinc	80.0	76.3		ug/L		95	85 - 115

**Lab Sample ID: LCSD 570-313733/3-A**  
**Matrix: Water**  
**Analysis Batch: 313834**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 313733**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	79.0		ug/L		99	85 - 115	1	20
Copper	80.0	78.0		ug/L		97	85 - 115	4	20

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-313733/3-A**  
**Matrix: Water**  
**Analysis Batch: 313834**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 313733**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Iron	800	802		ug/L		100	85 - 115	2	20	
Lead	80.0	76.2		ug/L		95	85 - 115	3	20	
Selenium	80.0	77.0		ug/L		96	85 - 115	1	20	
Zinc	80.0	76.0		ug/L		95	85 - 115	0	20	

**Lab Sample ID: 570-131945-1 MS**  
**Matrix: Water**  
**Analysis Batch: 313834**

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 313733**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	77.2		ug/L		97	80 - 120			
Copper	1.5	J,DX	80.0	76.9		ug/L		94	80 - 120			
Iron	67		800	855		ug/L		99	80 - 120			
Lead	0.14	J,DX	80.0	72.3		ug/L		90	80 - 120			
Selenium	0.59	J,DX	80.0	77.3		ug/L		96	80 - 120			
Zinc	3.1	J,DX	80.0	75.8		ug/L		91	80 - 120			

**Lab Sample ID: 570-131945-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 313834**

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 313733**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	77.4		ug/L		97	80 - 120	0	20	
Copper	1.5	J,DX	80.0	78.1		ug/L		96	80 - 120	2	20	
Iron	67		800	865		ug/L		100	80 - 120	1	20	
Lead	0.14	J,DX	80.0	74.4		ug/L		93	80 - 120	3	20	
Selenium	0.59	J,DX	80.0	77.3		ug/L		96	80 - 120	0	20	
Zinc	3.1	J,DX	80.0	76.2		ug/L		91	80 - 120	0	20	

**Lab Sample ID: MB 570-313762/1-A**  
**Matrix: Water**  
**Analysis Batch: 313835**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed		Dil Fac
								Start	End	
Cadmium	ND		1.0	0.13	ug/L			03/22/23	13:05	1
Copper	ND		2.0	0.32	ug/L			03/22/23	13:05	1
Iron	ND		20	3.7	ug/L			03/22/23	13:05	1
Lead	ND		1.0	0.12	ug/L			03/22/23	13:05	1
Selenium	ND		2.0	0.52	ug/L			03/22/23	13:05	1
Zinc	ND		20	2.8	ug/L			03/22/23	13:05	1

**Lab Sample ID: LCS 570-313762/2-A**  
**Matrix: Water**  
**Analysis Batch: 313835**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Cadmium	80.0	81.1		ug/L		101	85 - 115	
Copper	80.0	77.1		ug/L		96	85 - 115	
Iron	800	798		ug/L		100	85 - 115	

Euofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 570-313762/2-A**  
**Matrix: Water**  
**Analysis Batch: 313835**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	77.2		ug/L		96	85 - 115
Selenium	80.0	77.1		ug/L		96	85 - 115
Zinc	80.0	79.2		ug/L		99	85 - 115

**Lab Sample ID: LCSD 570-313762/3-A**  
**Matrix: Water**  
**Analysis Batch: 313835**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	81.7		ug/L		102	85 - 115	1	20
Copper	80.0	78.9		ug/L		99	85 - 115	2	20
Iron	800	801		ug/L		100	85 - 115	0	20
Lead	80.0	77.3		ug/L		97	85 - 115	0	20
Selenium	80.0	76.9		ug/L		96	85 - 115	0	20
Zinc	80.0	78.8		ug/L		98	85 - 115	1	20

**Lab Sample ID: 570-131945-3 MS**  
**Matrix: Water**  
**Analysis Batch: 313835**

**Client Sample ID: Outfall001\_20230321\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND	BU	80.0	67.4	BU	ug/L		84	80 - 120
Copper	1.4	J,DX BU	80.0	67.8	BU	ug/L		83	80 - 120
Iron	18	J,DX BU	800	685	BU	ug/L		83	80 - 120
Lead	ND	BU	80.0	63.5	BU LN	ug/L		79	80 - 120
Selenium	0.58	J,DX BU	80.0	65.3	BU	ug/L		81	80 - 120
Zinc	ND	BU	80.0	67.7	BU	ug/L		85	80 - 120

**Lab Sample ID: 570-131945-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 313835**

**Client Sample ID: Outfall001\_20230321\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	69.5	BU	ug/L		87	80 - 120	3	20
Copper	1.4	J,DX BU	80.0	69.9	BU	ug/L		86	80 - 120	3	20
Iron	18	J,DX BU	800	703	BU	ug/L		86	80 - 120	3	20
Lead	ND	BU	80.0	66.2	BU	ug/L		83	80 - 120	4	20
Selenium	0.58	J,DX BU	80.0	67.4	BU	ug/L		84	80 - 120	3	20
Zinc	ND	BU	80.0	69.7	BU	ug/L		87	80 - 120	3	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-314016/1-A**  
**Matrix: Water**  
**Analysis Batch: 314215**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 314016**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/22/23 18:00	03/23/23 14:10	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 570-314016/2-A**  
**Matrix: Water**  
**Analysis Batch: 314215**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 314016**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.98		ug/L		100	85 - 115

**Lab Sample ID: LCSD 570-314016/3-A**  
**Matrix: Water**  
**Analysis Batch: 314215**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 314016**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.04		ug/L		100	85 - 115	1	10

**Lab Sample ID: 570-131945-1 MS**  
**Matrix: Water**  
**Analysis Batch: 314463**

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 314016**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	7.93		ug/L		99	85 - 115

**Lab Sample ID: 570-131945-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 314463**

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 314016**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.01		ug/L		100	85 - 115	1	10

**Lab Sample ID: MB 570-314019/1-B**  
**Matrix: Water**  
**Analysis Batch: 314463**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 314025**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/23/23 06:08	03/23/23 18:27	1

**Lab Sample ID: LCS 570-314019/2-B**  
**Matrix: Water**  
**Analysis Batch: 314463**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 314025**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	7.63		ug/L		95	85 - 115

**Lab Sample ID: LCSD 570-314019/3-B**  
**Matrix: Water**  
**Analysis Batch: 314463**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 314025**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	7.59		ug/L		95	85 - 115	0	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 570-131945-3 MS  
 Matrix: Water  
 Analysis Batch: 314463

Client Sample ID: Outfall001\_20230321\_Comp\_F  
 Prep Type: Dissolved  
 Prep Batch: 314025

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	BU	8.00	7.47	BU	ug/L		93	85 - 115

Lab Sample ID: 570-131945-3 MSD  
 Matrix: Water  
 Analysis Batch: 314463

Client Sample ID: Outfall001\_20230321\_Comp\_F  
 Prep Type: Dissolved  
 Prep Batch: 314025

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	ND	BU	8.00	7.56	BU	ug/L		95	85 - 115	1	10

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-315112/5-A  
 Matrix: Water  
 Analysis Batch: 315123

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 315112

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		03/27/23 14:02	03/27/23 15:47	1

Lab Sample ID: LCS 570-315112/6-A  
 Matrix: Water  
 Analysis Batch: 315123

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 315112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.494		mg/L		99	90 - 110

Lab Sample ID: LCSD 570-315112/7-A  
 Matrix: Water  
 Analysis Batch: 315123

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 315112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Ammonia	0.500	0.500		mg/L		100	90 - 110	1	20

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-309190/11  
 Matrix: Water  
 Analysis Batch: 309190

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			03/27/23 12:56	1

Lab Sample ID: LCS 570-309190/12  
 Matrix: Water  
 Analysis Batch: 309190

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	259		ug/L		104	90 - 110

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate (Continued)

Lab Sample ID: LCSD 570-309190/13  
 Matrix: Water  
 Analysis Batch: 309190

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	271		ug/L		109	90 - 110	5	20

Lab Sample ID: MRL 570-309190/10  
 Matrix: Water  
 Analysis Batch: 309190

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	5.00	5.38		ug/L		108	50 - 150		

## Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-313839/1  
 Matrix: Water  
 Analysis Batch: 313839

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	1000	1000		NTU		100.6	99.0 - 101.0		

Lab Sample ID: LCSSRM 570-313839/2  
 Matrix: Water  
 Analysis Batch: 313839

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	10.0	10		NTU		101.0	99.0 - 101.0		

Lab Sample ID: LCSSRM 570-313839/3  
 Matrix: Water  
 Analysis Batch: 313839

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0		

Lab Sample ID: 570-131945-1 DU  
 Matrix: Water  
 Analysis Batch: 313839

Client Sample ID: Outfall001\_20230321\_Comp  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Turbidity	1.3		1.3		NTU		0.8	25

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-314266/1  
 Matrix: Water  
 Analysis Batch: 314266

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			03/23/23 17:39	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 570-314266/2  
 Matrix: Water  
 Analysis Batch: 314266

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1010		mg/L		101	84 - 108

Lab Sample ID: LCSD 570-314266/3  
 Matrix: Water  
 Analysis Batch: 314266

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	84 - 108	1	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-314596/1  
 Matrix: Water  
 Analysis Batch: 314596

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			03/24/23 15:59	1

Lab Sample ID: LCS 570-314596/2  
 Matrix: Water  
 Analysis Batch: 314596

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	94.0		mg/L		94	77 - 116

Lab Sample ID: LCSD 570-314596/3  
 Matrix: Water  
 Analysis Batch: 314596

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	96.0		mg/L		96	77 - 116	2	10

## Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 570-313750/1-A  
 Matrix: Water  
 Analysis Batch: 315092

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 313750

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L		03/22/23 10:21	03/22/23 10:23	1

Lab Sample ID: LCS 570-313750/2-A  
 Matrix: Water  
 Analysis Batch: 315092

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 313750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	202		mg/L		102	84.6 - 115.4

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

**Lab Sample ID: MB 570-313848/5-A**  
**Matrix: Water**  
**Analysis Batch: 314090**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 313848**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		03/22/23 15:00	03/22/23 17:28	1

**Lab Sample ID: LCS 570-313848/6-A**  
**Matrix: Water**  
**Analysis Batch: 314090**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 313848**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.522		mg/L		104	83 - 122

**Lab Sample ID: LCSD 570-313848/7-A**  
**Matrix: Water**  
**Analysis Batch: 314090**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 313848**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.500	0.524		mg/L		105	83 - 122	0	10

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## GC/MS Semi VOA

### Prep Batch: 314349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	625	
MB 570-314349/1-A	Method Blank	Total/NA	Water	625	
LCS 570-314349/2-A	Lab Control Sample	Total/NA	Water	625	
LCS 570-314349/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 314965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	625.1 SIM	314349
MB 570-314349/1-A	Method Blank	Total/NA	Water	625.1 SIM	314349
LCS 570-314349/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	314349
LCS 570-314349/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	314349

## GC Semi VOA

### Prep Batch: 314171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	608	
MB 570-314171/1-A	Method Blank	Total/NA	Water	608	
LCS 570-314171/2-A	Lab Control Sample	Total/NA	Water	608	
LCS 570-314171/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 314256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-314171/2-A	Lab Control Sample	Total/NA	Water	608.3	314171
LCS 570-314171/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	314171

### Analysis Batch: 314768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	608.3	314171
MB 570-314171/1-A	Method Blank	Total/NA	Water	608.3	314171

## HPLC/IC

### Analysis Batch: 313627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	300.0	
MB 570-313627/5	Method Blank	Total/NA	Water	300.0	
LCS 570-313627/6	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-313627/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 313628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	300.0	
MB 570-313628/5	Method Blank	Total/NA	Water	300.0	
LCS 570-313628/6	Lab Control Sample	Total/NA	Water	300.0	
LCS 570-313628/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 313743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	314.0	
MB 570-313743/7	Method Blank	Total/NA	Water	314.0	

Eurofins Calscience



# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## HPLC/IC (Continued)

### Analysis Batch: 313743 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-313743/8	Lab Control Sample	Total/NA	Water	314.0	
LCS 570-313743/9	Lab Control Sample Dup	Total/NA	Water	314.0	

### Analysis Batch: 314475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Prep Batch: 313733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total Recoverable	Water	200.8	
MB 570-313733/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-313733/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCS 570-313733/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-131945-1 MS	Outfall001_20230321_Comp	Total Recoverable	Water	200.8	
570-131945-1 MSD	Outfall001_20230321_Comp	Total Recoverable	Water	200.8	

### Filtration Batch: 313762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-3	Outfall001_20230321_Comp_F	Dissolved	Water	Filtration	
MB 570-313762/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-313762/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCS 570-313762/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-131945-3 MS	Outfall001_20230321_Comp_F	Dissolved	Water	Filtration	
570-131945-3 MSD	Outfall001_20230321_Comp_F	Dissolved	Water	Filtration	

### Analysis Batch: 313834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total Recoverable	Water	200.8	313733
MB 570-313733/1-A	Method Blank	Total Recoverable	Water	200.8	313733
LCS 570-313733/2-A	Lab Control Sample	Total Recoverable	Water	200.8	313733
LCS 570-313733/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	313733
570-131945-1 MS	Outfall001_20230321_Comp	Total Recoverable	Water	200.8	313733
570-131945-1 MSD	Outfall001_20230321_Comp	Total Recoverable	Water	200.8	313733

### Analysis Batch: 313835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-3	Outfall001_20230321_Comp_F	Dissolved	Water	200.8	313762
MB 570-313762/1-A	Method Blank	Dissolved	Water	200.8	313762
LCS 570-313762/2-A	Lab Control Sample	Dissolved	Water	200.8	313762
LCS 570-313762/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	313762
570-131945-3 MS	Outfall001_20230321_Comp_F	Dissolved	Water	200.8	313762
570-131945-3 MSD	Outfall001_20230321_Comp_F	Dissolved	Water	200.8	313762

### Prep Batch: 314016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	245.1	
MB 570-314016/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-314016/2-A	Lab Control Sample	Total/NA	Water	245.1	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## Metals (Continued)

### Prep Batch: 314016 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-314016/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-131945-1 MS	Outfall001_20230321_Comp	Total/NA	Water	245.1	
570-131945-1 MSD	Outfall001_20230321_Comp	Total/NA	Water	245.1	

### Filtration Batch: 314019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-3	Outfall001_20230321_Comp_F	Dissolved	Water	Filtration	
MB 570-314019/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-314019/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-314019/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-131945-3 MS	Outfall001_20230321_Comp_F	Dissolved	Water	Filtration	
570-131945-3 MSD	Outfall001_20230321_Comp_F	Dissolved	Water	Filtration	

### Prep Batch: 314025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-3	Outfall001_20230321_Comp_F	Dissolved	Water	245.1	314019
MB 570-314019/1-B	Method Blank	Dissolved	Water	245.1	314019
LCS 570-314019/2-B	Lab Control Sample	Dissolved	Water	245.1	314019
LCSD 570-314019/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	314019
570-131945-3 MS	Outfall001_20230321_Comp_F	Dissolved	Water	245.1	314019
570-131945-3 MSD	Outfall001_20230321_Comp_F	Dissolved	Water	245.1	314019

### Analysis Batch: 314215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-314016/1-A	Method Blank	Total/NA	Water	245.1	314016
LCS 570-314016/2-A	Lab Control Sample	Total/NA	Water	245.1	314016
LCSD 570-314016/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	314016

### Analysis Batch: 314463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	245.1	314016
570-131945-3	Outfall001_20230321_Comp_F	Dissolved	Water	245.1	314025
MB 570-314019/1-B	Method Blank	Dissolved	Water	245.1	314025
LCS 570-314019/2-B	Lab Control Sample	Dissolved	Water	245.1	314025
LCSD 570-314019/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	314025
570-131945-1 MS	Outfall001_20230321_Comp	Total/NA	Water	245.1	314016
570-131945-1 MSD	Outfall001_20230321_Comp	Total/NA	Water	245.1	314016
570-131945-3 MS	Outfall001_20230321_Comp_F	Dissolved	Water	245.1	314025
570-131945-3 MSD	Outfall001_20230321_Comp_F	Dissolved	Water	245.1	314025

## General Chemistry

### Analysis Batch: 309190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	Kelada 01	
MB 570-309190/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-309190/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-309190/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-309190/10	Lab Control Sample	Total/NA	Water	Kelada 01	

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

## General Chemistry

### Prep Batch: 313750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	BOD Prep	
USB 570-313750/1-A	Method Blank	Total/NA	Water	BOD Prep	
LCS 570-313750/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

### Analysis Batch: 313839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-313839/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-313839/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-313839/3	Lab Control Sample	Total/NA	Water	SM 2130B	
570-131945-1 DU	Outfall001_20230321_Comp	Total/NA	Water	SM 2130B	

### Prep Batch: 313848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	SM 5540C	
MB 570-313848/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-313848/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-313848/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	

### Analysis Batch: 314090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	SM 5540C	313848
MB 570-313848/5-A	Method Blank	Total/NA	Water	SM 5540C	313848
LCS 570-313848/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	313848
LCSD 570-313848/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	313848

### Analysis Batch: 314266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	SM 2540C	
MB 570-314266/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-314266/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-314266/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

### Analysis Batch: 314596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	SM 2540D	
MB 570-314596/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-314596/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-314596/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

### Analysis Batch: 315092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	SM 5210B	313750
USB 570-313750/1-A	Method Blank	Total/NA	Water	SM 5210B	313750
LCS 570-313750/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	313750

### Prep Batch: 315112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-315112/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## General Chemistry (Continued)

### Prep Batch: 315112 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 570-315112/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-315112/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 315123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	350.1	315112
MB 570-315112/5-A	Method Blank	Total/NA	Water	350.1	315112
LCS 570-315112/6-A	Lab Control Sample	Total/NA	Water	350.1	315112
LCSD 570-315112/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	315112



# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

**Client Sample ID: Outfall001\_20230321\_Comp**

**Lab Sample ID: 570-131945-1**

**Date Collected: 03/21/23 09:20**

**Matrix: Water**

**Date Received: 03/21/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1057 mL	2 mL	314349	03/24/23 05:15	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	314965	03/27/23 19:28	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	314171	03/23/23 12:38	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	314768	03/26/23 14:01	N5Y3	EET CAL 4
		Instrument ID: GC52A								
Total/NA	Analysis	300.0		1	4 mL	4 mL	313627	03/22/23 07:52	PS	EET CAL 4
		Instrument ID: IC10								
Total/NA	Analysis	300.0		1	4 mL	4 mL	313628	03/22/23 07:52	PS	EET CAL 4
		Instrument ID: IC10								
Total/NA	Analysis	314.0		1	4 mL	4 mL	313743	03/22/23 17:54	PS	EET CAL 4
		Instrument ID: IC8								
Total/NA	Analysis	NO2NO3 Calc		1			314475	03/24/23 10:42	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	313733	03/22/23 10:04	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			313834	03/22/23 13:17	Y2WS	EET CAL 4
		Instrument ID: ICPMS09								
Total/NA	Prep	245.1			25 mL	50 mL	314016	03/22/23 18:00	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			314463	03/23/23 17:16	C0YH	EET CAL 4
		Instrument ID: HG8								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	315112	03/27/23 14:02	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	315123	03/27/23 16:25	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	309190	03/27/23 15:53	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			313839	03/22/23 14:34	TXA8	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	314266	03/23/23 17:39	ZL7L	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	950 mL	1000 mL	314596	03/24/23 16:00	UWCT	EET CAL 4
		Instrument ID: BAL71								
Total/NA	Prep	BOD Prep					313750	03/22/23 16:12	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	315092	03/22/23 17:43	TN8Z	EET CAL 4
		Instrument ID: BOD3								
Total/NA	Prep	SM 5540C			100 mL	100 mL	313848	03/22/23 15:00	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	314090	03/22/23 17:34	TXA8	EET CAL 4
		Instrument ID: UV8								

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

**Client Sample ID: Outfall001\_20230321\_Comp\_F**

**Lab Sample ID: 570-131945-3**

**Date Collected: 03/21/23 09:20**

**Matrix: Water**

**Date Received: 03/21/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	313762	03/22/23 10:51	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			313835	03/22/23 13:24	Y2WS	EET CAL 4
Instrument ID: ICPMS10										
Dissolved	Filtration	Filtration			25 mL	25 mL	314019	03/23/23 05:55	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	314025	03/23/23 06:08	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			314463	03/23/23 18:32	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-131945-1	Outfall001_20230321_Comp	Water	03/21/23 09:20	03/21/23 17:10
570-131945-3	Outfall001_20230321_Comp_F	Water	03/21/23 09:20	03/21/23 17:10

1

2

3

4

5

6

7

8

9

10

11

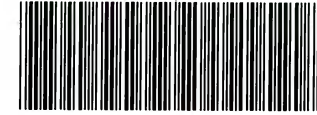
12

13

14

15

CHAIN OF CUSTODY FORM



570-131945 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108				Project Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp					ANALYSIS REQUIRED																	
*Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187*				Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)					Total Recoverable Metals: (E200.8): Zn, Pb, Cd, Se	TCCD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, P-CP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments					
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																										
Sampler: michelle dallalah																										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8): Zn, Pb, Cd, Se	TCCD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, P-CP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe	Comments					
① Outfall 001	Outfall001_20230321_Comp	3/21/2023 0920	WM	500 mL Poly	1	HNO3	90	Yes	X											X	X	Outfall 001 analyze for Fe.				
			WM	1 L Glass Amber	2	None	110	No			X															
			WM	1L Poly	1	None	115	No				X														
			WM	500 mL Poly	2	None	120	No					X													
			WM	500 mL Poly	2	None	130	No						X											48 hours Holding Time NO3 & NO2	
			WM	500 mL Poly	1	None	150	No							X										48 hour holding time for turbidity	
			WM	500 mL Poly	1	H2SO4	160	No								X										
			WM	1 L Glass Amber	2	None	170	No										X								
			WM	1L Poly	1	None	185	No													X					
②	Outfall001_20230321_Comp_Extra	3/21/2023 0920	WM	1 L Glass Amber	1	None	110	No		H													Hold			
			WM	1 L Glass Amber	2	None	170	No										H						Hold		
			WM	1 L Glass Amber	2	None	180	No												H					Hold	

Legend: C=Conditional, R=Routine

Relinquished By: <i>Michelle Dallalah</i> Date/Time: 3/21/23 Company: H&A	Received By: <i>[Signature]</i> Date/Time: 3/21/23 Company: EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ X _____ 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>[Signature]</i> Date/Time: 3/21/23 1710 Company: EC	Received By: <i>[Signature]</i> Date/Time: 3-21-23 17:10	Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: _____ X _____

1.0/1.0 1.1/1.1 SC11

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp							ANALYSIS REQUIRED										Comments
"Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187"		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)							Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)										
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Sampler: michelle dallalah																	
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chromium Toxicity - Selenium (EPA-821-R-02-013) <i>Attestation in Minutes, CA</i>	Total Dissolved Metals - Mercury (E245.1)	Total Dissolved Metals: (E200.8): Fe					
③ Outfall 001	Outfall001_20230321_Comp_F	3/21/2023 <b>0920</b>	WM	1L Poly	1	None	200	Yes	X					X		Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.			
			WM	borosilicate vials	2	None	320	No					X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.			
①	Outfall001_20230321_Comp	3/21/2023 <b>0920</b>	WM	500 mL Poly	1	NaOH	220	No		X									
			WM	2.5 Gal Cube	1	None	225	No				X				Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.			
			WM	1 L Glass Amber	1	None	230	No									<del>Only test if first or second rain event of the year. Refer to ABC Labs in Ventura, CA.</del>		
WM	1 Gal Cube	5	None	235	No														

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By: <i>Michelle Dallalah</i>	Date/Time: 3/21/23 15:00	Company: Haley & Aldrich	Received By: <i>[Signature]</i>	Date/Time: 3/21/23 13:00	Company: EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____  Sample Integrity: (Check) Intact: _____ On Ice: _____  Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>
Relinquished By: <i>[Signature]</i>	Date/Time: 3/21/23 17:10	Company: EC	Received By: <i>[Signature]</i>	Date/Time: 3-21-23 17:10	Company:	
Relinquished By:	Date/Time:	Company:	Received By:	Date/Time:	Company:	

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-131945-1

**Login Number: 131945**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Did not receive all required containers.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/26/2023 9:22:21 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall - 001 Comp

## JOB NUMBER

570-131945-2

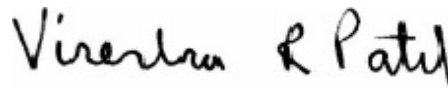
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/26/2023 9:22:21 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	24

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-131945-2

## Job ID: 570-131945-2

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-131945-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/21/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 1.1° C.

#### Receipt Exceptions

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC):  
Outfall001\_20230321\_Comp\_Extra (570-131945-2). Received 9 containers, while the COC lists 5.

1 container for MBAS, 2 containers for E300, and 1 additional container for TCDD. Not requested on the COC.

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC):  
Outfall001\_20230321\_Comp (570-131945-1), Outfall001\_20230321\_Comp (570-131945-1[MS]) and Outfall001\_20230321\_Comp (570-131945-1[MSD]). Received 14 containers, while the COC lists 18.

Did not receive containers for BOD, E300, and only 1 container for E625.

#### Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: (CCV 320-669577/2) and (MB 320-668480/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall001\_20230321\_Comp (570-131945-1) and (CCV 320-669579/17). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: (CCV 320-669599/2) and (LCS 320-668480/2-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: (CCV 320-670020/1) and (LCS 320-668480/3-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

**Client Sample ID: Outfall001\_20230321\_Comp**

**Lab Sample ID: 570-131945-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,4,6,7,8-HpCDD	0.0000015	J,DX q	0.000047	0.0000000	ug/L	1		1613B	Total/NA
				17					
1,2,3,4,6,7,8-HpCDF	0.00000071	J,DX	0.000047	0.0000000	ug/L	1		1613B	Total/NA
				12					
OCDD	0.00000079	J,DX MB q	0.000095	0.0000000	ug/L	1		1613B	Total/NA
				78					
OCDF	0.00000046	J,DX q	0.000095	0.0000000	ug/L	1		1613B	Total/NA
				18					
Total HpCDD	0.0000023	J,DX q	0.000047	0.0000000	ug/L	1		1613B	Total/NA
				17					
Total HpCDF	0.00000071	J,DX	0.000047	0.0000000	ug/L	1		1613B	Total/NA
				12					

This Detection Summary does not include radiochemical test results.



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230321\_Comp**

**Date Collected: 03/21/23 09:20**

**Date Received: 03/21/23 17:10**

**Lab Sample ID: 570-131945-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000095	0.0000001	ug/L		04/19/23 04:39	04/23/23 03:30	1
				1					
2,3,7,8-TCDF	ND		0.0000095	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				049					
1,2,3,7,8-PeCDD	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				15					
1,2,3,7,8-PeCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				052					
2,3,4,7,8-PeCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				061					
1,2,3,4,7,8-HxCDD	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				068					
1,2,3,6,7,8-HxCDD	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				070					
1,2,3,7,8,9-HxCDD	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				063					
1,2,3,4,7,8-HxCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				035					
1,2,3,6,7,8-HxCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				036					
1,2,3,7,8,9-HxCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				037					
2,3,4,6,7,8-HxCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				032					
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.0000015</b>	<b>J,DX q</b>	0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				17					
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.00000071</b>	<b>J,DX</b>	0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				12					
1,2,3,4,7,8,9-HpCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				12					
<b>OCDD</b>	<b>0.0000079</b>	<b>J,DX MB q</b>	0.000095	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				78					
<b>OCDF</b>	<b>0.00000046</b>	<b>J,DX q</b>	0.000095	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				18					
Total TCDD	ND		0.0000095	0.0000001	ug/L		04/19/23 04:39	04/23/23 03:30	1
				1					
Total TCDF	ND		0.0000095	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				049					
Total PeCDD	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				15					
Total PeCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				052					
Total HxCDD	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				063					
Total HxCDF	ND		0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				032					
<b>Total HpCDD</b>	<b>0.0000023</b>	<b>J,DX q</b>	0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				17					
<b>Total HpCDF</b>	<b>0.00000071</b>	<b>J,DX</b>	0.000047	0.0000000	ug/L		04/19/23 04:39	04/23/23 03:30	1
				12					
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	87		25 - 164				04/19/23 04:39	04/23/23 03:30	1
13C-2,3,7,8-TCDF	77		24 - 169				04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,7,8-PeCDD	87		25 - 181				04/19/23 04:39	04/23/23 03:30	1

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230321\_Comp**

**Date Collected: 03/21/23 09:20**

**Date Received: 03/21/23 17:10**

**Lab Sample ID: 570-131945-1**

**Matrix: Water**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,7,8-PeCDF	89		24 - 185	04/19/23 04:39	04/23/23 03:30	1
13C-2,3,4,7,8-PeCDF	85		21 - 178	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,4,7,8-HxCDD	83		32 - 141	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,6,7,8-HxCDD	82		28 - 130	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,4,7,8-HxCDF	77		26 - 152	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,6,7,8-HxCDF	78		26 - 123	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,7,8,9-HxCDF	75		29 - 147	04/19/23 04:39	04/23/23 03:30	1
13C-2,3,4,6,7,8-HxCDF	78		28 - 136	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,4,6,7,8-HpCDD	91		23 - 140	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,4,6,7,8-HpCDF	74		28 - 143	04/19/23 04:39	04/23/23 03:30	1
13C-1,2,3,4,7,8,9-HpCDF	79		26 - 138	04/19/23 04:39	04/23/23 03:30	1
13C-OCDD	74		17 - 157	04/19/23 04:39	04/23/23 03:30	1
13C-OCDF	63		17 - 157	04/19/23 04:39	04/23/23 03:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
37Cl4-2,3,7,8-TCDD	98		35 - 197	04/19/23 04:39	04/23/23 03:30	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-131945-1	Outfall001_20230321_Comp	98
MB 320-668480/1-A	Method Blank	97

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-668480/2-A	Lab Control Sample	95
LCSD 320-668480/3-A	Lab Control Sample Dup	100

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-131945-1	Outfall001_20230321_Comp	87	77	87	89	85	83	82	77
MB 320-668480/1-A	Method Blank	73	65	69	70	69	71	72	62

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-131945-1	Outfall001_20230321_Comp	78	75	78	91	74	79	74	63
MB 320-668480/1-A	Method Blank	62	60	65	78	59	64	59	52

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF
- HxDF = 13C-1,2,3,6,7,8-HxCDF
- HxCF = 13C-1,2,3,7,8,9-HxCDF
- 13CHxCF = 13C-2,3,4,6,7,8-HxCDF
- HpCDD = 13C-1,2,3,4,6,7,8-HpCDD
- HpCDF = 13C-1,2,3,4,6,7,8-HpCDF
- HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF
- OCDD = 13C-OCDD
- OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-668480/2-A	Lab Control Sample	70	69	70	70	70	72	75	68
LCSD 320-668480/3-A	Lab Control Sample Dup	73	83	75	77	79	71	70	66

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-668480/2-A	Lab Control Sample	70	66	70	75	61	65	69	61
LCSD 320-668480/3-A	Lab Control Sample Dup	68	74	72	74	63	74	82	75

#### Surrogate Legend

- TCDD = 13C-2,3,7,8-TCDD
- TCDF = 13C-2,3,7,8-TCDF
- PeCDD = 13C-1,2,3,7,8-PeCDD
- PeCDF = 13C-1,2,3,7,8-PeCDF
- PeCF = 13C-2,3,4,7,8-PeCDF
- HxCDD = 13C-1,2,3,4,7,8-HxCDD
- HxDD = 13C-1,2,3,6,7,8-HxCDD
- HxCDF = 13C-1,2,3,4,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001

## Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

Job ID: 570-131945-2

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-668480/1-A**  
**Matrix: Water**  
**Analysis Batch: 669577**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668480**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				26					
2,3,7,8-TCDF	ND		0.000010	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				084					
1,2,3,7,8-PeCDD	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				18					
1,2,3,7,8-PeCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				093					
2,3,4,7,8-PeCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				10					
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				13					
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				12					
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000001	ug/L		04/19/23 04:39	04/22/23 19:59	1
				1					
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				069					
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				068					
1,2,3,7,8,9-HxCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				071					
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				063					
1,2,3,4,6,7,8-HpCDD	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				62					
1,2,3,4,6,7,8-HpCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				13					
1,2,3,4,7,8,9-HpCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				14					
OCDD	0.0000109	J,DX	0.00010	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				23					
OCDF	ND		0.00010	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				47					
Total TCDD	ND		0.000010	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				26					
Total TCDF	ND		0.000010	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				084					
Total PeCDD	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				18					
Total PeCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				093					
Total HxCDD	ND		0.000050	0.00000001	ug/L		04/19/23 04:39	04/22/23 19:59	1
				1					
Total HxCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				063					
Total HpCDD	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				62					
Total HpCDF	ND		0.000050	0.0000000	ug/L		04/19/23 04:39	04/22/23 19:59	1
				13					
	<b>MB</b>	<b>MB</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	73		25 - 164				04/19/23 04:39	04/22/23 19:59	1
13C-2,3,7,8-TCDF	65		24 - 169				04/19/23 04:39	04/22/23 19:59	1

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: MB 320-668480/1-A**  
**Matrix: Water**  
**Analysis Batch: 669577**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668480**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDD	69		25 - 181	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,7,8-PeCDF	70		24 - 185	04/19/23 04:39	04/22/23 19:59	1
13C-2,3,4,7,8-PeCDF	69		21 - 178	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,4,7,8-HxCDD	71		32 - 141	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,6,7,8-HxCDD	72		28 - 130	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,4,7,8-HxCDF	62		26 - 152	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,6,7,8-HxCDF	62		26 - 123	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,7,8,9-HxCDF	60		29 - 147	04/19/23 04:39	04/22/23 19:59	1
13C-2,3,4,6,7,8-HxCDF	65		28 - 136	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,4,6,7,8-HpCDD	78		23 - 140	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,4,6,7,8-HpCDF	59		28 - 143	04/19/23 04:39	04/22/23 19:59	1
13C-1,2,3,4,7,8,9-HpCDF	64		26 - 138	04/19/23 04:39	04/22/23 19:59	1
13C-OCDD	59		17 - 157	04/19/23 04:39	04/22/23 19:59	1
13C-OCDF	52		17 - 157	04/19/23 04:39	04/22/23 19:59	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	97		35 - 197	04/19/23 04:39	04/22/23 19:59	1

**Lab Sample ID: LCS 320-668480/2-A**  
**Matrix: Water**  
**Analysis Batch: 669599**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668480**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDF	0.000200	0.000193		ug/L		96	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000932		ug/L		93	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000866		ug/L		87	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000878		ug/L		88	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000803		ug/L		80	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000871		ug/L		87	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000838		ug/L		84	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000861		ug/L		86	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000870		ug/L		87	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000877		ug/L		88	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000864		ug/L		86	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000798		ug/L		80	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000908		ug/L		91	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000836		ug/L		84	78 - 138
OCDD	0.00200	0.00171		ug/L		86	78 - 144
OCDF	0.00200	0.00186		ug/L		93	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	70		20 - 175
13C-2,3,7,8-TCDF	69		22 - 152
13C-1,2,3,7,8-PeCDD	70		21 - 227
13C-1,2,3,7,8-PeCDF	70		21 - 192
13C-2,3,4,7,8-PeCDF	70		13 - 328

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-668480/2-A**  
**Matrix: Water**  
**Analysis Batch: 669599**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668480**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C-1,2,3,4,7,8-HxCDD	72		21 - 193
13C-1,2,3,6,7,8-HxCDD	75		25 - 163
13C-1,2,3,4,7,8-HxCDF	68		19 - 202
13C-1,2,3,6,7,8-HxCDF	70		21 - 159
13C-1,2,3,7,8,9-HxCDF	66		17 - 205
13C-2,3,4,6,7,8-HxCDF	70		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	75		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	61		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	65		20 - 186
13C-OCDD	69		13 - 199
13C-OCDF	61		13 - 199

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
37Cl4-2,3,7,8-TCDD	95		31 - 191

**Lab Sample ID: LCSD 320-668480/3-A**  
**Matrix: Water**  
**Analysis Batch: 670020**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668480**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
2,3,7,8-TCDD	0.000200	0.000195		ug/L		98	67 - 158	4	50
2,3,7,8-TCDF	0.000200	0.000192		ug/L		96	75 - 158	0	50
1,2,3,7,8-PeCDD	0.00100	0.000866		ug/L		87	70 - 142	7	50
1,2,3,7,8-PeCDF	0.00100	0.000854		ug/L		85	80 - 134	1	50
2,3,4,7,8-PeCDF	0.00100	0.000871		ug/L		87	68 - 160	1	50
1,2,3,4,7,8-HxCDD	0.00100	0.000823		ug/L		82	70 - 164	2	50
1,2,3,6,7,8-HxCDD	0.00100	0.000838		ug/L		84	76 - 134	4	50
1,2,3,7,8,9-HxCDD	0.00100	0.000817		ug/L		82	64 - 162	3	50
1,2,3,4,7,8-HxCDF	0.00100	0.000859		ug/L		86	72 - 134	0	50
1,2,3,6,7,8-HxCDF	0.00100	0.000846		ug/L		85	84 - 130	3	50
1,2,3,7,8,9-HxCDF	0.00100	0.000820		ug/L		82	78 - 130	7	50
2,3,4,6,7,8-HxCDF	0.00100	0.000826		ug/L		83	70 - 156	5	50
1,2,3,4,6,7,8-HpCDD	0.00100	0.000786		ug/L		79	70 - 140	2	50
1,2,3,4,6,7,8-HpCDF	0.00100	0.000855		ug/L		85	82 - 122	6	50
1,2,3,4,7,8,9-HpCDF	0.00100	0.000789		ug/L		79	78 - 138	6	50
OCDD	0.00200	0.00156		ug/L		78	78 - 144	9	50
OCDF	0.00200	0.00163		ug/L		82	63 - 170	13	50

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C-2,3,7,8-TCDD	73		20 - 175
13C-2,3,7,8-TCDF	83		22 - 152
13C-1,2,3,7,8-PeCDD	75		21 - 227
13C-1,2,3,7,8-PeCDF	77		21 - 192
13C-2,3,4,7,8-PeCDF	79		13 - 328
13C-1,2,3,4,7,8-HxCDD	71		21 - 193
13C-1,2,3,6,7,8-HxCDD	70		25 - 163
13C-1,2,3,4,7,8-HxCDF	66		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-668480/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 670020

Prep Batch: 668480

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	74		17 - 205
13C-2,3,4,6,7,8-HxCDF	72		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	74		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	63		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	74		20 - 186
13C-OCDD	82		13 - 199
13C-OCDF	75		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	100		31 - 191

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-2

## Specialty Organics

### Prep Batch: 668480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	1613B	
MB 320-668480/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-668480/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-668480/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 669577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-668480/1-A	Method Blank	Total/NA	Water	1613B	668480

### Analysis Batch: 669579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	1613B	668480

### Analysis Batch: 669599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-668480/2-A	Lab Control Sample	Total/NA	Water	1613B	668480

### Analysis Batch: 670020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-668480/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	668480

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-2

**Client Sample ID: Outfall001\_20230321\_Comp**

**Lab Sample ID: 570-131945-1**

**Date Collected: 03/21/23 09:20**

**Matrix: Water**

**Date Received: 03/21/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1055.8 mL	20.0 uL	668480	04/19/23 04:39	BLR	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	669579	04/23/23 03:30	GRB	EET SAC

Instrument ID: DFS 1

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	06-01-23
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-2

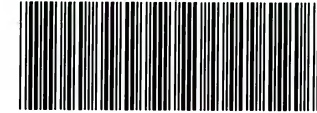
---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-131945-1	Outfall001_20230321_Comp	Water	03/21/23 09:20	03/21/23 17:10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16



CHAIN OF CUSTODY FORM



570-131945 Chain of Custody

Sample Name/Address:		Project		ANALYSIS REQUIRED													Comments	
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp		Total Recoverable Metals: (E200.8): Zn, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8): Fe			
"Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187"		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																		
Sampler: michelle dallalah																		
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD										
Outfall 001	Outfall001_20230321_Comp	3/21/2023 0920	WM	500 mL Poly	1	HNO3	90	Yes	X								Outfall 001 analyze for Fe.	
			WM	1 L Glass Amber	2	None	110	No		X								
			WM	1L Poly	1	None	115	No			X							
			WM	500 mL Poly	2	None	120	No				X						
			WM	500 mL Poly	2	None	130	No					X				48 hours Holding Time NO3 & NO2	
			WM	500 mL Poly	1	None	150	No					X				48 hour holding time for turbidity	
			WM	500 mL Poly	1	H2SO4	160	No						X				
			WM	1 L Glass Amber	2	None	170	No							X			
			WM	1L Poly	1	None	185	No								X		
			WM	1 L Glass Amber	1	None	110	No				H						Hold
Outfall 001_20230321_Comp_Extra	Outfall001_20230321_Comp_Extra	3/21/2023 0920	WM	1 L Glass Amber	1	None	170	No									Hold	
			WM	1 L Glass Amber	2	None	180	No									Hold	
			WM	1 L Glass Amber	2	None	180	No									Hold	

Legend: C=Conditional, R=Routine

Relinquished By: <i>Michelle Dallalah</i>	Date/Time: 3/21/23	Company: H&A	Received By: <i>[Signature]</i>	Date/Time: 3/21/23	Company: EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ X _____ 48 Hour: _____ 5 Day: _____ Normal: _____  Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: _____ X _____
Relinquished By: <i>[Signature]</i>	Date/Time: 3/21/23	Company: EC	Received By: <i>[Signature]</i>	Date/Time: 3-21-23	Company: EC	
Relinquished By: _____	Date/Time: 1710	Company: _____	Received By: _____	Date/Time: 17:10	Company: _____	

1.0/1.0 1.1/1.1 SC11

CHAIN OF CUSTODY FORM

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp							ANALYSIS REQUIRED									
"Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187"									Comments									
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)							Total Dissolved Metals: (E200.7); Zn (E200.8); Cu, Pb, Cd, Se									
Sampler: michelle dallalah		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)							Cyanide (SM4500-CN-E / E335.2)									

Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.7); Zn (E200.8); Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha (E900.0), Gross Beta (E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, CS-137 (E901.0 or E901.1)	Chromium Toxicity - Selenium (EPA-821-R-02-013) <i>Attestation in Minutes, CA</i>	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals: (E200.8); Fe	Comments	
Outfall 001	Outfall001_20230321_Comp_F	3/21/2023 0920	WM	1L Poly	1	None	200	Yes	X						Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.	
			WM	borosilicate vials	2	None	320	No					X			Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
Outfall 001	Outfall001_20230321_Comp	3/21/2023 0920	WM	500 mL Poly	1	NaOH	220	No		X						
			WM	2.5 Gal Cube	1	None	225	No								Unfiltered and unpreserved analysis. Separate RAD onto another workorder. Analyze duplicate, not MS/MSD.
			WM	1 L Glass Amber	1	None	230	No								
WM	1 Gal Cube	5	None	235	No										Return to ABC Labs in Ventura, CA	

Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual

Relinquished By: <i>Michelle Dallalah</i> Date/Time: 3/21/23 15:00 Company: Haley & Aldrich	Received By: <i>[Signature]</i> Date/Time: 3/21/23 13:00 Company: EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>[Signature]</i> Date/Time: 3/21/23 17:10 Company: EC	Received By: <i>[Signature]</i> Date/Time: 3-21-23 17:10	Sample Integrity: (Check) Intact: _____ On Ice: _____
Relinquished By: _____ Date/Time: _____ Company: _____	Received By: _____ Date/Time: _____	Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>

# Chain of Custody Record



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s)	COC No:																										
Client Contact: Shipping/Receiving		Patel, Virendra	Patel, Virendra		570-211864.1																										
Company: Eurofins Environment Testing Northern Ca		E-Mail: Virendra.Patel@et.eurofins.com		State of Origin: California	Page: Page 1 of 1																										
Address: 880 Riverside Parkway, City: West Sacramento State, Zip: CA, 95605 Phone: 916-373-5600(Tel) 916-372-1059(Fax) Email:		Accreditations Required (See note): State Program - California	Job #:	Job #:	Job #:																										
Project Name: Boeing NPDES SSFL - Routine Outfall - 001 Comp Site:		Due Date Requested: 4/6/2023	Analysis Requested	Preservation Codes:	Preservation Codes:																										
TAT Requested (days):		PO #:	<table border="1"> <tr> <td>Analysis Requested</td> <td>M - Hexane</td> </tr> <tr> <td></td> <td>N - None</td> </tr> <tr> <td></td> <td>O - AsNaO2</td> </tr> <tr> <td></td> <td>P - Na2O4S</td> </tr> <tr> <td></td> <td>Q - Na2SO3</td> </tr> <tr> <td></td> <td>R - Na2SO3</td> </tr> <tr> <td></td> <td>S - H2SO4</td> </tr> <tr> <td></td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td></td> <td>U - Acetone</td> </tr> <tr> <td></td> <td>V - MCAA</td> </tr> <tr> <td></td> <td>W - pH 4-5</td> </tr> <tr> <td></td> <td>X - Trizma</td> </tr> <tr> <td></td> <td>Z - other (specify)</td> </tr> </table>	Analysis Requested	M - Hexane		N - None		O - AsNaO2		P - Na2O4S		Q - Na2SO3		R - Na2SO3		S - H2SO4		T - TSP Dodecahydrate		U - Acetone		V - MCAA		W - pH 4-5		X - Trizma		Z - other (specify)	Other:	Other:
Analysis Requested	M - Hexane																														
	N - None																														
	O - AsNaO2																														
	P - Na2O4S																														
	Q - Na2SO3																														
	R - Na2SO3																														
	S - H2SO4																														
	T - TSP Dodecahydrate																														
	U - Acetone																														
	V - MCAA																														
	W - pH 4-5																														
	X - Trizma																														
	Z - other (specify)																														
Project #: 57013187 SSOW#:		WO #:	Field Filtered Sample (Yes or No)	Field Filtered Sample (Yes or No)	Field Filtered Sample (Yes or No)																										
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=tissue, A=air)	Matrix (W=water, S=solid, O=water/soil, BT=tissue, A=air)																										
3/21/23		09:20 Pacific		Water	Water																										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=tissue, A=air)																										
Outfall001_20230321_Comp (570-131945-1)		3/21/23	09:20 Pacific		Water																										
Perform MS/MSD (Yes or No)		16138/16138_Sox_Sep_P (MOD) Standard List w/	Totals	Field Filtered Sample (Yes or No)	Field Filtered Sample (Yes or No)																										
X		X	X	X	X																										
Special Instructions/Note:		Total Number of containers																													
See QAS, Boeing_w/ut to zero, ug/L: Use Boeing glassware.		2																													
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>																															
<p><b>Possible Hazard Identification</b></p> <p>Unconfirmed</p> <p>Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2</p> <p>Empty Kit Relinquished by: _____ Date: _____ Time: _____</p> <p>Relinquished by: _____ Date/Time: 03/22/23 9:19 Company: Eurofins</p> <p>Relinquished by: _____ Date/Time: _____ Company: _____</p> <p>Relinquished by: _____ Date/Time: _____ Company: _____</p> <p>Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Custody Seal No.: _____</p>																															
<p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</p> <p><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months</p> <p>Special Instructions/QC Requirements:</p> <p>Method of Shipment: _____</p> <p>Received by: _____ Date/Time: 3/23/23 5:40 Company: Eurofins</p> <p>Received by: _____ Date/Time: _____ Company: _____</p> <p>Received by: _____ Date/Time: _____ Company: _____</p> <p>Cooler Temperature(s) °C and Other Remarks: 1.20</p>																															

# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-131945-2

**Login Number: 131945**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Patel, Virendra**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Did not receive all required containers.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-131945-2

**Login Number: 131945**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 03/23/23 02:09 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2c 1.7c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/26/2023 7:49:41 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Comp

**JOB NUMBER**

570-131945-3

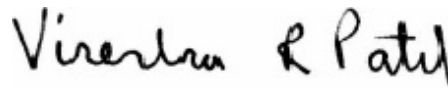
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/26/2023 7:49:41 PM

---

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	22
Lab Chronicle . . . . .	23
Certification Summary . . . . .	24
Method Summary . . . . .	25
Sample Summary . . . . .	26
Chain of Custody . . . . .	27
Receipt Checklists . . . . .	30





# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-131945-3

## Job ID: 570-131945-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-131945-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/21/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 1.1° C.

#### Receipt Exceptions

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC):  
Outfall001\_20230321\_Comp\_Extra (570-131945-2). Received 9 containers, while the COC lists 5.

1 container for MBAS, 2 containers for E300, and 1 additional container for TCDD. Not requested on the COC.

The number of containers for the following sample did not match the information listed on the Chain-of-Custody (COC):  
Outfall001\_20230321\_Comp (570-131945-1), Outfall001\_20230321\_Comp (570-131945-1[MS]) and Outfall001\_20230321\_Comp (570-131945-1[MSD]). Received 14 containers, while the COC lists 18.

Did not receive containers for BOD, E300, and only 1 container for E625.

#### RAD

Method 900.0: Gross Alpha and Gross Beta batch 607422

The matrix spike (MS) recoveries for Gross Alpha and Gross Beta were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (570-131940-R-1-H MS) and (570-131940-R-1-I MSBT)

Method 900.0: Gross Alpha and Gross Beta batch 607422

The detection goal was not met for the following samples due to a reduction of the sample size attributed to high residual mass: (570-131940-R-1-G) and (570-131940-R-1-J DU). Analytical results are reported with the detection limit achieved.

Method 900.0: Gross Alpha and Gross Beta batch 607422

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230321\_Comp (570-131945-1), (LCS 160-607422/2-A), (LCSB 160-607422/3-A), (MB 160-607422/1-A), (570-131940-R-1-G), (570-131940-R-1-J DU), (570-131940-R-1-H MS) and (570-131940-R-1-I MSBT)

Method 900.0: Gross Alpha and Gross Beta batch 607422

The sample duplicate (DUP) precision for Gross Beta was outside control limits. Sample matrix interference is suspected. Sample was prepped at a dilution due to high residual mass (570-131940-R-1-J DU)

Method 901.1: Gamma Prep Batch 160-605283

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-131945-3

## Job ID: 570-131945-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230321\_Comp (570-131945-1), (570-131073-AT-1-B) and (570-131073-AT-1-C DU)

Methods 903.0, 9315: Radium-226 prep batch 160-605610:

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. Outfall001\_20230321\_Comp (570-131945-1), (LCS 160-605610/2-A), (LCSD 160-605610/3-A) and (MB 160-605610/1-A)

Methods 904.0, 9320: Radium-228 batch 605613

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230321\_Comp (570-131945-1), (LCS 160-605613/2-A), (LCSD 160-605613/3-A) and (MB 160-605613/1-A)

Method 905: Strontium 90 batch 606565

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230321\_Comp (570-131945-1), (LCS 160-606565/2-A), (LCSD 160-606565/3-A) and (MB 160-606565/1-A)

Method 906.0: Tritium 607890

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are decay corrected to sample date and time as the Activity Reference Date. Outfall001\_20230321\_Comp (570-131945-1), (LCS 160-607890/2-A), (MB 160-607890/1-A), (570-131938-I-1-A), (570-131938-I-1-B DU), (570-132136-Q-1-A) and (570-132136-Q-1-B MS)

Methods A-01-R, U-02-RC: Isotopic Uranium batch 607182

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230321\_Comp (570-131945-1), (LCS 160-607182/2-A), (MB 160-607182/1-A) and (570-131945-N-1-F DU)

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-131945-3

---

## Job ID: 570-131945-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

Method PrecSep\_0: Radium 228 Prep Batch 160-605613

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230321\_Comp (570-131945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Radium 226 Prep Batch 160-605610

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230321\_Comp (570-131945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-7: Strontium-90 Prep Batch 606565

The following sample was prepared at a reduced aliquot due to Matrix: Outfall001\_20230321\_Comp (570-131945-1). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

**Client Sample ID: Outfall001\_20230321\_Comp**

**Lab Sample ID: 570-131945-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230321\_Comp

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2 $\sigma$ +/-)	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.267	U	0.947	0.948	3.00	1.75	pCi/L	04/14/23 10:37	04/21/23 18:25	1
<b>Gross Beta</b>	<b>2.58</b>		0.705	0.750	4.00	0.854	pCi/L	04/14/23 10:37	04/21/23 18:25	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230321\_Comp

Date Collected: 03/21/23 09:20

Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-5.28	U	11.6	11.6	20.0	14.0	pCi/L	03/28/23 16:33	04/12/23 14:29	1
Potassium-40	-82.0	U	121	121		180	pCi/L	03/28/23 16:33	04/12/23 14:29	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Date Collected: 03/21/23 09:20**  
**Date Received: 03/21/23 17:10**

**Lab Sample ID: 570-131945-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0817	U	0.131	0.131	1.00	0.225	pCi/L	03/30/23 08:51	04/25/23 14:06	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		30 - 110					03/30/23 08:51	04/25/23 14:06	1





# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: EPA 904.0 - Radium-228 (GFPC)

Client Sample ID: Outfall001\_20230321\_Comp  
 Date Collected: 03/21/23 09:20  
 Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1  
 Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.824		0.518	0.523	1.00	0.753	pCi/L	03/30/23 09:10	04/20/23 15:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.8		30 - 110					03/30/23 09:10	04/20/23 15:04	1
Y Carrier	80.7		30 - 110					03/30/23 09:10	04/20/23 15:04	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Date Collected: 03/21/23 09:20**  
**Date Received: 03/21/23 17:10**

**Lab Sample ID: 570-131945-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.354	U	0.539	0.540	3.00	0.907	pCi/L	04/07/23 11:12	04/17/23 19:09	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	86.5		30 - 110					04/07/23 11:12	04/17/23 19:09	1
Y Carrier	60.6		30 - 110					04/07/23 11:12	04/17/23 19:09	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230321\_Comp  
Date Collected: 03/21/23 09:20  
Date Received: 03/21/23 17:10

Lab Sample ID: 570-131945-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-13.5	U	224	224	500	409	pCi/L	04/18/23 11:12	04/19/23 08:06	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

Client Sample ID: Outfall001\_20230321\_Comp

Lab Sample ID: 570-131945-1

Date Collected: 03/21/23 09:20

Matrix: Water

Date Received: 03/21/23 17:10

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.207		0.147	0.147	1.00	0.124	pCi/L	04/12/23 15:01	04/17/23 22:47	1
Tracer	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Uranium-232	82.7		30 - 110					04/12/23 15:01	04/17/23 22:47	1

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)							
570-131945-1	Outfall001_20230321_Comp	87.8							
LCS 160-605610/2-A	Lab Control Sample	95.4							
LCSD 160-605610/3-A	Lab Control Sample Dup	92.7							
MB 160-605610/1-A	Method Blank	84.6							

### Tracer/Carrier Legend

Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)						
570-131945-1	Outfall001_20230321_Comp	87.8	80.7						
LCS 160-605613/2-A	Lab Control Sample	95.4	86.0						
LCSD 160-605613/3-A	Lab Control Sample Dup	92.7	84.9						
MB 160-605613/1-A	Method Blank	84.6	84.5						

### Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)						
570-131945-1	Outfall001_20230321_Comp	86.5	60.6						
LCS 160-606565/2-A	Lab Control Sample	86.3	77.0						
LCSD 160-606565/3-A	Lab Control Sample Dup	85.1	69.9						
MB 160-606565/1-A	Method Blank	86.6	81.9						

### Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)							
570-131945-1	Outfall001_20230321_Comp	82.7							
570-131945-1 DU	Outfall001_20230321_Comp	93.7							
LCS 160-607182/2-A	Lab Control Sample	76.8							
MB 160-607182/1-A	Method Blank	81.7							

### Tracer/Carrier Legend

U-232 = Uranium-232

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-607422/1-A**  
**Matrix: Water**  
**Analysis Batch: 608478**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 607422**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Gross Alpha	-0.2952	U	0.323	0.325	3.00	0.811	pCi/L	04/14/23 10:37	04/21/23 10:02			1
Gross Beta	-0.7584	U	0.415	0.422	4.00	0.896	pCi/L	04/14/23 10:37	04/21/23 10:02			1

**Lab Sample ID: LCS 160-607422/2-A**  
**Matrix: Water**  
**Analysis Batch: 608478**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 607422**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	60.65		8.70	3.00	2.71	pCi/L	120	75 - 125

**Lab Sample ID: LCSB 160-607422/3-A**  
**Matrix: Water**  
**Analysis Batch: 608478**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 607422**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.4	74.69		8.01	4.00	1.10	pCi/L	102	75 - 125

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-605283/1-A**  
**Matrix: Water**  
**Analysis Batch: 607160**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 605283**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)								
Cesium-137	2.793	U	6.67	6.68	20.0	7.49	pCi/L	03/28/23 16:33	04/12/23 04:01			1
Potassium-40	27.15	U	82.6	82.7		106	pCi/L	03/28/23 16:33	04/12/23 04:01			1

**Lab Sample ID: LCS 160-605283/2-A**  
**Matrix: Water**  
**Analysis Batch: 607188**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 605283**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Americium-241	135000	139700		16600		562	pCi/L	103	75 - 125
Cesium-137	40800	39690		4740	20.0	156	pCi/L	97	75 - 125
Cobalt-60	17700	17220		2060		78.1	pCi/L	97	75 - 125

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-605610/1-A**  
**Matrix: Water**  
**Analysis Batch: 608688**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 605610**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.02691	U	0.0825	0.0825	1.00	0.154	pCi/L	03/30/23 08:51	04/25/23 12:13	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	84.6		30 - 110					03/30/23 08:51	04/25/23 12:13	1

**Lab Sample ID: LCS 160-605610/2-A**  
**Matrix: Water**  
**Analysis Batch: 608688**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 605610**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.296		1.01	1.00	0.105	pCi/L	82	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	95.4		30 - 110					03/30/23 08:51	04/25/23 12:13

**Lab Sample ID: LCSD 160-605610/3-A**  
**Matrix: Water**  
**Analysis Batch: 608691**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 605610**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	8.720		0.965	1.00	0.125	pCi/L	77	75 - 125	0.29	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	92.7		30 - 110					03/30/23 09:10	04/20/23 15:03	1	

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-605613/1-A**  
**Matrix: Water**  
**Analysis Batch: 608230**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 605613**

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.8792		0.419	0.427	1.00	0.564	pCi/L	03/30/23 09:10	04/20/23 15:03	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	84.6		30 - 110					03/30/23 09:10	04/20/23 15:03	1
Y Carrier	84.5		30 - 110		03/30/23 09:10	04/20/23 15:03	1			

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: 904.0 - Radium-228 (GFPC) (Continued)

**Lab Sample ID: LCS 160-605613/2-A**  
**Matrix: Water**  
**Analysis Batch: 608230**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 605613**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Radium-228	8.02	8.720		1.20	1.00	0.484	pCi/L	109	75 - 125	
<b>Carrier</b>	<b>%Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>							
Ba Carrier	95.4		30 - 110							
Y Carrier	86.0		30 - 110							

**Lab Sample ID: LCSD 160-605613/3-A**  
**Matrix: Water**  
**Analysis Batch: 608230**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 605613**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Radium-228	8.02	7.700		1.12	1.00	0.537	pCi/L	96	75 - 125	0.44	1
<b>Carrier</b>	<b>%Yield</b>	<b>LCSD Qualifier</b>	<b>Limits</b>								
Ba Carrier	92.7		30 - 110								
Y Carrier	84.9		30 - 110								

## Method: 905 - Strontium-90 (GFPC)

**Lab Sample ID: MB 160-606565/1-A**  
**Matrix: Water**  
**Analysis Batch: 607841**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 606565**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.1675	U	0.204	0.204	3.00	0.337	pCi/L	04/07/23 11:12	04/17/23 19:03	1
<b>Carrier</b>	<b>%Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>							
Sr Carrier	86.6		30 - 110							
Y Carrier	81.9		30 - 110							
								<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
								04/07/23 11:12	04/17/23 19:03	1
								04/07/23 11:12	04/17/23 19:03	1

**Lab Sample ID: LCS 160-606565/2-A**  
**Matrix: Water**  
**Analysis Batch: 607841**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606565**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Strontium-90	7.34	7.570		0.853	3.00	0.305	pCi/L	103	75 - 125
<b>Carrier</b>	<b>%Yield</b>	<b>LCS Qualifier</b>	<b>Limits</b>						
Sr Carrier	86.3		30 - 110						
Y Carrier	77.0		30 - 110						



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: 905 - Strontium-90 (GFPC) (Continued)

Lab Sample ID: LCSD 160-606565/3-A  
 Matrix: Water  
 Analysis Batch: 607841

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 606565

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	RER	RER Limit
Strontium-90	7.34	7.501		0.887	3.00	0.401	pCi/L	102	75 - 125	0.04	1
<b>Carrier</b>	<b>LCSD %Yield</b>	<b>LCSD Qualifier</b>	<b>Limits</b>								
Sr Carrier	85.1		30 - 110								
Y Carrier	69.9		30 - 110								

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-607890/1-A  
 Matrix: Water  
 Analysis Batch: 608161

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 607890

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	-102.7	U	224	224	500	433	pCi/L	04/18/23 11:12	04/19/23 06:41	1

Lab Sample ID: LCS 160-607890/2-A  
 Matrix: Water  
 Analysis Batch: 608161

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 607890

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Tritium	2090	1604		396	500	420	pCi/L	77	75 - 125

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-607182/1-A  
 Matrix: Water  
 Analysis Batch: 607712

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 607182

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac		
Total Uranium	0.08287	U	0.138	0.138	1.00	0.229	pCi/L	04/12/23 15:01	04/17/23 22:47	1		
<b>Tracer</b>	<b>MB %Yield</b>	<b>MB Qualifier</b>	<b>Limits</b>							<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Uranium-232	81.7		30 - 110							04/12/23 15:01	04/17/23 22:47	1

Lab Sample ID: LCS 160-607182/2-A  
 Matrix: Water  
 Analysis Batch: 607726

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 607182

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Uranium-234	12.7	14.02		1.67	1.00	0.196	pCi/L	110	75 - 125
Uranium-238	13.0	15.41		1.79	1.00	0.168	pCi/L	118	75 - 125

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

**Lab Sample ID: LCS 160-607182/2-A**  
**Matrix: Water**  
**Analysis Batch: 607726**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 607182**

<i>Tracer</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</i>	
Uranium-232	76.8		30 - 110

**Lab Sample ID: 570-131945-1 DU**  
**Matrix: Water**  
**Analysis Batch: 607717**

**Client Sample ID: Outfall001\_20230321\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 607182**

<i>Analyte</i>	<i>Sample Sample</i>		<i>DU DU</i>		<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>RER</i>	<i>RER Limit</i>
	<i>Result</i>	<i>Qual</i>	<i>Result</i>	<i>Qual</i>						
Total Uranium	0.207		0.1803		0.1366	1.00	0.124	pCi/L	0.09	1

<i>Tracer</i>	<i>DU DU</i>		<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</i>	
Uranium-232	93.7		30 - 110

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Rad

### Prep Batch: 605283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-605283/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-605283/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 605610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	PrecSep-21	
MB 160-605610/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-605610/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-605610/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

### Prep Batch: 605613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	PrecSep_0	
MB 160-605613/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-605613/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-605613/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

### Prep Batch: 606565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	PrecSep-7	
MB 160-606565/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-606565/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	
LCSD 160-606565/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-7	

### Prep Batch: 607182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	ExtChrom	
MB 160-607182/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-607182/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	
570-131945-1 DU	Outfall001_20230321_Comp	Total/NA	Water	ExtChrom	

### Prep Batch: 607422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	Evaporation	
MB 160-607422/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-607422/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-607422/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

### Prep Batch: 607890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-131945-1	Outfall001_20230321_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-607890/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-607890/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

**Client Sample ID: Outfall001\_20230321\_Comp**

**Lab Sample ID: 570-131945-1**

**Date Collected: 03/21/23 09:20**

**Matrix: Water**

**Date Received: 03/21/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			199.99 mL	1.0 g	607422	04/14/23 10:37	MST	EET SL
Total/NA	Analysis	900.0		1	1.0 mL	1.0 mL	608478	04/21/23 18:25	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	605283	03/28/23 16:33	SAC	EET SL
Total/NA	Analysis	901.1		1			607188	04/12/23 14:29	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			759.57 mL	1.0 g	605610	03/30/23 08:51	DJP	EET SL
Total/NA	Analysis	903.0		1	1.0 mL	1.0 mL	608688	04/25/23 14:06	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			759.57 mL	1.0 g	605613	03/30/23 09:10	DJP	EET SL
Total/NA	Analysis	904.0		1			608230	04/20/23 15:04	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep-7			501.34 mL	1.0 g	606565	04/07/23 11:12	DJP	EET SL
Total/NA	Analysis	905		1			607842	04/17/23 19:09	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	LSC_Dist_Susp			99.51 mL	1.0 g	607890	04/18/23 11:12	ZR	EET SL
Total/NA	Analysis	906.0		1			608161	04/19/23 08:06	REV	EET SL
Instrument ID: LSC3180										
Total/NA	Prep	ExtChrom			500.12 mL	1.0 mL	607182	04/12/23 15:01	SRE	EET SL
Total/NA	Analysis	A-01-R		1			607716	04/17/23 22:47	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-131945-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Calscience

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-131945-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-131945-1	Outfall001_20230321_Comp	Water	03/21/23 09:20	03/21/23 17:10

1

2

3

4

5

6

7

8

9

10

11

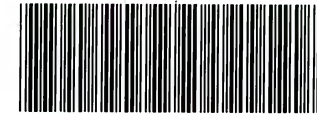
12

13

14

15

CHAIN OF CUSTODY FORM



570-131945 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp				R R R R R R R R R R R R C <b>ANALYSIS REQUIRED</b>																																																							
*Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187*		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)				<table border="1" style="width:100%; border-collapse: collapse; font-size: 8px;"> <tr> <td style="width:10%;">Total Recoverable Metals: (E200.8); Zn, Pb, Cd, Se</td> <td style="width:10%;"></td> <td style="width:10%;">TCDD (and all congeners) (E1613B)</td> <td style="width:10%;"></td> <td style="width:10%;">BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)</td> <td style="width:10%;"></td> <td style="width:10%;">Surfactants (MBAS) (SM5540C/E425.1)</td> <td style="width:10%;"></td> <td style="width:10%;">Cl-, SO<sub>4</sub>, Nitrate-N, Nitrite-N, NO<sub>3</sub>-N, NO<sub>2</sub>-N, Perchlorate (E300)</td> <td style="width:10%;"></td> <td style="width:10%;">Turbidity, TDS (SM2540C/E180.1)</td> <td style="width:10%;"></td> <td style="width:10%;">TSS (160.2 (SM2540D))</td> <td style="width:10%;"></td> <td style="width:10%;">Ammonia-N (350.2)</td> <td style="width:10%;"></td> <td style="width:10%;">alpha-BHC (E608)</td> <td style="width:10%;"></td> <td style="width:10%;">2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)</td> <td style="width:10%;"></td> <td style="width:10%;">Total Recoverable Metals: Mercury (E245.1)</td> <td style="width:10%;"></td> <td rowspan="2" style="width:10%; text-align: center; vertical-align: middle;"> <b>Comments</b> </td> </tr> <tr> <td>Total Recoverable Metals: (E200.8); Fe</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										Total Recoverable Metals: (E200.8); Zn, Pb, Cd, Se		TCDD (and all congeners) (E1613B)		BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)		Surfactants (MBAS) (SM5540C/E425.1)		Cl-, SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -N, NO <sub>2</sub> -N, Perchlorate (E300)		Turbidity, TDS (SM2540C/E180.1)		TSS (160.2 (SM2540D))		Ammonia-N (350.2)		alpha-BHC (E608)		2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)		Total Recoverable Metals: Mercury (E245.1)		<b>Comments</b>	Total Recoverable Metals: (E200.8); Fe																						
Total Recoverable Metals: (E200.8); Zn, Pb, Cd, Se		TCDD (and all congeners) (E1613B)		BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)												Surfactants (MBAS) (SM5540C/E425.1)		Cl-, SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -N, NO <sub>2</sub> -N, Perchlorate (E300)		Turbidity, TDS (SM2540C/E180.1)		TSS (160.2 (SM2540D))		Ammonia-N (350.2)		alpha-BHC (E608)		2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)		Total Recoverable Metals: Mercury (E245.1)		<b>Comments</b>																													
Total Recoverable Metals: (E200.8); Fe																																																													
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																																																													
Sampler: michelle dallalah																																																													
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8); Zn, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405-1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO <sub>4</sub> , Nitrate-N, Nitrite-N, NO <sub>3</sub> -N, NO <sub>2</sub> -N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8); Fe																																									
① Outfall 001	Outfall001_20230321_Comp	3/21/2023  0920	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X												X	X	Outfall 001 analyze for Fe.																																						
			WM	1 L Glass Amber	2	None	110	No			X																																																		
			WM	1L Poly	1	None	115	No				X																																																	
			WM	500 mL Poly	2	None	120	No					X																																																
			WM	500 mL Poly	2	None	130	No						X												48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>																																			
			WM	500 mL Poly	1	None	150	No							X											48 hour holding time for turbidity																																			
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No										X																																											
			WM	1 L Glass Amber	2	None	170	No											X																																										
			WM	1L Poly	1	None	185	No													X																																								
			WM	1 L Glass Amber	1	None	110	No					H														Hold																																		
②	Outfall001_20230321_Comp_Extra	3/21/2023  0920	WM	1 L Glass Amber	2	None	170	No																Hold																																					
			WM	1 L Glass Amber	2	None	180	No																	Hold																																				
			WM	1 L Glass Amber	2	None	180	No																		Hold																																			

<b>Legend: C=Conditional, R=Routine</b>					
Relinquished By: <i>Michelle Dallalah</i> Date/Time: 3/21/23 Company: H&A	Received By: <i>[Signature]</i> Date/Time: 3/21/23 Company: EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: _____ X _____ 48 Hour: _____ 5 Day: _____ Normal: _____			
Relinquished By: <i>[Signature]</i> Date/Time: 3/21/23 1710 Company: EC	Received By: <i>[Signature]</i> Date/Time: 3-21-23 17:10	Sample Integrity: (Check) Intact: _____ On Ice: _____			
		Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: _____ X _____			

1.0/1.0 1.1/1.1 SC11







## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-131945-3

**Login Number: 131945**

**List Number: 1**

**Creator: Patel, Virendra**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	False	Did not receive all required containers.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-131945-3

**Login Number: 131945**

**List Number: 2**

**Creator: Worthington, Sierra M**

**List Source: Eurofins St. Louis**

**List Creation: 03/23/23 12:20 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Refer to Job Narrative for details.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/12/2023 8:50:24 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Comp

**JOB NUMBER**

570-133102-1

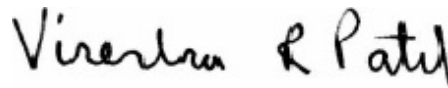
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/12/2023 8:50:24 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
Surrogate Summary . . . . .	18
QC Sample Results . . . . .	19
QC Association Summary . . . . .	30
Lab Chronicle . . . . .	34
Certification Summary . . . . .	36
Method Summary . . . . .	37
Sample Summary . . . . .	38
Chain of Custody . . . . .	39
Receipt Checklists . . . . .	43



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
MB	Analyte present in the method blank

### General Chemistry

Qualifier	Qualifier Description
BU	Sample was prepped beyond the specified holding time

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-133102-1

**Job ID: 570-133102-1**

**Laboratory: Eurofins Calscience**

## Narrative

**Job Narrative**  
**570-133102-1**

### Comments

No additional comments.

### Receipt

The samples were received on 3/30/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 2.3° C.

### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: <Affected Samples>. The samples were adjusted to the appropriate pH in the laboratory.

### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### HPLC/IC

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Nitrite as N for analytical batch 570-315979 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Metals

Method 200.8: The method blank for preparation batch 570-316389 and analytical batch 570-316490 contained Iron above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method Filtration: The following samples were not filtered within 15 minutes of sample collection as required by the method:

Outfall001\_20230330\_Comp\_F (570-133102-3), Outfall001\_20230330\_Comp\_F (570-133102-3[MS]) and

Outfall001\_20230330\_Comp\_F (570-133102-3[MSD]). The sample(s) was filtered prior to analysis at the laboratory, and the results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

Method Kelada 01: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 570-317039 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

Method 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-318053. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 8081A LL

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-133102-1

---

## Job ID: 570-133102-1 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

preparation batch 570-317265. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Method 625.1 Sim

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Client Sample ID: Outfall001\_20230330\_Comp

## Lab Sample ID: 570-133102-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6.5		1.0	0.36	mg/L	1		300.0	Total/NA
Nitrate as N	0.17		0.10	0.020	mg/L	1		300.0	Total/NA
Sulfate	15		1.0	0.24	mg/L	1		300.0	Total/NA
Nitrate Nitrite as N	0.17		0.10	0.020	mg/L	1		NO2NO3 Calc	Total/NA
Copper	1.5	J,DX	2.0	0.32	ug/L	1		200.8	Total Recoverable
Iron	290		20	3.7	ug/L	1		200.8	Total Recoverable
Lead	0.36	J,DX	1.0	0.12	ug/L	1		200.8	Total Recoverable
Selenium	0.64	J,DX	2.0	0.52	ug/L	1		200.8	Total Recoverable
Zinc	4.1	J,DX	20	2.8	ug/L	1		200.8	Total Recoverable
Turbidity	5.7		0.05	0.05	NTU	1		SM 2130B	Total/NA
Total Dissolved Solids	160		10	8.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.0		1.0	0.83	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: Outfall001\_20230330\_Comp\_F

## Lab Sample ID: 570-133102-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	1.1	J,DX BU	2.0	0.32	ug/L	1		200.8	Dissolved
Iron	69	BU MB	20	3.7	ug/L	1		200.8	Dissolved
Lead	0.15	J,DX BU	1.0	0.12	ug/L	1		200.8	Dissolved
Selenium	0.70	J,DX BU	2.0	0.52	ug/L	1		200.8	Dissolved
Zinc	2.9	J,DX BU	20	2.8	ug/L	1		200.8	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: EPA 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		0.96	0.13	ug/L		04/05/23 04:55	04/11/23 21:00	1
2,4-Dinitrotoluene	ND		0.19	0.11	ug/L		04/05/23 04:55	04/11/23 21:00	1
Bis(2-ethylhexyl) phthalate	ND		4.8	3.4	ug/L		04/05/23 04:55	04/11/23 21:00	1
N-Nitrosodimethylamine	ND		0.19	0.18	ug/L		04/05/23 04:55	04/11/23 21:00	1
Pentachlorophenol	ND		0.96	0.81	ug/L		04/05/23 04:55	04/11/23 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	78		31 - 120	04/05/23 04:55	04/11/23 21:00	1
Phenol-d6 (Surr)	34		10 - 120	04/05/23 04:55	04/11/23 21:00	1
p-Terphenyl-d14 (Surr)	107		45 - 120	04/05/23 04:55	04/11/23 21:00	1
2,4,6-Tribromophenol	98		28 - 127	04/05/23 04:55	04/11/23 21:00	1
2-Fluorophenol	48		17 - 120	04/05/23 04:55	04/11/23 21:00	1
Nitrobenzene-d5	79		27 - 120	04/05/23 04:55	04/11/23 21:00	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: EPA 608.3 - Organochlorine Pesticides in Water

Client Sample ID: Outfall001\_20230330\_Comp

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		04/06/23 12:20	04/11/23 04:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	61		20 - 139				04/06/23 12:20	04/11/23 04:00	1
DCB Decachlorobiphenyl (Surr)	56		20 - 154				04/06/23 12:20	04/11/23 04:00	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA 300.0 - Anions, Ion Chromatography

Client Sample ID: Outfall001\_20230330\_Comp

Lab Sample ID: 570-133102-1

Date Collected: 03/30/23 11:15

Matrix: Water

Date Received: 03/30/23 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.5		1.0	0.36	mg/L			03/31/23 00:08	1
Nitrite as N	ND		0.10	0.043	mg/L			03/31/23 00:08	1
Nitrate as N	0.17		0.10	0.020	mg/L			03/31/23 00:08	1
Sulfate	15		1.0	0.24	mg/L			03/31/23 00:08	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA 314.0 - Perchlorate (IC)

Client Sample ID: Outfall001\_20230330\_Comp

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			04/01/23 00:26	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA NO2NO3 Calc - Nitrogen, Nitrate-Nitrite

Client Sample ID: Outfall001\_20230330\_Comp

Lab Sample ID: 570-133102-1

Date Collected: 03/30/23 11:15

Matrix: Water

Date Received: 03/30/23 17:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.17		0.10	0.020	mg/L			04/11/23 12:18	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: Outfall001\_20230330\_Comp

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/31/23 06:19	03/31/23 11:32	1
Copper	1.5	J,DX	2.0	0.32	ug/L		03/31/23 06:19	03/31/23 11:32	1
Iron	290		20	3.7	ug/L		03/31/23 06:19	03/31/23 11:32	1
Lead	0.36	J,DX	1.0	0.12	ug/L		03/31/23 06:19	03/31/23 11:32	1
Selenium	0.64	J,DX	2.0	0.52	ug/L		03/31/23 06:19	03/31/23 11:32	1
Zinc	4.1	J,DX	20	2.8	ug/L		03/31/23 06:19	03/31/23 11:32	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Client Sample ID: Outfall001\_20230330\_Comp\_F

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND	BU	1.0	0.13	ug/L			03/31/23 09:58	1
Copper	1.1	J,DX BU	2.0	0.32	ug/L			03/31/23 09:58	1
Iron	69	BU MB	20	3.7	ug/L			03/31/23 09:58	1
Lead	0.15	J,DX BU	1.0	0.12	ug/L			03/31/23 09:58	1
Selenium	0.70	J,DX BU	2.0	0.52	ug/L			03/31/23 09:58	1
Zinc	2.9	J,DX BU	20	2.8	ug/L			03/31/23 09:58	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: Outfall001\_20230330\_Comp

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/31/23 15:48	04/03/23 18:33	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Method: EPA 245.1 - Mercury (CVAA) - Dissolved

Client Sample ID: Outfall001\_20230330\_Comp\_F

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	BU	0.20	0.12	ug/L		03/30/23 23:34	04/03/23 16:35	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## General Chemistry

**Client Sample ID: Outfall001\_20230330\_Comp**

**Date Collected: 03/30/23 11:15**

**Date Received: 03/30/23 17:10**

**Lab Sample ID: 570-133102-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.075	0.032	mg/L		04/05/23 11:55	04/05/23 14:01	1
Cyanide, Total (EPA Kelada 01)	ND		5.0	2.5	ug/L			04/03/23 13:50	1
<b>Turbidity (SM 2130B)</b>	<b>5.7</b>		0.05	0.05	NTU			03/30/23 20:48	1
<b>Total Dissolved Solids (SM 2540C)</b>	<b>160</b>		10	8.7	mg/L			03/30/23 21:09	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>2.0</b>		1.0	0.83	mg/L			04/05/23 16:40	1
Biochemical Oxygen Demand (SM 5210B)	ND	BU	2.0	1.0	mg/L		03/31/23 12:23	03/31/23 13:31	1
MBAS (SM 5540C)	ND		0.20	0.050	mg/L		03/31/23 15:25	03/31/23 15:57	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (31-120)	PHL6 (10-120)	TPHd14 (45-120)	TBP (28-127)	2FP (17-120)	NBZ (27-120)
570-133102-1	Outfall001_20230330_Comp	78	34	107	98	48	79
LCS 570-317265/2-A	Lab Control Sample	101	42	117	113	59	79
LCSD 570-317265/3-A	Lab Control Sample Dup	100	45	114	109	63	86
MB 570-317265/1-A	Method Blank	85	36	107	83	53	84

#### Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)  
 PHL6 = Phenol-d6 (Surr)  
 TPHd14 = p-Terphenyl-d14 (Surr)  
 TBP = 2,4,6-Tribromophenol  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5

## Method: 608.3 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (20-139)	DCB1 (20-154)
570-133102-1	Outfall001_20230330_Comp	61	56
LCS 570-318053/2-A	Lab Control Sample	63	67
LCSD 570-318053/3-A	Lab Control Sample Dup	64	77
MB 570-318053/1-A	Method Blank	62	65

#### Surrogate Legend

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 570-317265/1-A**  
**Matrix: Water**  
**Analysis Batch: 319424**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 317265**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		1.0	0.14	ug/L		04/04/23 10:47	04/11/23 19:17	1
2,4-Dinitrotoluene	ND		0.20	0.12	ug/L		04/04/23 10:47	04/11/23 19:17	1
Bis(2-ethylhexyl) phthalate	ND		5.0	3.6	ug/L		04/04/23 10:47	04/11/23 19:17	1
N-Nitrosodimethylamine	ND		0.20	0.19	ug/L		04/04/23 10:47	04/11/23 19:17	1
Pentachlorophenol	ND		1.0	0.84	ug/L		04/04/23 10:47	04/11/23 19:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	85		31 - 120	04/04/23 10:47	04/11/23 19:17	1
Phenol-d6 (Surr)	36		10 - 120	04/04/23 10:47	04/11/23 19:17	1
p-Terphenyl-d14 (Surr)	107		45 - 120	04/04/23 10:47	04/11/23 19:17	1
2,4,6-Tribromophenol	83		28 - 127	04/04/23 10:47	04/11/23 19:17	1
2-Fluorophenol	53		17 - 120	04/04/23 10:47	04/11/23 19:17	1
Nitrobenzene-d5	84		27 - 120	04/04/23 10:47	04/11/23 19:17	1

**Lab Sample ID: LCS 570-317265/2-A**  
**Matrix: Water**  
**Analysis Batch: 319424**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 317265**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	20.0	20.2		ug/L		101	52 - 129
2,4-Dinitrotoluene	20.0	22.1		ug/L		111	48 - 127
Bis(2-ethylhexyl) phthalate	20.0	22.5		ug/L		113	29 - 137
N-Nitrosodimethylamine	20.0	11.9		ug/L		60	20 - 120
Pentachlorophenol	20.0	19.1		ug/L		96	38 - 152

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	101		31 - 120
Phenol-d6 (Surr)	42		10 - 120
p-Terphenyl-d14 (Surr)	117		45 - 120
2,4,6-Tribromophenol	113		28 - 127
2-Fluorophenol	59		17 - 120
Nitrobenzene-d5	79		27 - 120

**Lab Sample ID: LCSD 570-317265/3-A**  
**Matrix: Water**  
**Analysis Batch: 319424**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 317265**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	20.0	20.3		ug/L		101	52 - 129	0	35
2,4-Dinitrotoluene	20.0	23.0		ug/L		115	48 - 127	4	25
Bis(2-ethylhexyl) phthalate	20.0	22.8		ug/L		114	29 - 137	1	50
N-Nitrosodimethylamine	20.0	12.8		ug/L		64	20 - 120	7	21
Pentachlorophenol	20.0	18.7		ug/L		93	38 - 152	2	52

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	100		31 - 120

Euromins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 625.1 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 570-317265/3-A**  
**Matrix: Water**  
**Analysis Batch: 319424**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 317265**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Phenol-d6 (Surr)	45		10 - 120
p-Terphenyl-d14 (Surr)	114		45 - 120
2,4,6-Tribromophenol	109		28 - 127
2-Fluorophenol	63		17 - 120
Nitrobenzene-d5	86		27 - 120

## Method: 608.3 - Organochlorine Pesticides in Water

**Lab Sample ID: MB 570-318053/1-A**  
**Matrix: Water**  
**Analysis Batch: 318881**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 318053**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	ND		0.0013	0.0012	ug/L		04/06/23 12:20	04/11/23 01:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	62		20 - 139	04/06/23 12:20	04/11/23 01:27	1
DCB Decachlorobiphenyl (Surr)	65		20 - 154	04/06/23 12:20	04/11/23 01:27	1

**Lab Sample ID: LCS 570-318053/2-A**  
**Matrix: Water**  
**Analysis Batch: 318881**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 318053**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	63		20 - 139
DCB Decachlorobiphenyl (Surr)	67		20 - 154

**Lab Sample ID: LCSD 570-318053/3-A**  
**Matrix: Water**  
**Analysis Batch: 318881**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 318053**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	64		20 - 139
DCB Decachlorobiphenyl (Surr)	77		20 - 154



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 570-315979/5**  
**Matrix: Water**  
**Analysis Batch: 315979**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.10	0.043	mg/L			03/30/23 07:04	1
Nitrate as N	ND		0.10	0.020	mg/L			03/30/23 07:04	1

**Lab Sample ID: LCS 570-315979/6**  
**Matrix: Water**  
**Analysis Batch: 315979**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	2.50	2.59		mg/L		104	90 - 110
Nitrate as N	5.00	4.89		mg/L		98	90 - 110

**Lab Sample ID: LCSD 570-315979/7**  
**Matrix: Water**  
**Analysis Batch: 315979**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	2.50	2.57		mg/L		103	90 - 110	1	15
Nitrate as N	5.00	4.88		mg/L		98	90 - 110	0	15

**Lab Sample ID: MB 570-315980/5**  
**Matrix: Water**  
**Analysis Batch: 315980**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.36	mg/L			03/30/23 07:04	1
Sulfate	ND		1.0	0.24	mg/L			03/30/23 07:04	1

**Lab Sample ID: LCS 570-315980/6**  
**Matrix: Water**  
**Analysis Batch: 315980**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	48.4		mg/L		97	90 - 110
Sulfate	50.0	48.5		mg/L		97	90 - 110

**Lab Sample ID: LCSD 570-315980/7**  
**Matrix: Water**  
**Analysis Batch: 315980**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	48.3		mg/L		97	90 - 110	0	15
Sulfate	50.0	48.5		mg/L		97	90 - 110	0	15

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 314.0 - Perchlorate (IC)

**Lab Sample ID: MB 570-316506/7**  
**Matrix: Water**  
**Analysis Batch: 316506**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		2.0	0.91	ug/L			03/31/23 16:05	1

**Lab Sample ID: LCS 570-316506/8**  
**Matrix: Water**  
**Analysis Batch: 316506**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perchlorate	25.0	24.3		ug/L		97	85 - 115

**Lab Sample ID: LCSD 570-316506/9**  
**Matrix: Water**  
**Analysis Batch: 316506**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perchlorate	25.0	24.3		ug/L		97	85 - 115	0	15

## Method: 200.8 - Metals (ICP/MS)

**Lab Sample ID: MB 570-316386/1-A**  
**Matrix: Water**  
**Analysis Batch: 316551**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 316386**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		1.0	0.13	ug/L		03/31/23 06:19	03/31/23 11:25	1
Copper	ND		2.0	0.32	ug/L		03/31/23 06:19	03/31/23 11:25	1
Iron	ND		20	3.7	ug/L		03/31/23 06:19	03/31/23 11:25	1
Lead	ND		1.0	0.12	ug/L		03/31/23 06:19	03/31/23 11:25	1
Selenium	ND		2.0	0.52	ug/L		03/31/23 06:19	03/31/23 11:25	1
Zinc	ND		20	2.8	ug/L		03/31/23 06:19	03/31/23 11:25	1

**Lab Sample ID: LCS 570-316386/2-A**  
**Matrix: Water**  
**Analysis Batch: 316551**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 316386**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	80.0	82.0		ug/L		102	85 - 115
Copper	80.0	80.5		ug/L		101	85 - 115
Iron	800	821		ug/L		103	85 - 115
Lead	80.0	82.7		ug/L		103	85 - 115
Selenium	80.0	83.5		ug/L		104	85 - 115
Zinc	80.0	83.7		ug/L		105	85 - 115

**Lab Sample ID: LCSD 570-316386/3-A**  
**Matrix: Water**  
**Analysis Batch: 316551**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 316386**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	83.6		ug/L		105	85 - 115	2	20
Copper	80.0	82.4		ug/L		103	85 - 115	2	20

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCSD 570-316386/3-A**  
**Matrix: Water**  
**Analysis Batch: 316551**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 316386**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Iron	800	833		ug/L		104	85 - 115	1	20	
Lead	80.0	83.8		ug/L		105	85 - 115	1	20	
Selenium	80.0	84.4		ug/L		106	85 - 115	1	20	
Zinc	80.0	84.2		ug/L		105	85 - 115	1	20	

**Lab Sample ID: 570-133102-1 MS**  
**Matrix: Water**  
**Analysis Batch: 316551**

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 316386**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	84.9		ug/L		106	80 - 120			
Copper	1.5	J,DX	80.0	84.2		ug/L		103	80 - 120			
Iron	290		800	1110		ug/L		102	80 - 120			
Lead	0.36	J,DX	80.0	84.4		ug/L		105	80 - 120			
Selenium	0.64	J,DX	80.0	83.4		ug/L		103	80 - 120			
Zinc	4.1	J,DX	80.0	87.9		ug/L		105	80 - 120			

**Lab Sample ID: 570-133102-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 316551**

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Prep Type: Total Recoverable**  
**Prep Batch: 316386**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cadmium	ND		80.0	81.9		ug/L		102	80 - 120	4	20	
Copper	1.5	J,DX	80.0	81.5		ug/L		100	80 - 120	3	20	
Iron	290		800	1070		ug/L		97	80 - 120	3	20	
Lead	0.36	J,DX	80.0	81.9		ug/L		102	80 - 120	3	20	
Selenium	0.64	J,DX	80.0	79.9		ug/L		99	80 - 120	4	20	
Zinc	4.1	J,DX	80.0	83.9		ug/L		100	80 - 120	5	20	

**Lab Sample ID: MB 570-316389/1-A**  
**Matrix: Water**  
**Analysis Batch: 316490**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed		Dil Fac
								Start	End	
Cadmium	ND		1.0	0.13	ug/L			03/31/23	09:17	1
Copper	ND		2.0	0.32	ug/L			03/31/23	09:17	1
Iron	3.89	J,DX	20	3.7	ug/L			03/31/23	09:17	1
Lead	ND		1.0	0.12	ug/L			03/31/23	09:17	1
Selenium	ND		2.0	0.52	ug/L			03/31/23	09:17	1
Zinc	ND		20	2.8	ug/L			03/31/23	09:17	1

**Lab Sample ID: LCS 570-316389/2-A**  
**Matrix: Water**  
**Analysis Batch: 316490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Cadmium	80.0	80.0		ug/L		100	85 - 115			
Copper	80.0	78.8		ug/L		98	85 - 115			
Iron	800	813		ug/L		102	85 - 115			

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 200.8 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 570-316389/2-A**  
**Matrix: Water**  
**Analysis Batch: 316490**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	80.0	80.8		ug/L		101	85 - 115
Selenium	80.0	77.9		ug/L		97	85 - 115
Zinc	80.0	78.8		ug/L		98	85 - 115

**Lab Sample ID: LCSD 570-316389/3-A**  
**Matrix: Water**  
**Analysis Batch: 316490**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	80.0	80.7		ug/L		101	85 - 115	1	20
Copper	80.0	79.5		ug/L		99	85 - 115	1	20
Iron	800	809		ug/L		101	85 - 115	1	20
Lead	80.0	81.9		ug/L		102	85 - 115	1	20
Selenium	80.0	79.2		ug/L		99	85 - 115	2	20
Zinc	80.0	78.2		ug/L		98	85 - 115	1	20

**Lab Sample ID: 570-133102-3 MS**  
**Matrix: Water**  
**Analysis Batch: 316490**

**Client Sample ID: Outfall001\_20230330\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND	BU	80.0	75.3	BU	ug/L		94	80 - 120
Copper	1.1	J,DX BU	80.0	75.4	BU	ug/L		93	80 - 120
Iron	69	BU MB	800	813	BU	ug/L		93	80 - 120
Lead	0.15	J,DX BU	80.0	77.0	BU	ug/L		96	80 - 120
Selenium	0.70	J,DX BU	80.0	78.6	BU	ug/L		97	80 - 120
Zinc	2.9	J,DX BU	80.0	77.8	BU	ug/L		94	80 - 120

**Lab Sample ID: 570-133102-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 316490**

**Client Sample ID: Outfall001\_20230330\_Comp\_F**  
**Prep Type: Dissolved**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	ND	BU	80.0	75.5	BU	ug/L		94	80 - 120	0	20
Copper	1.1	J,DX BU	80.0	76.4	BU	ug/L		94	80 - 120	1	20
Iron	69	BU MB	800	835	BU	ug/L		96	80 - 120	3	20
Lead	0.15	J,DX BU	80.0	76.9	BU	ug/L		96	80 - 120	0	20
Selenium	0.70	J,DX BU	80.0	75.5	BU	ug/L		93	80 - 120	4	20
Zinc	2.9	J,DX BU	80.0	75.9	BU	ug/L		91	80 - 120	3	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 570-316587/1-A**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 316587**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/31/23 15:48	04/03/23 18:02	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 245.1 - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 570-316587/2-A**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 316587**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.18		ug/L		102	85 - 115

**Lab Sample ID: LCSD 570-316587/3-A**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 316587**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.43		ug/L		105	85 - 115	3	10

**Lab Sample ID: 570-133102-1 MS**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 316587**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		8.00	8.06		ug/L		101	85 - 115

**Lab Sample ID: 570-133102-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 316587**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		8.00	8.16		ug/L		102	85 - 115	1	10

**Lab Sample ID: MB 570-316343/1-B**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Method Blank**  
**Prep Type: Dissolved**  
**Prep Batch: 316344**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.12	ug/L		03/30/23 23:34	04/03/23 16:29	1

**Lab Sample ID: LCS 570-316343/2-B**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Dissolved**  
**Prep Batch: 316344**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	8.00	8.36		ug/L		104	85 - 115

**Lab Sample ID: LCSD 570-316343/3-B**  
**Matrix: Water**  
**Analysis Batch: 317032**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Dissolved**  
**Prep Batch: 316344**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	8.00	8.27		ug/L		103	85 - 115	1	10

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 570-317753/5-A  
 Matrix: Water  
 Analysis Batch: 317754

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 317753

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.075	0.032	mg/L		04/05/23 11:55	04/05/23 13:28	1

Lab Sample ID: LCS 570-317753/6-A  
 Matrix: Water  
 Analysis Batch: 317754

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 317753

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.500	0.483		mg/L		97	90 - 110

Lab Sample ID: LCSD 570-317753/7-A  
 Matrix: Water  
 Analysis Batch: 317754

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 317753

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.500	0.486		mg/L		97	90 - 110	1	20

## Method: Kelada 01 - Cyanide, Total, Acid Dissociable and Thiocyanate

Lab Sample ID: MB 570-317039/11  
 Matrix: Water  
 Analysis Batch: 317039

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		5.0	2.5	ug/L			04/03/23 12:53	1

Lab Sample ID: LCS 570-317039/12  
 Matrix: Water  
 Analysis Batch: 317039

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	250	260		ug/L		104	90 - 110

Lab Sample ID: LCSD 570-317039/13  
 Matrix: Water  
 Analysis Batch: 317039

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cyanide, Total	250	247		ug/L		99	90 - 110	5	20

Lab Sample ID: MRL 570-317039/10  
 Matrix: Water  
 Analysis Batch: 317039

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Cyanide, Total	5.00	5.08		ug/L		102	50 - 150

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: SM 2130B - Turbidity

Lab Sample ID: LCSSRM 570-316315/1  
 Matrix: Water  
 Analysis Batch: 316315

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	1000	1000		NTU		100.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-316315/2  
 Matrix: Water  
 Analysis Batch: 316315

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	10.0	10		NTU		100.0	99.0 - 101.0

Lab Sample ID: LCSSRM 570-316315/3  
 Matrix: Water  
 Analysis Batch: 316315

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	0.0200	ND		NTU		100.0	0.0 - 200.0

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 570-316212/1  
 Matrix: Water  
 Analysis Batch: 316212

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	8.7	mg/L			03/30/23 16:46	1

Lab Sample ID: LCS 570-316212/2  
 Matrix: Water  
 Analysis Batch: 316212

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1040		mg/L		104	84 - 108

Lab Sample ID: LCSD 570-316212/3  
 Matrix: Water  
 Analysis Batch: 316212

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1030		mg/L		103	84 - 108	1	10

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 570-317779/1  
 Matrix: Water  
 Analysis Batch: 317779

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	0.83	mg/L			04/05/23 16:40	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 570-317779/2  
 Matrix: Water  
 Analysis Batch: 317779

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	100	103		mg/L		103	77 - 116

Lab Sample ID: LCSD 570-317779/3  
 Matrix: Water  
 Analysis Batch: 317779

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Suspended Solids	100	94.0		mg/L		94	77 - 116	9	10

## Method: SM 5210B - BOD, 5-Day

Lab Sample ID: LCS 570-316520/2-A  
 Matrix: Water  
 Analysis Batch: 317793

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 316520

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Biochemical Oxygen Demand	199	188		mg/L		95	84.6 - 115.4

Lab Sample ID: USB 570-317793/2  
 Matrix: Water  
 Analysis Batch: 317793

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	ND		2.0	1.0	mg/L			03/31/23 12:19	1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS)

Lab Sample ID: MB 570-316601/5-A  
 Matrix: Water  
 Analysis Batch: 316600

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 316601

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MBAS	ND		0.20	0.050	mg/L		03/31/23 15:25	03/31/23 15:50	1

Lab Sample ID: LCS 570-316601/6-A  
 Matrix: Water  
 Analysis Batch: 316600

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 316601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
MBAS	0.500	0.518		mg/L		104	83 - 122

Lab Sample ID: LCSD 570-316601/7-A  
 Matrix: Water  
 Analysis Batch: 316600

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 316601

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
MBAS	0.500	0.531		mg/L		106	83 - 122	3	10

Eurofins Calscience



# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Method: SM 5540C - Methylene Blue Active Substances (MBAS) (Continued)

**Lab Sample ID: 570-133102-1 MS**  
**Matrix: Water**  
**Analysis Batch: 316600**

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 316601**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	Limits
MBAS	ND		0.500	0.474		mg/L		95		64 - 141

**Lab Sample ID: 570-133102-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 316600**

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Prep Type: Total/NA**  
**Prep Batch: 316601**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec	Limits	RPD	Limit
MBAS	ND		0.500	0.455		mg/L		91		64 - 141	4	10



# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## GC/MS Semi VOA

### Prep Batch: 317265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	625	
MB 570-317265/1-A	Method Blank	Total/NA	Water	625	
LCS 570-317265/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 570-317265/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 319424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	625.1 SIM	317265
MB 570-317265/1-A	Method Blank	Total/NA	Water	625.1 SIM	317265
LCS 570-317265/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	317265
LCSD 570-317265/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	317265

## GC Semi VOA

### Prep Batch: 318053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	608	
MB 570-318053/1-A	Method Blank	Total/NA	Water	608	
LCS 570-318053/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 570-318053/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 318881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	608.3	318053
MB 570-318053/1-A	Method Blank	Total/NA	Water	608.3	318053
LCS 570-318053/2-A	Lab Control Sample	Total/NA	Water	608.3	318053
LCSD 570-318053/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	318053

## HPLC/IC

### Analysis Batch: 315979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	300.0	
MB 570-315979/5	Method Blank	Total/NA	Water	300.0	
LCS 570-315979/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-315979/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 315980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	300.0	
MB 570-315980/5	Method Blank	Total/NA	Water	300.0	
LCS 570-315980/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 570-315980/7	Lab Control Sample Dup	Total/NA	Water	300.0	

### Analysis Batch: 316506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	314.0	
MB 570-316506/7	Method Blank	Total/NA	Water	314.0	
LCS 570-316506/8	Lab Control Sample	Total/NA	Water	314.0	
LCSD 570-316506/9	Lab Control Sample Dup	Total/NA	Water	314.0	

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## HPLC/IC

### Analysis Batch: 319255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	NO2NO3 Calc	

## Metals

### Filtration Batch: 316343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-3	Outfall001_20230330_Comp_F	Dissolved	Water	Filtration	
MB 570-316343/1-B	Method Blank	Dissolved	Water	Filtration	
LCS 570-316343/2-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-316343/3-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

### Prep Batch: 316344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-3	Outfall001_20230330_Comp_F	Dissolved	Water	245.1	316343
MB 570-316343/1-B	Method Blank	Dissolved	Water	245.1	316343
LCS 570-316343/2-B	Lab Control Sample	Dissolved	Water	245.1	316343
LCSD 570-316343/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	316343

### Prep Batch: 316386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total Recoverable	Water	200.8	
MB 570-316386/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-316386/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-316386/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-133102-1 MS	Outfall001_20230330_Comp	Total Recoverable	Water	200.8	
570-133102-1 MSD	Outfall001_20230330_Comp	Total Recoverable	Water	200.8	

### Filtration Batch: 316389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-3	Outfall001_20230330_Comp_F	Dissolved	Water	Filtration	
MB 570-316389/1-A	Method Blank	Dissolved	Water	Filtration	
LCS 570-316389/2-A	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 570-316389/3-A	Lab Control Sample Dup	Dissolved	Water	Filtration	
570-133102-3 MS	Outfall001_20230330_Comp_F	Dissolved	Water	Filtration	
570-133102-3 MSD	Outfall001_20230330_Comp_F	Dissolved	Water	Filtration	

### Analysis Batch: 316490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-3	Outfall001_20230330_Comp_F	Dissolved	Water	200.8	316389
MB 570-316389/1-A	Method Blank	Dissolved	Water	200.8	316389
LCS 570-316389/2-A	Lab Control Sample	Dissolved	Water	200.8	316389
LCSD 570-316389/3-A	Lab Control Sample Dup	Dissolved	Water	200.8	316389
570-133102-3 MS	Outfall001_20230330_Comp_F	Dissolved	Water	200.8	316389
570-133102-3 MSD	Outfall001_20230330_Comp_F	Dissolved	Water	200.8	316389

### Analysis Batch: 316551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total Recoverable	Water	200.8	316386
MB 570-316386/1-A	Method Blank	Total Recoverable	Water	200.8	316386
LCS 570-316386/2-A	Lab Control Sample	Total Recoverable	Water	200.8	316386

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## Metals (Continued)

### Analysis Batch: 316551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 570-316386/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	316386
570-133102-1 MS	Outfall001_20230330_Comp	Total Recoverable	Water	200.8	316386
570-133102-1 MSD	Outfall001_20230330_Comp	Total Recoverable	Water	200.8	316386

### Prep Batch: 316587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	245.1	
MB 570-316587/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-316587/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 570-316587/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
570-133102-1 MS	Outfall001_20230330_Comp	Total/NA	Water	245.1	
570-133102-1 MSD	Outfall001_20230330_Comp	Total/NA	Water	245.1	

### Analysis Batch: 317032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	245.1	316587
570-133102-3	Outfall001_20230330_Comp_F	Dissolved	Water	245.1	316344
MB 570-316343/1-B	Method Blank	Dissolved	Water	245.1	316344
MB 570-316587/1-A	Method Blank	Total/NA	Water	245.1	316587
LCS 570-316343/2-B	Lab Control Sample	Dissolved	Water	245.1	316344
LCS 570-316587/2-A	Lab Control Sample	Total/NA	Water	245.1	316587
LCSD 570-316343/3-B	Lab Control Sample Dup	Dissolved	Water	245.1	316344
LCSD 570-316587/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	316587
570-133102-1 MS	Outfall001_20230330_Comp	Total/NA	Water	245.1	316587
570-133102-1 MSD	Outfall001_20230330_Comp	Total/NA	Water	245.1	316587

## General Chemistry

### Analysis Batch: 316212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	SM 2540C	
MB 570-316212/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 570-316212/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 570-316212/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

### Analysis Batch: 316315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	SM 2130B	
LCSSRM 570-316315/1	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-316315/2	Lab Control Sample	Total/NA	Water	SM 2130B	
LCSSRM 570-316315/3	Lab Control Sample	Total/NA	Water	SM 2130B	

### Prep Batch: 316520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	BOD Prep	
LCS 570-316520/2-A	Lab Control Sample	Total/NA	Water	BOD Prep	

### Analysis Batch: 316600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	SM 5540C	316601

Eurofins Calscience

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

## General Chemistry (Continued)

### Analysis Batch: 316600 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-316601/5-A	Method Blank	Total/NA	Water	SM 5540C	316601
LCS 570-316601/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	316601
LCSD 570-316601/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	316601
570-133102-1 MS	Outfall001_20230330_Comp	Total/NA	Water	SM 5540C	316601
570-133102-1 MSD	Outfall001_20230330_Comp	Total/NA	Water	SM 5540C	316601

### Prep Batch: 316601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	SM 5540C	
MB 570-316601/5-A	Method Blank	Total/NA	Water	SM 5540C	
LCS 570-316601/6-A	Lab Control Sample	Total/NA	Water	SM 5540C	
LCSD 570-316601/7-A	Lab Control Sample Dup	Total/NA	Water	SM 5540C	
570-133102-1 MS	Outfall001_20230330_Comp	Total/NA	Water	SM 5540C	
570-133102-1 MSD	Outfall001_20230330_Comp	Total/NA	Water	SM 5540C	

### Analysis Batch: 317039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	Kelada 01	
MB 570-317039/11	Method Blank	Total/NA	Water	Kelada 01	
LCS 570-317039/12	Lab Control Sample	Total/NA	Water	Kelada 01	
LCSD 570-317039/13	Lab Control Sample Dup	Total/NA	Water	Kelada 01	
MRL 570-317039/10	Lab Control Sample	Total/NA	Water	Kelada 01	

### Prep Batch: 317753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	Distill/Ammonia	
MB 570-317753/5-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 570-317753/6-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	
LCSD 570-317753/7-A	Lab Control Sample Dup	Total/NA	Water	Distill/Ammonia	

### Analysis Batch: 317754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	350.1	317753
MB 570-317753/5-A	Method Blank	Total/NA	Water	350.1	317753
LCS 570-317753/6-A	Lab Control Sample	Total/NA	Water	350.1	317753
LCSD 570-317753/7-A	Lab Control Sample Dup	Total/NA	Water	350.1	317753

### Analysis Batch: 317779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	SM 2540D	
MB 570-317779/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 570-317779/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 570-317779/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

### Analysis Batch: 317793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	SM 5210B	316520
USB 570-317793/2	Method Blank	Total/NA	Water	SM 5210B	
LCS 570-316520/2-A	Lab Control Sample	Total/NA	Water	SM 5210B	316520

Eurofins Calscience

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			1044.1 mL	2 mL	317265	04/05/23 04:55	H1SH	EET CAL 4
Total/NA	Analysis	625.1 SIM		1	1 mL	1 mL	319424	04/11/23 21:00	ULLI	EET CAL 4
		Instrument ID: GCMSJJJ								
Total/NA	Prep	608			1500 mL	1 mL	318053	04/06/23 12:20	H1SH	EET CAL 4
Total/NA	Analysis	608.3		1	1 mL	1 mL	318881	04/11/23 04:00	N5Y3	EET CAL 4
		Instrument ID: GC54A								
Total/NA	Analysis	300.0		1	4 mL	4 mL	315979	03/31/23 00:08	UIP1	EET CAL 4
		Instrument ID: IC10								
Total/NA	Analysis	300.0		1	4 mL	4 mL	315980	03/31/23 00:08	UIP1	EET CAL 4
		Instrument ID: IC10								
Total/NA	Analysis	314.0		1	4 mL	4 mL	316506	04/01/23 00:26	PS	EET CAL 4
		Instrument ID: IC8								
Total/NA	Analysis	NO2NO3 Calc		1			319255	04/11/23 12:18	WH6J	EET CAL 4
		Instrument ID: NOEQUIP								
Total Recoverable	Prep	200.8			50 mL	50 mL	316386	03/31/23 06:19	JP8N	EET CAL 4
Total Recoverable	Analysis	200.8		1			316551	03/31/23 11:32	Y2WS	EET CAL 4
		Instrument ID: ICPMS09								
Total/NA	Prep	245.1			25 mL	50 mL	316587	03/31/23 15:48	CS5Z	EET CAL 4
Total/NA	Analysis	245.1		1			317032	04/03/23 18:33	C0YH	EET CAL 4
		Instrument ID: HG8								
Total/NA	Prep	Distill/Ammonia			5 mL	5 mL	317753	04/05/23 11:55	UXCH	EET CAL 4
Total/NA	Analysis	350.1		1	5 mL	5 mL	317754	04/05/23 14:01	UXCH	EET CAL 4
		Instrument ID: ACA2								
Total/NA	Analysis	Kelada 01		1	8 mL	8 mL	317039	04/03/23 13:50	GG0B	EET CAL 4
		Instrument ID: LACHAT01								
Total/NA	Analysis	SM 2130B		1			316315	03/30/23 20:48	TXA8	EET CAL 4
		Instrument ID: TUR4								
Total/NA	Analysis	SM 2540C		1	100 mL	1000 mL	316212	03/30/23 21:09	ZL7L	EET CAL 4
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	317779	04/05/23 16:40	UWCT	EET CAL 4
		Instrument ID: BAL71								
Total/NA	Prep	BOD Prep					316520	03/31/23 12:23	U7UR	EET CAL 4
Total/NA	Analysis	SM 5210B		1	300 mL	300 mL	317793	03/31/23 13:31	U7UR	EET CAL 4
		Instrument ID: BOD3								
Total/NA	Prep	SM 5540C			100 mL	100 mL	316601	03/31/23 15:25	TXA8	EET CAL 4
Total/NA	Analysis	SM 5540C		1	100 mL	100 mL	316600	03/31/23 15:57	TXA8	EET CAL 4
		Instrument ID: UV8								

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

**Client Sample ID: Outfall001\_20230330\_Comp\_F**

**Lab Sample ID: 570-133102-3**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			50 mL	50 mL	316389	03/31/23 06:32	JP8N	EET CAL 4
Dissolved	Analysis	200.8		1			316490	03/31/23 09:58	Y2WS	EET CAL 4
Instrument ID: ICPMS09										
Dissolved	Filtration	Filtration			25 mL	25 mL	316343	03/30/23 23:00	CS5Z	EET CAL 4
Dissolved	Prep	245.1			25 mL	50 mL	316344	03/30/23 23:34	CS5Z	EET CAL 4
Dissolved	Analysis	245.1		1			317032	04/03/23 16:35	C0YH	EET CAL 4
Instrument ID: HG8										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Method Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-1

Method	Method Description	Protocol	Laboratory
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
608.3	Organochlorine Pesticides in Water	EPA	EET CAL 4
300.0	Anions, Ion Chromatography	EPA	EET CAL 4
314.0	Perchlorate (IC)	EPA	EET CAL 4
NO2NO3 Calc	Nitrogen, Nitrate-Nitrite	EPA	EET CAL 4
200.8	Metals (ICP/MS)	EPA	EET CAL 4
245.1	Mercury (CVAA)	EPA	EET CAL 4
350.1	Nitrogen, Ammonia	EPA	EET CAL 4
Kelada 01	Cyanide, Total, Acid Dissociable and Thiocyanate	EPA	EET CAL 4
SM 2130B	Turbidity	SM	EET CAL 4
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET CAL 4
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CAL 4
SM 5210B	BOD, 5-Day	SM	EET CAL 4
SM 5540C	Methylene Blue Active Substances (MBAS)	SM	EET CAL 4
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4
245.1	Preparation, Mercury	EPA	EET CAL 4
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CAL 4
625	Liquid-Liquid Extraction	EPA	EET CAL 4
BOD Prep	Preparation, BOD	SM	EET CAL 4
Distill/Ammonia	Distillation, Ammonia	None	EET CAL 4
Filtration	Sample Filtration	None	EET CAL 4
SM 5540C	Preparation, Methylene Blue Active Substances (MBAS)	SM	EET CAL 4

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133102-1	Outfall001_20230330_Comp	Water	03/30/23 11:15	03/30/23 17:10
570-133102-3	Outfall001_20230330_Comp_F	Water	03/30/23 11:15	03/30/23 17:10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

CHAIN OF CUSTODY FORM



570-133102 Chain of Custody

133102

Client Name/Address:									ANALYSIS REQUIRED										Comments					
Eurofins Calscience Irvine Contact: Virendra Patel									R R R R R R R R R R R R R R R R C															
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108									Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp															
2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187									Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)															
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																								
Sampler: michelle dallalah																								
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2) (SM2540D)	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8); Fe				
Outfall 001	Outfall001_20230330_Comp	3/30/2023 /115	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X											X	X	Outfall 001 analyze for Fe.		
			WM	1 L Glass Amber	2	None	110	No		X														
			WM	1L Poly	1	None	115	No			X													
			WM	500 mL Poly	2	None	120	No				X												
			WM	500 mL Poly	2	None	130	No						X										48 hours Holding Time NO <sub>3</sub> & NO <sub>2</sub>
			WM	500 mL Poly	1	None	150	No							X									48 hour holding time for turbidity
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No									X							
			WM	1 L Glass Amber	2	None	170	No										X						
			WM	1 L Glass Amber	2	None	180	No												X				
			WM	1L Poly	1	None	185	No									X							
2	Outfall001_20230330_Comp_Extra	3/30/2023 /115	WM	1 L Glass Amber	2	None	110	No		H												Hold		
			WM	1 L Glass Amber	2	None	170	No										H					Hold	
			WM	1 L Glass Amber	2	None	180	No											H					Hold

Legend: C=Conditional, R=Routine

Relinquished By: <i>Mark Dominick</i>	Date/Time: 3/30/2023 1210	Company: MIA	Received By: <i>Michelle Dallalah</i>	Date/Time: 3/30/23 1210 EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> X 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>Michelle Dallalah</i>	Date/Time: 3/30/23 1710	Company: EC	Received By: <i>Michelle Dallalah</i>	Date/Time: 3/30/23 1710	Sample Integrity: (Check) Intact: _____ On Ice: _____
Relinquished By: _____	Date/Time: _____	Company: _____	Received By: _____	Date/Time: _____	Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/> X

2.3/2.3, 1.9/1.9 SC11

CHAIN OF CUSTODY FORM

Client Name/Address:		Project:							ANALYSIS REQUIRED											Comments								
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp																										
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell)																										
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.		Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)																										
Sampler: michelle dallalah																												
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Dissolved Metals: (E200.8): Zn (E200.8): Cu, Pb, Cd, Se	Cyanide (SM4500-CN-E / E335.2)	Gross Alpha(E900.0), Gross Beta(E900.0), Tritium (H-3) (E906.0), Sr-90 (E905.0), Total Combined Radium 226 (E903.0 or E903.1) & Radium 228 (E904.0), Uranium (E908.0), K-40, Cs-137 (E901.0 or E901.1)	Total Dissolved Metals: Mercury (E245.1)	Total Dissolved Metals: (E200.8): Fe															
3 Outfall 001	Outfall001_20230330_Comp_F	3/30/2023 1115	WM	1L Poly	1	None	200	Yes	X																		Filter and preserve w/in 24hrs of receipt at lab. Outfall 001 analyze for Fe.	
			WM	borosilicate vials	2	None	320	No					X															Sample receiving DO NOT OPEN BAG. Bag to be opened in Mercury Prep using clean procedures.
1	Outfall001_20230330_Comp	3/30/2023 1115	WM	500 mL Poly	1	NaOH	220	No		X																		
			WM	2.5 Gel Cube	1	None	225	No																				
<b>Legend: A=Annual, C=Conditional, EP=Expert Panel, R=Routine, Q=Quarterly, QRSW=Quarterly Receiving Water, S=Semi-Annual</b>																												
Relinquished By: <i>W.D. Dominick</i>			Date/Time: 3-30-2023/1210			Company: M:A			Received By: <i>[Signature]</i>			Date/Time: 3/30/23 1210			EC			Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <u>X</u> 48 Hour: _____ 5 Day: _____ Normal: _____										
Relinquished By: <i>[Signature]</i>			Date/Time: 3/30/23 1710			Company: EC			Received By: <i>[Signature]</i>			Date/Time: 3/30/23 1710						Sample Integrity: (Check) Intact: _____ On Ice: _____ Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <u>X</u>										







## Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133102-1

**Login Number: 133102**

**List Number: 1**

**Creator: Patel, Jayesh**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 5/2/2023 2:53:43 PM

## JOB DESCRIPTION

Boeing NPDES SSFL - Routine Outfall - 001 Comp

## JOB NUMBER

570-133102-2



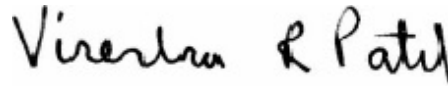
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
5/2/2023 2:53:43 PM

---

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	16
Lab Chronicle . . . . .	17
Certification Summary . . . . .	18
Method Summary . . . . .	19
Sample Summary . . . . .	20
Chain of Custody . . . . .	21
Receipt Checklists . . . . .	26

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-2

## Qualifiers

### Dioxin

Qualifier	Qualifier Description
BA	Relative percent difference out of control
J,DX	Estimated value; value < lowest standard (MQL), but >than MDL
LR	LCS/LCSD recovery below method control limits
MB	Analyte present in the method blank
q	The reported result is the estimated maximum possible concentration of this analyte, quantitated using the theoretical ion ratio. The measured ion ratio does not meet qualitative identification criteria and indicates a possible interference.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-133102-2

## Job ID: 570-133102-2

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-133102-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/30/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 2.3° C.

#### Dioxin

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall001\_20230330\_Comp (570-133102-1), (CCV 320-667684/1), (LCS 320-666843/2-A), (LCSD 320-666843/3-A) and (MB 320-666843/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall001\_20230330\_Comp (570-133102-1), (CCV 320-670442/7) and (LCS 320-669114/2-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: (CCV 320-670677/1) and (MB 320-669114/1-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: EPA Method 1613B specifies a +/- 15 second retention time difference between the recovery standard in the initial calibration (ICAL) and the continuing calibration verification (CCV). The 13C-1,2,3,4-TCDD and 13C-1,2,3,7,8,9-HxCDD associated with the following samples run on instrument DFS 1 exceeded this criteria: Outfall001\_20230330\_Comp (570-133102-1), (LCS 320-669114/2-A) and (LCSD 320-669114/3-A). This retention time shift is due to normal and reasonable column maintenance and does not affect the instrument chromatography resolution, sensitivity, or identification of target analytes. System retention times have been updated for proper analyte identification.

Method 1613B: The laboratory control sample duplicate (LCSD) for preparation batch 320-669114 and analytical batch 320-670442 recovered outside control limits for several target analytes while the LCS was within limits for all analytes. The data from this analysis is from a re-extraction due to contamination in the Method Blank in the original extraction so there was insufficient sample to perform another re-extraction. The client was notified of the failing LCSD recovery and approved reporting of samples with narration.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Dioxin Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

Analyte	Result	Qualifier	RL	EDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3,7,8-PeCDF	0.0000011	J,DX q LR	0.000048	0.0000000	ug/L	1		1613B	Total/NA
				19					
1,2,3,4,6,7,8-HpCDD	0.0000066	J,DX MB LF BA	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				2					
1,2,3,4,6,7,8-HpCDF	0.0000043	J,DX q MB LR	0.000048	0.0000000	ug/L	1		1613B	Total/NA
				70					
OCDD	0.000037	J,DX MB LF BA	0.000096	0.0000003	ug/L	1		1613B	Total/NA
				6					
OCDF	0.0000057	J,DX q MB LR BA	0.000096	0.0000003	ug/L	1		1613B	Total/NA
				3					
Total PeCDF	0.0000011	J,DX q	0.000048	0.0000000	ug/L	1		1613B	Total/NA
				19					
Total HpCDD	0.000012	J,DX MB	0.000048	0.0000001	ug/L	1		1613B	Total/NA
				2					
Total HpCDF	0.0000083	J,DX q MB	0.000048	0.0000000	ug/L	1		1613B	Total/NA
				70					

This Detection Summary does not include radiochemical test results.

Eurofins Calscience



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS)

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Analyte	Result	Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.0000096	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				38					
2,3,7,8-TCDF	ND	LR	0.0000096	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				12					
1,2,3,7,8-PeCDD	ND	LR	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				16					
<b>1,2,3,7,8-PeCDF</b>	<b>0.0000011</b>	<b>J,DX q LR</b>	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				19					
2,3,4,7,8-PeCDF	ND	LR	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				22					
1,2,3,4,7,8-HxCDD	ND	LR BA	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				22					
1,2,3,6,7,8-HxCDD	ND	LR BA	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				22					
1,2,3,7,8,9-HxCDD	ND	LR BA	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				20					
1,2,3,4,7,8-HxCDF	ND	LR BA	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				42					
1,2,3,6,7,8-HxCDF	ND	LR BA	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				38					
1,2,3,7,8,9-HxCDF	ND	LR	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				46					
2,3,4,6,7,8-HxCDF	ND	LR	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				38					
<b>1,2,3,4,6,7,8-HpCDD</b>	<b>0.0000066</b>	<b>J,DX MB LR BA</b>	0.000048	0.0000001	ug/L		04/21/23 06:35	04/27/23 05:37	1
				2					
<b>1,2,3,4,6,7,8-HpCDF</b>	<b>0.0000043</b>	<b>J,DX q MB LR</b>	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				70					
1,2,3,4,7,8,9-HpCDF	ND	LR BA	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				74					
<b>OCDD</b>	<b>0.0000037</b>	<b>J,DX MB LR BA</b>	0.000096	0.0000003	ug/L		04/21/23 06:35	04/27/23 05:37	1
				6					
<b>OCDF</b>	<b>0.0000057</b>	<b>J,DX q MB LR BA</b>	0.000096	0.0000003	ug/L		04/21/23 06:35	04/27/23 05:37	1
				3					
Total TCDD	ND		0.0000096	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				38					
Total TCDF	ND		0.0000096	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				12					
Total PeCDD	ND		0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				16					
<b>Total PeCDF</b>	<b>0.0000011</b>	<b>J,DX q</b>	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				19					
Total HxCDD	ND		0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				20					
Total HxCDF	ND		0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				38					
<b>Total HpCDD</b>	<b>0.0000012</b>	<b>J,DX MB</b>	0.000048	0.0000001	ug/L		04/21/23 06:35	04/27/23 05:37	1
				2					
<b>Total HpCDF</b>	<b>0.0000083</b>	<b>J,DX q MB</b>	0.000048	0.0000000	ug/L		04/21/23 06:35	04/27/23 05:37	1
				70					
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>	
13C-2,3,7,8-TCDD	76		25 - 164			04/21/23 06:35	04/27/23 05:37	1	
13C-2,3,7,8-TCDF	89		24 - 169			04/21/23 06:35	04/27/23 05:37	1	
13C-1,2,3,7,8-PeCDD	79		25 - 181			04/21/23 06:35	04/27/23 05:37	1	

Eurolins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.

Job ID: 570-133102-2

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001

Comp

## Method: EPA 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C-1,2,3,7,8-PeCDF	79		24 - 185	04/21/23 06:35	04/27/23 05:37	1
13C-2,3,4,7,8-PeCDF	77		21 - 178	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,4,7,8-HxCDD	85		32 - 141	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,6,7,8-HxCDD	86		28 - 130	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,4,7,8-HxCDF	93		26 - 152	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,6,7,8-HxCDF	104		26 - 123	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,7,8,9-HxCDF	95		29 - 147	04/21/23 06:35	04/27/23 05:37	1
13C-2,3,4,6,7,8-HxCDF	106		28 - 136	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,4,6,7,8-HpCDD	79		23 - 140	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,4,6,7,8-HpCDF	75		28 - 143	04/21/23 06:35	04/27/23 05:37	1
13C-1,2,3,4,7,8,9-HpCDF	86		26 - 138	04/21/23 06:35	04/27/23 05:37	1
13C-OCDD	84		17 - 157	04/21/23 06:35	04/27/23 05:37	1
13C-OCDF	96		17 - 157	04/21/23 06:35	04/27/23 05:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
37Cl4-2,3,7,8-TCDD	97		35 - 197	04/21/23 06:35	04/27/23 05:37	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (35-197)
570-133102-1	Outfall001_20230330_Comp	97
MB 320-669114/1-A	Method Blank	87

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	37TCDD (31-191)
LCS 320-669114/2-A	Lab Control Sample	85
LCSD 320-669114/3-A	Lab Control Sample Dup	78

#### Surrogate Legend

37TCDD = 37Cl4-2,3,7,8-TCDD



# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (25-164)	TCDF (24-169)	PeCDD (25-181)	PeCDF (24-185)	PeCF (21-178)	HxCDD (32-141)	HxDD (28-130)	HxCDF (26-152)
570-133102-1	Outfall001_20230330_Comp	76	89	79	79	77	85	86	93
MB 320-669114/1-A	Method Blank	63	54	50	55	52	54	54	57

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (26-123)	HxCF (29-147)	13CHxCF (28-136)	HpCDD (23-140)	HpCDF (28-143)	HpCDF2 (26-138)	OCDD (17-157)	OCDF (17-157)
570-133102-1	Outfall001_20230330_Comp	104	95	106	79	75	86	84	96
MB 320-669114/1-A	Method Blank	56	56	55	61	52	53	68	59

#### Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD  
 TCDF = 13C-2,3,7,8-TCDF  
 PeCDD = 13C-1,2,3,7,8-PeCDD  
 PeCDF = 13C-1,2,3,7,8-PeCDF  
 PeCF = 13C-2,3,4,7,8-PeCDF  
 HxCDD = 13C-1,2,3,4,7,8-HxCDD  
 HxDD = 13C-1,2,3,6,7,8-HxCDD  
 HxCDF = 13C-1,2,3,4,7,8-HxCDF  
 HxDF = 13C-1,2,3,6,7,8-HxCDF  
 HxCF = 13C-1,2,3,7,8,9-HxCDF  
 13CHxCF = 13C-2,3,4,6,7,8-HxCDF  
 HpCDD = 13C-1,2,3,4,6,7,8-HpCDD  
 HpCDF = 13C-1,2,3,4,6,7,8-HpCDF  
 HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF  
 OCDD = 13C-OCDD  
 OCDF = 13C-OCDF

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCDD (20-175)	TCDF (22-152)	PeCDD (21-227)	PeCDF (21-192)	PeCF (13-328)	HxCDD (21-193)	HxDD (25-163)	HxCDF (19-202)
LCS 320-669114/2-A	Lab Control Sample	71	74	81	77	78	67	66	70
LCSD 320-669114/3-A	Lab Control Sample Dup	50	65	47	47	56	45	50	41

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HxDF (21-159)	HxCF (17-205)	13CHxCF (22-176)	HpCDD (26-166)	HpCDF (21-158)	HpCDF2 (20-186)	OCDD (13-199)	OCDF (13-199)
LCS 320-669114/2-A	Lab Control Sample	68	78	77	84	66	77	85	83
LCSD 320-669114/3-A	Lab Control Sample Dup	52	50	53	51	41	47	49	48

#### Surrogate Legend

TCDD = 13C-2,3,7,8-TCDD  
 TCDF = 13C-2,3,7,8-TCDF  
 PeCDD = 13C-1,2,3,7,8-PeCDD  
 PeCDF = 13C-1,2,3,7,8-PeCDF  
 PeCF = 13C-2,3,4,7,8-PeCDF  
 HxCDD = 13C-1,2,3,4,7,8-HxCDD  
 HxDD = 13C-1,2,3,6,7,8-HxCDD  
 HxCDF = 13C-1,2,3,4,7,8-HxCDF

# Isotope Dilution Summary

Client: Haley & Aldrich, Inc.

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001

## Comp

HxDF = 13C-1,2,3,6,7,8-HxCDF

HxCF = 13C-1,2,3,7,8,9-HxCDF

13CHxCF = 13C-2,3,4,6,7,8-HxCDF

HpCDD = 13C-1,2,3,4,6,7,8-HpCDD

HpCDF = 13C-1,2,3,4,6,7,8-HpCDF

HpCDF2 = 13C-1,2,3,4,7,8,9-HpCDF

OCDD = 13C-OCDD

OCDF = 13C-OCDF

Job ID: 570-133102-2

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS)

**Lab Sample ID: MB 320-669114/1-A**  
**Matrix: Water**  
**Analysis Batch: 670677**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669114**

Analyte	MB Result	MB Qualifier	RL	EDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	ND		0.000010	0.0000000 28	ug/L		04/21/23 06:35	04/27/23 16:27	1
2,3,7,8-TCDF	ND		0.000010	0.0000000 093	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,7,8-PeCDD	ND		0.000050	0.0000000 35	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,7,8-PeCDF	ND		0.000050	0.00000001 1	ug/L		04/21/23 06:35	04/27/23 16:27	1
2,3,4,7,8-PeCDF	ND		0.000050	0.0000000 13	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,4,7,8-HxCDD	ND		0.000050	0.0000000 12	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,6,7,8-HxCDD	ND		0.000050	0.0000000 12	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,7,8,9-HxCDD	ND		0.000050	0.00000001 1	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,4,7,8-HxCDF	ND		0.000050	0.0000000 073	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,6,7,8-HxCDF	ND		0.000050	0.0000000 078	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,7,8,9-HxCDF	ND		0.000050	0.0000000 084	ug/L		04/21/23 06:35	04/27/23 16:27	1
2,3,4,6,7,8-HxCDF	ND		0.000050	0.0000000 077	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,4,6,7,8-HpCDD	0.00000230	J,DX	0.000050	0.0000000 19	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,4,6,7,8-HpCDF	0.00000127	J,DX q	0.000050	0.0000000 14	ug/L		04/21/23 06:35	04/27/23 16:27	1
1,2,3,4,7,8,9-HpCDF	0.00000127	J,DX	0.000050	0.0000000 16	ug/L		04/21/23 06:35	04/27/23 16:27	1
OCDD	0.00000319	J,DX q	0.00010	0.0000000 13	ug/L		04/21/23 06:35	04/27/23 16:27	1
OCDF	0.00000137	J,DX q	0.00010	0.0000000 30	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total TCDD	ND		0.000010	0.0000000 28	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total TCDF	ND		0.000010	0.0000000 093	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total PeCDD	ND		0.000050	0.0000000 35	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total PeCDF	ND		0.000050	0.00000001 1	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total HxCDD	ND		0.000050	0.00000001 1	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total HxCDF	ND		0.000050	0.0000000 073	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total HpCDD	0.00000350	J,DX q	0.000050	0.0000000 19	ug/L		04/21/23 06:35	04/27/23 16:27	1
Total HpCDF	0.00000255	J,DX q	0.000050	0.0000000 14	ug/L		04/21/23 06:35	04/27/23 16:27	1
	<b>MB</b>	<b>MB</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C-2,3,7,8-TCDD	63		25 - 164				04/21/23 06:35	04/27/23 16:27	1
13C-2,3,7,8-TCDF	54		24 - 169				04/21/23 06:35	04/27/23 16:27	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: MB 320-669114/1-A

Matrix: Water

Analysis Batch: 670677

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 669114

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C-1,2,3,7,8-PeCDD	50		25 - 181	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,7,8-PeCDF	55		24 - 185	04/21/23 06:35	04/27/23 16:27	1
13C-2,3,4,7,8-PeCDF	52		21 - 178	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,4,7,8-HxCDD	54		32 - 141	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,6,7,8-HxCDD	54		28 - 130	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,4,7,8-HxCDF	57		26 - 152	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,6,7,8-HxCDF	56		26 - 123	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,7,8,9-HxCDF	56		29 - 147	04/21/23 06:35	04/27/23 16:27	1
13C-2,3,4,6,7,8-HxCDF	55		28 - 136	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,4,6,7,8-HpCDD	61		23 - 140	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,4,6,7,8-HpCDF	52		28 - 143	04/21/23 06:35	04/27/23 16:27	1
13C-1,2,3,4,7,8,9-HpCDF	53		26 - 138	04/21/23 06:35	04/27/23 16:27	1
13C-OCDD	68		17 - 157	04/21/23 06:35	04/27/23 16:27	1
13C-OCDF	59		17 - 157	04/21/23 06:35	04/27/23 16:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
37Cl4-2,3,7,8-TCDD	87		35 - 197	04/21/23 06:35	04/27/23 16:27	1

Lab Sample ID: LCS 320-669114/2-A

Matrix: Water

Analysis Batch: 670442

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 669114

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2,3,7,8-TCDF	0.000200	0.000198		ug/L		99	75 - 158
1,2,3,7,8-PeCDD	0.00100	0.000855		ug/L		85	70 - 142
1,2,3,7,8-PeCDF	0.00100	0.000846		ug/L		85	80 - 134
2,3,4,7,8-PeCDF	0.00100	0.000851		ug/L		85	68 - 160
1,2,3,4,7,8-HxCDD	0.00100	0.000863		ug/L		86	70 - 164
1,2,3,6,7,8-HxCDD	0.00100	0.000925		ug/L		93	76 - 134
1,2,3,7,8,9-HxCDD	0.00100	0.000877		ug/L		88	64 - 162
1,2,3,4,7,8-HxCDF	0.00100	0.000901		ug/L		90	72 - 134
1,2,3,6,7,8-HxCDF	0.00100	0.000909		ug/L		91	84 - 130
1,2,3,7,8,9-HxCDF	0.00100	0.000863		ug/L		86	78 - 130
2,3,4,6,7,8-HxCDF	0.00100	0.000870		ug/L		87	70 - 156
1,2,3,4,6,7,8-HpCDD	0.00100	0.000755		ug/L		76	70 - 140
1,2,3,4,6,7,8-HpCDF	0.00100	0.000845		ug/L		85	82 - 122
1,2,3,4,7,8,9-HpCDF	0.00100	0.000798		ug/L		80	78 - 138
OCDD	0.00200	0.00167		ug/L		83	78 - 144
OCDF	0.00200	0.00165		ug/L		82	63 - 170

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	71		20 - 175
13C-2,3,7,8-TCDF	74		22 - 152
13C-1,2,3,7,8-PeCDD	81		21 - 227
13C-1,2,3,7,8-PeCDF	77		21 - 192
13C-2,3,4,7,8-PeCDF	78		13 - 328

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

**Lab Sample ID: LCS 320-669114/2-A**  
**Matrix: Water**  
**Analysis Batch: 670442**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669114**

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C-1,2,3,4,7,8-HxCDD	67		21 - 193
13C-1,2,3,6,7,8-HxCDD	66		25 - 163
13C-1,2,3,4,7,8-HxCDF	70		19 - 202
13C-1,2,3,6,7,8-HxCDF	68		21 - 159
13C-1,2,3,7,8,9-HxCDF	78		17 - 205
13C-2,3,4,6,7,8-HxCDF	77		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	84		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	66		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	77		20 - 186
13C-OCDD	85		13 - 199
13C-OCDF	83		13 - 199

Surrogate	LCS		Limits
	%Recovery	Qualifier	
37Cl4-2,3,7,8-TCDD	85		31 - 191

**Lab Sample ID: LCSD 320-669114/3-A**  
**Matrix: Water**  
**Analysis Batch: 670442**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669114**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
2,3,7,8-TCDD	0.000200	0.000133	q	ug/L		67	67 - 158	35	50	
2,3,7,8-TCDF	0.000200	0.000145	LR	ug/L		73	75 - 158	30	50	
1,2,3,7,8-PeCDD	0.00100	0.000655	LR	ug/L		65	70 - 142	27	50	
1,2,3,7,8-PeCDF	0.00100	0.000628	LR	ug/L		63	80 - 134	30	50	
2,3,4,7,8-PeCDF	0.00100	0.000630	LR	ug/L		63	68 - 160	30	50	
1,2,3,4,7,8-HxCDD	0.00100	0.000447	LR BA	ug/L		45	70 - 164	63	50	
1,2,3,6,7,8-HxCDD	0.00100	0.000538	LR BA	ug/L		54	76 - 134	53	50	
1,2,3,7,8,9-HxCDD	0.00100	0.000487	LR BA	ug/L		49	64 - 162	57	50	
1,2,3,4,7,8-HxCDF	0.00100	0.000521	LR BA	ug/L		52	72 - 134	54	50	
1,2,3,6,7,8-HxCDF	0.00100	0.000509	LR BA	ug/L		51	84 - 130	56	50	
1,2,3,7,8,9-HxCDF	0.00100	0.000536	LR	ug/L		54	78 - 130	47	50	
2,3,4,6,7,8-HxCDF	0.00100	0.000552	LR	ug/L		55	70 - 156	45	50	
1,2,3,4,6,7,8-HpCDD	0.00100	0.000450	LR BA	ug/L		45	70 - 140	51	50	
1,2,3,4,6,7,8-HpCDF	0.00100	0.000528	LR	ug/L		53	82 - 122	46	50	
1,2,3,4,7,8,9-HpCDF	0.00100	0.000460	LR BA	ug/L		46	78 - 138	54	50	
OCDD	0.00200	0.000980	LR BA	ug/L		49	78 - 144	52	50	
OCDF	0.00200	0.000963	LR BA	ug/L		48	63 - 170	53	50	

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C-2,3,7,8-TCDD	50		20 - 175
13C-2,3,7,8-TCDF	65		22 - 152
13C-1,2,3,7,8-PeCDD	47		21 - 227
13C-1,2,3,7,8-PeCDF	47		21 - 192
13C-2,3,4,7,8-PeCDF	56		13 - 328
13C-1,2,3,4,7,8-HxCDD	45		21 - 193
13C-1,2,3,6,7,8-HxCDD	50		25 - 163
13C-1,2,3,4,7,8-HxCDF	41		19 - 202

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Method: 1613B - Dioxins and Furans (HRGC/HRMS) (Continued)

Lab Sample ID: LCSD 320-669114/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 670442

Prep Batch: 669114

<i>Isotope Dilution</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C-1,2,3,6,7,8-HxCDF	52		21 - 159
13C-1,2,3,7,8,9-HxCDF	50		17 - 205
13C-2,3,4,6,7,8-HxCDF	53		22 - 176
13C-1,2,3,4,6,7,8-HpCDD	51		26 - 166
13C-1,2,3,4,6,7,8-HpCDF	41		21 - 158
13C-1,2,3,4,7,8,9-HpCDF	47		20 - 186
13C-OCDD	49		13 - 199
13C-OCDF	48		13 - 199

<i>Surrogate</i>	<i>LCSD LCSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
37Cl4-2,3,7,8-TCDD	78		31 - 191

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-2

## Specialty Organics

### Prep Batch: 669114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	1613B	
MB 320-669114/1-A	Method Blank	Total/NA	Water	1613B	
LCS 320-669114/2-A	Lab Control Sample	Total/NA	Water	1613B	
LCSD 320-669114/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	

### Analysis Batch: 670442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	1613B	669114
LCS 320-669114/2-A	Lab Control Sample	Total/NA	Water	1613B	669114
LCSD 320-669114/3-A	Lab Control Sample Dup	Total/NA	Water	1613B	669114

### Analysis Batch: 670677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-669114/1-A	Method Blank	Total/NA	Water	1613B	669114

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-2

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1613B			1040.8 mL	20.0 uL	669114	04/21/23 06:35	BLR	EET SAC
Total/NA	Analysis	1613B		1	1 Sample	1 Sample	670442	04/27/23 05:37	GRB	EET SAC

Instrument ID: DFS 1

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600





# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-2

## Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-23
Arkansas DEQ	State	88-0691	06-17-23
California	State	2897	01-22-24
Colorado	State	CA0004	08-31-23
Florida	NELAP	E87570	06-30-23
Georgia	State	4040	01-29-24
Hawaii	State	<cert No.>	01-29-24
Illinois	NELAP	200060	03-17-24
Kansas	NELAP	E-10375	10-31-23
Louisiana	NELAP	01944	06-30-23
Louisiana (All)	NELAP	01944	06-30-23
Maine	State	CA00004	04-14-24
Michigan	State	9947	06-01-23
Nevada	State	CA00044	07-31-23
New Hampshire	NELAP	2997	04-18-24
New Jersey	NELAP	CA005	06-30-23
New York	NELAP	11666	04-01-24
Ohio	State	41252	01-29-24
Oregon	NELAP	4040	01-29-24
Texas	NELAP	T104704399-19-13	05-31-23
US Fish & Wildlife	US Federal Programs	58448	04-30-23
USDA	US Federal Programs	P330-18-00239	02-28-26
Utah	NELAP	CA000442021-12	02-28-23 *
Virginia	NELAP	460278	03-14-24
Washington	State	C581	05-05-23
West Virginia (DW)	State	9930C	12-31-23
Wisconsin	State	998204680	08-31-23
Wyoming	State Program	8TMS-L	01-28-19 *

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-2

Method	Method Description	Protocol	Laboratory
1613B	Dioxins and Furans (HRGC/HRMS)	EPA	EET SAC
1613B	Separatory Funnel (L/L) Extraction with Soxhlet Extraction of Dioxin and Furans	EPA	EET SAC

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-2

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133102-1	Outfall001_20230330_Comp	Water	03/30/23 11:15	03/30/23 17:10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

CHAIN OF CUSTODY FORM



133102

570-133102 Chain of Custody

Client Name/Address:									ANALYSIS REQUIRED										Comments				
Eurofins Calscience Irvine Contact: Virendra Patel									Total Recoverable Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2) (SM2540D)	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)		Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8); Fe		
Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108  Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp									Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)														
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc. Sampler: michelle dallalah																							
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD															
Outfall 001	Outfall001_20230330_Comp	3/30/2023 /115	WM	500 mL Poly	1	HNO <sub>3</sub>	90	Yes	X									X	X	Outfall 001 analyze for Fe.			
			WM	1 L Glass Amber	2	None	110	No			X												
			WM	1L Poly	1	None	115	No				X											
			WM	500 mL Poly	2	None	120	No					X										
			WM	500 mL Poly	2	None	130	No						X								48 hours Holding Time NO <sub>2</sub> & NO <sub>3</sub>	
			WM	500 mL Poly	1	None	150	No							X								48 hour holding time for turbidity
			WM	500 mL Poly	1	H <sub>2</sub> SO <sub>4</sub>	160	No								X							
			WM	1 L Glass Amber	2	None	170	No									X						
			WM	1 L Glass Amber	2	None	180	No										X					
			WM	1L Poly	1	None	185	No											X				
2	Outfall001_20230330_Comp_Extra	3/30/2023 /115	WM	1 L Glass Amber	2	None	110	No			H										Hold		
			WM	1 L Glass Amber	2	None	170	No									H					Hold	
			WM	1 L Glass Amber	2	None	180	No										H					Hold

Legend: C=Conditional, R=Routine

Relinquished By: <i>Mark Dominick</i> Date/Time: 3/30/2023 1210 Company: MIA	Received By: <i>[Signature]</i> Date/Time: 3/30/23 1210 EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> X 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>[Signature]</i> Date/Time: 3/30/23 1710 Company: EC	Received By: <i>[Signature]</i> Date/Time: 3/30/23 1710	Sample Integrity: (Check) Intact: _____ On Ice: _____
Relinquished By: _____ Date/Time: _____ Company: _____	Received By: _____ Date/Time: _____	Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/> X

2.3/2.3, 1.9/1.9 SC11





**Eurofins Calscience**

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone: 714-895-5494

**Chain of Custody Record**



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM:		Carrier Tracking No(s):		COC No:									
Client Contact: Shipping/Receiving		Phone:		Patel, Virendra E-Mail: Virendra.Patel@et.eurofinsus.com		State of Origin: California		570-214399.1 Page: Page 1 of 1									
Company: TestAmerica Laboratories, Inc.				Accreditations Required (See note): State Program - California				Job #: 570-133102-3									
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Due Date Requested: 5/2/2023 TAT Requested (days):		<b>Analysis Requested</b>						<b>Preservation Codes:</b> A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)  Other:							
Project Name: Boeing NPDES SSFL - Routine Outfall - 001 Comp Site:		PO #: WO #: Project #: 57013187 SSOW#:															
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=comp, G=grab)</b>	<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905.0/0/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901.1_CaFill_Geo_0 K-40 and Cesium-137	<b>Total Number of containers</b>	<b>Special Instructions/Note:</b>	
Outfall001_20230330_Comp (570-133102-1)		3/30/23	11:15 Pacific		Water	X	X	X	X	X	X	X	X	2	Boeing SSFL: DO NOT FILTER; use prep date from preservation. Ok to Preserve		
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>																	
<b>Possible Hazard Identification</b>										<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>							
Unconfirmed										<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)										Primary Deliverable Rank: 2							
Empty Kit Relinquished by:										Special Instructions/QC Requirements:							
Date:										Method of Shipment:							
Relinquished by: <i>[Signature]</i>										Date/Time: 4/3/23 1417							
Relinquished by:										Company:    Received by:    Date/Time:    Company:							
Relinquished by:										Company:    Received by:    Date/Time:    Company:							
Custody Seals Intact:    Custody Seal No.:										Cooler Temperature(s) °C and Other Remarks:							
Δ Yes    Δ No																	



# Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:					
Client Contact: Shipping/Receiving		Patel, Virendra	Patel, Virendra	State of Origin: California	570-214385.1					
Company: Eurofins Environment Testing Northern Ca		E-Mail: Virendra.Patel@et.eurofins.com	State of Origin: California	Page: Page 1 of 1	Job #: 570-133102-2					
Address: 880 Riverside Parkway,		Accreditations Required (See note): State Program - California		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:						
City: West Sacramento		Due Date Requested: 4/19/2023		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Tizma Z - other (specify)						
State, Zip: CA, 95605		TAT Requested (days):		Total Number of containers						
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		PO #:		2						
Email:		WO #:		2						
Project Name: Boeing NPDES SSFL - Routine Outfall - 001 Comp		Project #: 57013187		Special Instructions/Note: See QAS, Boeing, w/u to zero, ug/L; Use Boeing glassware.						
Site:		SSOW#:		See QAS, Boeing, w/u to zero, ug/L; Use Boeing glassware.						
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wat/slur, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Totals	1613B/1613B_Sox_Sep_P (MOD) Standard List w/	1613B/1613B_Sox_Sep_P (MOD) Standard List w/	Totals (Hold)
Outfall001_20230330_Comp (570-133102-1)	3/30/23	11:15 Pacific	Water	Water	X	X				
Outfall001_20230330_Comp_Extra (570-133102-2)	3/30/23	11:15 Pacific	Water	Water				X		

Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.

**Possible Hazard Identification**  
 Unconfirmed  
 Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_ Primary Deliverable Rank: 2  
 Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 4/13/23 1357 Company \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company \_\_\_\_\_  
 Custody Seals Intact: \_\_\_\_\_ Custody Seal No.: \_\_\_\_\_  
 Δ Yes Δ No

Received by: \_\_\_\_\_ Date/Time: 4.11.23 950 Company \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company \_\_\_\_\_  
 Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months  
 Special Instructions/QC Requirements: \_\_\_\_\_

Method of Shipment: \_\_\_\_\_





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133102-2

**Login Number: 133102**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Patel, Jayesh**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133102-2

**Login Number: 133102**

**List Number: 3**

**Creator: Simmons, Jason C**

**List Source: Eurofins Sacramento**

**List Creation: 04/04/23 04:13 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	Seal
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4c 2.9c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 5/2/2023 3:32:49 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Comp

**JOB NUMBER**

570-133102-3

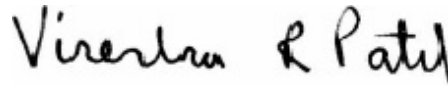
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
5/2/2023 3:32:49 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494

# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	8
Client Sample Results . . . . .	9
Tracer Carrier Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association Summary . . . . .	21
Lab Chronicle . . . . .	22
Certification Summary . . . . .	23
Method Summary . . . . .	24
Sample Summary . . . . .	25
Chain of Custody . . . . .	26
Receipt Checklists . . . . .	31



# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

## Qualifiers

### Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-133102-3

## Job ID: 570-133102-3

### Laboratory: Eurofins Calscience

#### Narrative

#### Job Narrative 570-133102-3

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/30/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 2.3° C.

#### Receipt Exceptions

The reference method requires samples to have a pH of <2. The following samples were received with a pH of 7: Outfall001\_20230330\_Comp. The samples were adjusted to the appropriate pH in the laboratory.

#### RAD

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 608682

The matrix spike (MS) recoveries for Gross Alpha were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.  
(570-133047-R-1-H MS)

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 608682

The detection goal was not met for the following sample due to a reduction of the sample size attributed to high residual mass: Outfall001\_20230330\_Comp (570-133102-1). Analytical results are reported with the detection limit achieved.

Methods 900.0, 9310: Gross Alpha and Gross Beta batch 608682

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230330\_Comp (570-133102-1), (LCS 160-608682/2-A), (LCSB 160-608682/3-A), (MB 160-608682/1-A), (570-133047-R-1-G), (570-133047-R-1-J DU), (570-133047-R-1-H MS) and (570-133047-R-1-I MSBT)

Method 901.1: Gamma Prep Batch 160-607146

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from    Reported to Analyte

Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-133102-3

## Job ID: 570-133102-3 (Continued)

### Laboratory: Eurofins Calscience (Continued)

Th-227            Pb-211  
Bi-214            Ra-226

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230330\_Comp (570-133102-1), (570-133036-R-1-D) and (570-133036-R-1-F DU)

Methods 903.0, 9315: Radium-226 batch 606633

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230330\_Comp (570-133102-1), (LCS 160-606633/2-A), (MB 160-606633/1-A), (310-252375-E-7-A), (310-252375-E-7-B MS) and (310-252375-E-7-C MSD)

Methods 904.0, 9320: Radium-228 batch 606636

The LCS recovered at (129%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (62-148%) per method requirements. The LCS passes, no further action is required

(LCS 160-606636/2-A)

Methods 904.0, 9320: Radium-228 batch 606636

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230330\_Comp (570-133102-1), (LCS 160-606636/2-A), (MB 160-606636/1-A), (310-252375-E-7-D), (310-252375-E-7-E MS) and (310-252375-E-7-F MSD)

Method 905: Strontium-90 batch 607355

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230330\_Comp (570-133102-1), (LCS 160-607355/2-A), (MB 160-607355/1-A), (280-174032-D-4-A) and (280-174032-C-4-A DU)

Method 906.0: Tritium 608493

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are decay corrected to sample date and time as the Activity Reference Date. Outfall001\_20230330\_Comp (570-133102-1), (LCS 160-608493/2-A), (MB 160-608493/1-A), (570-133752-R-1-B), (570-133752-R-1-C DU) and (570-133752-R-1-D MS)

Method A-01-R: Isotopic Uranium batch 608325

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Outfall001\_20230330\_Comp (570-133102-1), (LCS 160-608325/2-A), (MB 160-608325/1-A), (570-133036-R-1-G) and (570-133036-R-1-I DU)

Method ExtChrom:

Method ExtChrom: Uranium Prep Batch 160-608325:



# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Comp

Job ID: 570-133102-3

---

## Job ID: 570-133102-3 (Continued)

---

### Laboratory: Eurofins Calscience (Continued)

The following sample was prepared at a reduced aliquot due to discoloration and heavy sediment levels: Outfall001\_20230330\_Comp (570-133102-1).

Method LSC\_Dist\_Susp:

Method PrecSep-7:

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

No Detections.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

This Detection Summary does not include radiochemical test results.

Eurofins Calscience

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

## Method: EPA 900.0 - Gross Alpha and Gross Beta Radioactivity

Client Sample ID: Outfall001\_20230330\_Comp

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.235	U G	2.44	2.44	3.00	4.66	pCi/L	04/25/23 11:01	05/01/23 21:59	1
<b>Gross Beta</b>	<b>2.29</b>		1.49	1.51	4.00	2.29	pCi/L	04/25/23 11:01	05/01/23 21:59	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

## Method: EPA 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Client Sample ID: Outfall001\_20230330\_Comp

Date Collected: 03/30/23 11:15

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	3.08	U	6.88	6.89	20.0	8.59	pCi/L	04/12/23 12:53	04/19/23 05:38	1
Potassium-40	-36.7	U	90.5	90.6		143	pCi/L	04/12/23 12:53	04/19/23 05:38	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: EPA 903.0 - Radium-226 (GFPC)

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Date Collected: 03/30/23 11:15**  
**Date Received: 03/30/23 17:10**

**Lab Sample ID: 570-133102-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0838	U	0.217	0.217	1.00	0.397	pCi/L	04/10/23 09:38	05/02/23 08:05	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.1		30 - 110					04/10/23 09:38	05/02/23 08:05	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: EPA 904.0 - Radium-228 (GFPC)

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Date Collected: 03/30/23 11:15**  
**Date Received: 03/30/23 17:10**

**Lab Sample ID: 570-133102-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.187	U	0.464	0.464	1.00	0.819	pCi/L	04/10/23 10:47	05/01/23 12:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.1		30 - 110					04/10/23 10:47	05/01/23 12:38	1
Y Carrier	81.5		30 - 110					04/10/23 10:47	05/01/23 12:38	1



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: EPA 905 - Strontium-90 (GFPC)

**Client Sample ID: Outfall001\_20230330\_Comp**  
**Date Collected: 03/30/23 11:15**  
**Date Received: 03/30/23 17:10**

**Lab Sample ID: 570-133102-1**  
**Matrix: Water**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium-90	0.165	U	0.340	0.340	3.00	0.585	pCi/L	04/13/23 14:59	04/24/23 19:28	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Sr Carrier	87.8		30 - 110					04/13/23 14:59	04/24/23 19:28	1
Y Carrier	81.9		30 - 110					04/13/23 14:59	04/24/23 19:28	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

## Method: EPA 906.0 - Tritium, Total (LSC)

Client Sample ID: Outfall001\_20230330\_Comp  
Date Collected: 03/30/23 11:15  
Date Received: 03/30/23 17:10

Lab Sample ID: 570-133102-1  
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2 $\sigma$ +/-)	Total Uncert. (2 $\sigma$ +/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Tritium	119	U	236	236	500	395	pCi/L	04/24/23 09:41	04/25/23 12:10	1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: DOE A-01-R - Isotopic Uranium (Alpha Spectrometry)

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Total Uranium	0.283	U	0.270	0.271	1.00	0.354	pCi/L	04/20/23 16:08	04/24/23 23:27	1
Tracer	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Uranium-232	90.8		30 - 110					04/20/23 16:08	04/24/23 23:27	1

- 
 1
 - 
 2
 - 
 3
 - 
 4
 - 
 5
 - 
 6
 - 
 7
 - 
 8
 - 
 9
 - 
 10
 - 
 11
 - 
 12
 - 
 13
 - 
 14
 - 
 15

# Tracer/Carrier Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

## Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)							
570-133102-1	Outfall001_20230330_Comp	86.1							
LCS 160-606633/2-A	Lab Control Sample	88.6							
MB 160-606633/1-A	Method Blank	94.7							

#### Tracer/Carrier Legend

Ba = Ba Carrier

## Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (30-110)	Y (30-110)						
570-133102-1	Outfall001_20230330_Comp	86.1	81.5						
LCS 160-606636/2-A	Lab Control Sample	88.6	83.7						
MB 160-606636/1-A	Method Blank	94.7	80.7						

#### Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

## Method: 905 - Strontium-90 (GFPC)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Sr (30-110)	Y (30-110)						
570-133102-1	Outfall001_20230330_Comp	87.8	81.9						
LCS 160-607355/2-A	Lab Control Sample	86.2	84.1						
MB 160-607355/1-A	Method Blank	87.8	85.6						

#### Tracer/Carrier Legend

Sr = Sr Carrier

Y = Y Carrier

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Matrix: Water

Prep Type: Total/NA

### Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	U-232 (30-110)							
570-133102-1	Outfall001_20230330_Comp	90.8							
LCS 160-608325/2-A	Lab Control Sample	87.6							
MB 160-608325/1-A	Method Blank	81.8							

#### Tracer/Carrier Legend

U-232 = Uranium-232

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: 900.0 - Gross Alpha and Gross Beta Radioactivity

**Lab Sample ID: MB 160-608682/1-A**  
**Matrix: Water**  
**Analysis Batch: 609530**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 608682**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Gross Alpha	-0.1778	U	0.384	0.385	3.00	0.851	pCi/L	04/25/23 10:49	05/01/23 18:12	1
Gross Beta	-0.3115	U	0.480	0.481	4.00	0.917	pCi/L	04/25/23 10:49	05/01/23 18:12	1

**Lab Sample ID: LCS 160-608682/2-A**  
**Matrix: Water**  
**Analysis Batch: 609530**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 608682**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Alpha	50.5	59.06		8.54	3.00	2.81	pCi/L	117	75 - 125

**Lab Sample ID: LCSB 160-608682/3-A**  
**Matrix: Water**  
**Analysis Batch: 609530**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 608682**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Gross Beta	73.3	74.52		7.98	4.00	0.820	pCi/L	102	75 - 125

## Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

**Lab Sample ID: MB 160-607146/1-A**  
**Matrix: Water**  
**Analysis Batch: 608050**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 607146**

Analyte	MB MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Cesium-137	-0.2554	U	8.12	8.12	20.0	9.60	pCi/L	04/12/23 12:53	04/19/23 03:12	1
Potassium-40	71.54		67.9	68.4		67.4	pCi/L	04/12/23 12:53	04/19/23 03:12	1

**Lab Sample ID: LCS 160-607146/2-A**  
**Matrix: Water**  
**Analysis Batch: 608053**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 607146**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Americium-241	135000	135500		16100		447	pCi/L	100	79 - 121
Cesium-137	40800	41770		4980	20.0	110	pCi/L	102	87 - 115
Cobalt-60	17700	18530		2210		54.0	pCi/L	105	88 - 116

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: 903.0 - Radium-226 (GFPC)

**Lab Sample ID: MB 160-606633/1-A**  
**Matrix: Water**  
**Analysis Batch: 609636**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 606633**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.03862	U	0.116	0.116	1.00	0.221	pCi/L	04/10/23 09:38	05/02/23 07:58	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	94.7		30 - 110					04/10/23 09:38	05/02/23 07:58	1

**Lab Sample ID: LCS 160-606633/2-A**  
**Matrix: Water**  
**Analysis Batch: 609636**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606633**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	11.00		1.33	1.00	0.198	pCi/L	97	70 - 113
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	88.6		30 - 110					04/10/23 09:38	05/02/23 07:58

## Method: 904.0 - Radium-228 (GFPC)

**Lab Sample ID: MB 160-606636/1-A**  
**Matrix: Water**  
**Analysis Batch: 609533**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 606636**

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.1946	U	0.258	0.258	1.00	0.546	pCi/L	04/10/23 10:47	05/01/23 12:32	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	94.7		30 - 110					04/10/23 10:47	05/01/23 12:32	1
Y Carrier	80.7		30 - 110		04/10/23 10:47	05/01/23 12:32	1			

**Lab Sample ID: LCS 160-606636/2-A**  
**Matrix: Water**  
**Analysis Batch: 609533**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 606636**

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	7.99	10.33		1.40	1.00	0.547	pCi/L	129	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	88.6		30 - 110					04/10/23 10:47	05/01/23 12:32
Y Carrier	83.7		30 - 110		04/10/23 10:47	05/01/23 12:32	1		

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: 905 - Strontium-90 (GFPC)

Lab Sample ID: MB 160-607355/1-A  
 Matrix: Water  
 Analysis Batch: 608494

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 607355

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Strontium-90	0.1022	U	0.206	0.206	3.00	0.351	pCi/L	04/13/23 14:59	04/24/23 19:21	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Sr Carrier	87.8		30 - 110					04/13/23 14:59	04/24/23 19:21	1
Y Carrier	85.6		30 - 110		04/13/23 14:59	04/24/23 19:21	1			

Lab Sample ID: LCS 160-607355/2-A  
 Matrix: Water  
 Analysis Batch: 608494

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 607355

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual	Uncert. (2σ+/-)					
Strontium-90	7.33	7.451		0.832	3.00	0.288	pCi/L	102	77 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Sr Carrier	86.2		30 - 110						
Y Carrier	84.1		30 - 110						

## Method: 906.0 - Tritium, Total (LSC)

Lab Sample ID: MB 160-608493/1-A  
 Matrix: Water  
 Analysis Batch: 608725

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 608493

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Tritium	-127.0	U	185	185	500	348	pCi/L	04/24/23 09:41	04/25/23 11:03	1

Lab Sample ID: LCS 160-608493/2-A  
 Matrix: Water  
 Analysis Batch: 608725

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 608493

Analyte	Spike Added	LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec Limits
		Result	Qual	Uncert. (2σ+/-)					
Tritium	2090	2466		497	500	411	pCi/L	118	75 - 125

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry)

Lab Sample ID: MB 160-608325/1-A  
 Matrix: Water  
 Analysis Batch: 608551

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 608325

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Total Uranium	0.07277	U	0.1152	0.1153	1.00	0.184	pCi/L	04/20/23 16:08	04/24/23 23:27	1

Eurolins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Method: A-01-R - Isotopic Uranium (Alpha Spectrometry) (Continued)

**Lab Sample ID: MB 160-608325/1-A**  
**Matrix: Water**  
**Analysis Batch: 608551**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 608325**

<i>Tracer</i>	<i>MB MB</i>		<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</i>	
Uranium-232	81.8		30 - 110

<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
04/20/23 16:08	04/24/23 23:27	1

**Lab Sample ID: LCS 160-608325/2-A**  
**Matrix: Water**  
**Analysis Batch: 608555**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 608325**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Uranium-238	13.0	14.93		1.68	1.00	0.150	pCi/L	115	75 - 125

<i>Tracer</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Yield</i>	<i>Qualifier</i>	
Uranium-232	87.6		30 - 110

# QC Association Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Rad

### Prep Batch: 606633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	PrecSep-21	
MB 160-606633/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-606633/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

### Prep Batch: 606636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	PrecSep_0	
MB 160-606636/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-606636/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

### Prep Batch: 607146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	Fill_Geo-0	
MB 160-607146/1-A	Method Blank	Total/NA	Water	Fill_Geo-0	
LCS 160-607146/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-0	

### Prep Batch: 607355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	PrecSep-7	
MB 160-607355/1-A	Method Blank	Total/NA	Water	PrecSep-7	
LCS 160-607355/2-A	Lab Control Sample	Total/NA	Water	PrecSep-7	

### Prep Batch: 608325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	ExtChrom	
MB 160-608325/1-A	Method Blank	Total/NA	Water	ExtChrom	
LCS 160-608325/2-A	Lab Control Sample	Total/NA	Water	ExtChrom	

### Prep Batch: 608493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	LSC_Dist_Susp	
MB 160-608493/1-A	Method Blank	Total/NA	Water	LSC_Dist_Susp	
LCS 160-608493/2-A	Lab Control Sample	Total/NA	Water	LSC_Dist_Susp	

### Prep Batch: 608682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133102-1	Outfall001_20230330_Comp	Total/NA	Water	Evaporation	
MB 160-608682/1-A	Method Blank	Total/NA	Water	Evaporation	
LCS 160-608682/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-608682/3-A	Lab Control Sample	Total/NA	Water	Evaporation	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

**Client Sample ID: Outfall001\_20230330\_Comp**

**Lab Sample ID: 570-133102-1**

**Date Collected: 03/30/23 11:15**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Evaporation			78.96 mL	1.0 g	608682	04/25/23 11:01	MST	EET SL
Total/NA	Analysis	900.0		1			609533	05/01/23 21:59	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	Fill_Geo-0			1000 mL	1.0 g	607146	04/12/23 12:53	AJP	EET SL
Total/NA	Analysis	901.1		1			608045	04/19/23 05:38	CAH	EET SL
Instrument ID: GAMMAVISION										
Total/NA	Prep	PrecSep-21			755.71 mL	1.0 g	606633	04/10/23 09:38	KAC	EET SL
Total/NA	Analysis	903.0		1			609638	05/02/23 08:05	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			755.71 mL	1.0 g	606636	04/10/23 10:47	KAC	EET SL
Total/NA	Analysis	904.0		1			609531	05/01/23 12:38	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Prep	PrecSep-7			507.21 mL	1.0 g	607355	04/13/23 14:59	KAC	EET SL
Total/NA	Analysis	905		1			608494	04/24/23 19:28	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	LSC_Dist_Susp			100.18 mL	1.0 g	608493	04/24/23 09:41	DJP	EET SL
Total/NA	Analysis	906.0		1			608725	04/25/23 12:10	REV	EET SL
Instrument ID: LSCTEAL										
Total/NA	Prep	ExtChrom			253.3 mL	1.0 mL	608325	04/20/23 16:08	SEH	EET SL
Total/NA	Analysis	A-01-R		1			608543	04/24/23 23:27	FLC	EET SL
Instrument ID: ALPHAVISION										

**Laboratory References:**

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566



# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
 Comp

Job ID: 570-133102-3

## Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	06-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-23
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

# Method Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

Method	Method Description	Protocol	Laboratory
900.0	Gross Alpha and Gross Beta Radioactivity	EPA	EET SL
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	EET SL
903.0	Radium-226 (GFPC)	EPA	EET SL
904.0	Radium-228 (GFPC)	EPA	EET SL
905	Strontium-90 (GFPC)	EPA	EET SL
906.0	Tritium, Total (LSC)	EPA	EET SL
A-01-R	Isotopic Uranium (Alpha Spectrometry)	DOE	EET SL
Evaporation	Preparation, Evaporation	None	EET SL
ExtChrom	Preparation, Extraction Chromatography Resin Actinide Separation	None	EET SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	EET SL
LSC_Dist_Susp	Distillation and Suspension (LSC)	None	EET SL
PrecSep_0	Preparation, Precipitate Separation	None	EET SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	EET SL
PrecSep-7	Preparation, Precipitate Separation (7-Day In-Growth)	None	EET SL

#### Protocol References:

DOE = U.S. Department of Energy  
EPA = US Environmental Protection Agency  
None = None

#### Laboratory References:

EET SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Comp

Job ID: 570-133102-3

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133102-1	Outfall001_20230330_Comp	Water	03/30/23 11:15	03/30/23 17:10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

CHAIN OF CUSTODY FORM



133102

570-133102 Chain of Custody

Client Name/Address: Haley & Aldrich 5333 Mission Center Rd Suite 300 San Diego, CA 92108		Project: Boeing-SSFL NPDES Permit 2023 Routine Outfall [001, 002, 011, 018] Outfall 001 Comp							ANALYSIS REQUIRED																	
Eurofins Calscience Irvine Contact: Virendra Patel 2841 Dow Avenue, Suite 100 Tustin, CA 92780 Tel: 949-260-3218 ECI Project # 57013187		Project Manager: Katherine Miller 520.289.8606, 520.904.6944 (cell) Field Manager: Mark Dominick 978.234.5033, 818.599.0702 (cell)							Total Recoverable Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8); Fe	Comments					
TestAmerica's services under this CoC shall be performed in accordance with the T&Cs within Blanket Service Agreement# 2019-22-TestAmerica by and between Haley & Aldrich, Inc., its subsidiaries and affiliates, and TestAmerica Laboratories Inc.																										
Sampler: michelle dallalah																										
Sample Description	Sample I.D.	Sampling Date/Time	Sample Matrix	Container Type	# of Cont.	Preservative	Bottle #	MS/MSD	Total Recoverable Metals: (E200.8); Zn (E200.8); Cu, Pb, Cd, Se	TCDD (and all congeners) (E1613B)	BOD5 (20 degrees C) (E405.1)(SM5210B_BODCalc)	Surfactants (MBAS) (SM5540C/E425.1)	Cl-, SO4, Nitrate-N, Nitrite-N, NO3+NO2-N, Perchlorate (E300)	Turbidity, TDS (SM2540C/E180.1)	TSS (160.2 (SM2540D))	Ammonia-N (350.2)	alpha-BHC (E608)	2,4,6 TCP, 2,4 Dinitrotoluene, Bis(2-ethylhexyl)phthalate, NDMA, PCP (SVOCs E625)	Total Recoverable Metals: Mercury (E245.1)	Total Recoverable Metals: (E200.8); Fe	Comments					
Outfall 001	Outfall001_20230330_Comp	3/30/2023 /115	WM	500 mL Poly	1	HNO3	90	Yes	X											X	X	Outfall 001 analyze for Fe.				
			WM	1 L Glass Amber	2	None	110	No			X															
			WM	1L Poly	1	None	115	No				X														
			WM	500 mL Poly	2	None	120	No					X													
			WM	500 mL Poly	2	None	130	No						X											48 hours Holding Time NO2 & NO3	
			WM	500 mL Poly	1	None	150	No							X										48 hour holding time for turbidity	
			WM	500 mL Poly	1	H2SO4	160	No										X								
			WM	1 L Glass Amber	2	None	170	No												X						
			WM	1 L Glass Amber	2	None	180	No													X					
			WM	1L Poly	1	None	185	No									X									
2	Outfall001_20230330_Comp_Extra	3/30/2023 /115	WM	1 L Glass Amber	2	None	110	No		H													Hold			
			WM	1 L Glass Amber	2	None	170	No											H					Hold		
			WM	1 L Glass Amber	2	None	180	No												H				Hold		

Legend: C=Conditional, R=Routine

Relinquished By: <i>Mark Dominick</i> Date/Time: 3/30/2023 1210 Company: MIA	Received By: <i>[Signature]</i> Date/Time: 3/30/23 1210 EC	Turn-around time: (Check) 24 Hour: _____ 72 Hour: _____ 10 Day: <input checked="" type="checkbox"/> X _____ 48 Hour: _____ 5 Day: _____ Normal: _____
Relinquished By: <i>[Signature]</i> Date/Time: 3/30/23 1710 Company: EC	Received By: <i>[Signature]</i> Date/Time: 3/30/23 1710	Sample Integrity: (Check) Intact: _____ On Ice: _____
Relinquished By: _____ Date/Time: _____ Company: _____	Received By: _____ Date/Time: _____	Store samples for 6 months. Data Requirements: (Check) No Level IV: _____ All Level IV: <input checked="" type="checkbox"/> X _____

2.3/2.3, 1.9/1.9 SC11





**Eurofins Calscience**

2841 Dow Avenue, Suite 100  
Tustin, CA 92780  
Phone: 714-895-5494

**Chain of Custody Record**



eurofins | Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM:		Carrier Tracking No(s):		COC No:									
Client Contact: Shipping/Receiving		Phone:		Patel, Virendra E-Mail: Virendra.Patel@et.eurofinsus.com		State of Origin: California		570-214399.1 Page: Page 1 of 1									
Company: TestAmerica Laboratories, Inc.				Accreditations Required (See note): State Program - California				Job #: 570-133102-3									
Address: 13715 Rider Trail North, City: Earth City State, Zip: MO, 63045 Phone: 314-298-8566(Tel) 314-298-8757(Fax) Email:		Due Date Requested: 5/2/2023 TAT Requested (days):		<b>Analysis Requested</b>						<b>Preservation Codes:</b> A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)  Other:							
Project Name: Boeing NPDES SSFL - Routine Outfall - 001 Comp Site:		PO #: WO #: Project #: 57013187 SSOW#:															
<b>Sample Identification - Client ID (Lab ID)</b>		<b>Sample Date</b>	<b>Sample Time</b>	<b>Sample Type (C=comp, G=grab)</b>	<b>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</b>	<b>Field Filtered Sample (Yes or No)</b>	<b>Perform MS/MSD (Yes or No)</b>	900.0/Evaporation Gross Alpha/Beta	906.0/LSC_Dist_Susp Tritium	905_Sr90/PrecSep_7 Strontium-90	903.0/PrecSep_21 Radium-226	904.0/PrecSep_0 Radium-228	A01R_U/ExtChrom_Actin Total Uranium	901.1_CaFill_Geo_0 K-40 and Cesium-137	<b>Total Number of containers</b>	<b>Special Instructions/Note:</b>	
Outfall001_20230330_Comp (570-133102-1)		3/30/23	11:15 Pacific		Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	Boeing SSFL: DO NOT FILTER; use prep date from preservation. Ok to Preserve		
<p>Note: Since laboratory accreditations are subject to change, Eurofins Calscience places the ownership of method, analyte &amp; accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Calscience laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Calscience attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Calscience.</p>																	
<b>Possible Hazard Identification</b>										<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>							
Unconfirmed										<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)										Primary Deliverable Rank: 2							
Empty Kit Relinquished by:										Special Instructions/QC Requirements:							
Date:										Method of Shipment:							
Relinquished by: <i>[Signature]</i>										Date/Time: 4/3/23 1417							
Relinquished by:										Company: _____ Received by: _____ Date/Time: _____ Company: _____							
Relinquished by:										Company: _____ Received by: _____ Date/Time: _____ Company: _____							
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:													
Δ Yes Δ No																	





# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133102-3

**Login Number: 133102**

**List Source: Eurofins Calscience**

**List Number: 1**

**Creator: Patel, Jayesh**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133102-3

**Login Number: 133102**

**List Number: 2**

**Creator: Sharkey-Gonzalez, Briana L**

**List Source: Eurofins St. Louis**

**List Creation: 04/04/23 05:58 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Ms. Katherine Miller  
Haley & Aldrich, Inc.  
400 E Van Buren St.  
Suite 545  
Phoenix, Arizona 85004

Generated 4/12/2023 8:53:19 PM

**JOB DESCRIPTION**

Boeing NPDES SSFL - Routine Outfall - 001 Grab

**JOB NUMBER**

570-133103-1

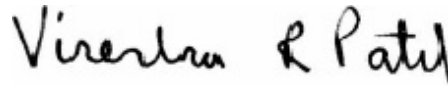
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

## Authorization



Generated  
4/12/2023 8:53:19 PM

Authorized for release by  
Virendra Patel, Project Manager I  
[Virendra.Patel@et.eurofinsus.com](mailto:Virendra.Patel@et.eurofinsus.com)  
(714)895-5494



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Surrogate Summary . . . . .	9
QC Sample Results . . . . .	10
QC Association Summary . . . . .	12
Lab Chronicle . . . . .	13
Certification Summary . . . . .	14
Method Summary . . . . .	15
Sample Summary . . . . .	16
Chain of Custody . . . . .	17
Receipt Checklists . . . . .	18

# Definitions/Glossary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
BU	Analyzed out of holding time

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grab

Job ID: 570-133103-1

---

## Job ID: 570-133103-1

---

### Laboratory: Eurofins Calscience

#### Narrative

---

#### Job Narrative 570-133103-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/30/2023 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

#### GC/MS VOA

Method 624.1: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-316247. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method SM 2540F: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: Outfall001\_20230329\_Grab (570-133103-1).

Method SM 2540F: Insufficient sample volume was available to perform a sample duplicate (DUP) associated with analytical batch 570-316508.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 1664A: The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch. Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-317260.

Method: 1664.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

**Client Sample ID: Outfall001\_20230329\_Grab**

**Lab Sample ID: 570-133103-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Specific Conductance	170		1.0	1.0	umhos/cm	1		SM 2510B	Total/NA
Settleable Solids	0.10	BU	0.10	0.10	mL/L	1		SM 2540F	Total/NA

**Client Sample ID: TB-20230329**

**Lab Sample ID: 570-133103-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Calscience





# Client Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: Outfall001\_20230329\_Grab**

**Date Collected: 03/29/23 11:10**

**Date Received: 03/30/23 17:10**

**Lab Sample ID: 570-133103-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/31/23 07:08	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/31/23 07:08	1
Trichloroethene	ND		0.50	0.17	ug/L			03/31/23 07:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		60 - 140		03/31/23 07:08	1
4-Bromofluorobenzene (Surr)	104		60 - 140		03/31/23 07:08	1
Dibromofluoromethane (Surr)	89		60 - 140		03/31/23 07:08	1
Toluene-d8 (Surr)	102		60 - 140		03/31/23 07:08	1

**Client Sample ID: TB-20230329**

**Date Collected: 03/29/23 11:10**

**Date Received: 03/30/23 17:10**

**Lab Sample ID: 570-133103-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/31/23 05:41	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/31/23 05:41	1
Trichloroethene	ND		0.50	0.17	ug/L			03/31/23 05:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		60 - 140		03/31/23 05:41	1
4-Bromofluorobenzene (Surr)	101		60 - 140		03/31/23 05:41	1
Dibromofluoromethane (Surr)	95		60 - 140		03/31/23 05:41	1
Toluene-d8 (Surr)	102		60 - 140		03/31/23 05:41	1

# Client Sample Results

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## General Chemistry

Client Sample ID: Outfall001\_20230329\_Grab

Date Collected: 03/29/23 11:10

Date Received: 03/30/23 17:10

Lab Sample ID: 570-133103-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease) (1664A)	ND		1.0	0.51	mg/L		04/04/23 10:31	04/05/23 13:31	1
Specific Conductance (SM 2510B)	170		1.0	1.0	umhos/cm			04/11/23 18:16	1
Settleable Solids (SM 2540F)	0.10	BU	0.10	0.10	mL/L			03/31/23 11:59	1

# Surrogate Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	DBFM	TOL
		(60-140)	(60-140)	(60-140)	(60-140)
570-133103-1	Outfall001_20230329_Grab	96	104	89	102
570-133103-2	TB-20230329	103	101	95	102
LCS 570-316247/1003	Lab Control Sample	112	102	99	105
LCSD 570-316247/4	Lab Control Sample Dup	114	103	98	103
MB 570-316247/6	Method Blank	98	98	92	101

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 570-316247/6**  
**Matrix: Water**  
**Analysis Batch: 316247**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.50	0.33	ug/L			03/30/23 21:22	1
1,2-Dichloroethane	ND		0.50	0.15	ug/L			03/30/23 21:22	1
Trichloroethene	ND		0.50	0.17	ug/L			03/30/23 21:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		60 - 140		03/30/23 21:22	1
4-Bromofluorobenzene (Surr)	98		60 - 140		03/30/23 21:22	1
Dibromofluoromethane (Surr)	92		60 - 140		03/30/23 21:22	1
Toluene-d8 (Surr)	101		60 - 140		03/30/23 21:22	1

**Lab Sample ID: LCS 570-316247/1003**  
**Matrix: Water**  
**Analysis Batch: 316247**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	10.0	9.72		ug/L		97	50 - 150
1,2-Dichloroethane	10.0	11.2		ug/L		112	70 - 130
Trichloroethene	10.0	10.4		ug/L		104	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		60 - 140
4-Bromofluorobenzene (Surr)	102		60 - 140
Dibromofluoromethane (Surr)	99		60 - 140
Toluene-d8 (Surr)	105		60 - 140

**Lab Sample ID: LCSD 570-316247/4**  
**Matrix: Water**  
**Analysis Batch: 316247**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	10.2		ug/L		102	50 - 150	5	32
1,2-Dichloroethane	10.0	11.5		ug/L		115	70 - 130	2	49
Trichloroethene	10.0	11.1		ug/L		111	65 - 135	7	48

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	114		60 - 140
4-Bromofluorobenzene (Surr)	103		60 - 140
Dibromofluoromethane (Surr)	98		60 - 140
Toluene-d8 (Surr)	103		60 - 140

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: MB 570-317260/1-A**  
**Matrix: Water**  
**Analysis Batch: 317720**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 317260**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	ND		1.0	0.51	mg/L		04/04/23 10:31	04/05/23 13:31	1

Eurofins Calscience

# QC Sample Results

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## Method: 1664A - HEM and SGT-HEM

**Lab Sample ID: LCS 570-317260/2-A**  
**Matrix: Water**  
**Analysis Batch: 317720**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 317260**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HEM (Oil & Grease)	40.0	38.1		mg/L		95	78 - 114

**Lab Sample ID: LCSD 570-317260/3-A**  
**Matrix: Water**  
**Analysis Batch: 317720**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 317260**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HEM (Oil & Grease)	40.0	34.8		mg/L		87	78 - 114	9	18

## Method: SM 2510B - Conductivity, Specific Conductance

**Lab Sample ID: MB 570-319451/35**  
**Matrix: Water**  
**Analysis Batch: 319451**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	1.0	umhos/cm			04/11/23 17:13	1

# QC Association Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## GC/MS VOA

### Analysis Batch: 316247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133103-1	Outfall001_20230329_Grab	Total/NA	Water	624.1	
570-133103-2	TB-20230329	Total/NA	Water	624.1	
MB 570-316247/6	Method Blank	Total/NA	Water	624.1	
LCS 570-316247/1003	Lab Control Sample	Total/NA	Water	624.1	
LCSD 570-316247/4	Lab Control Sample Dup	Total/NA	Water	624.1	

## General Chemistry

### Analysis Batch: 316508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133103-1	Outfall001_20230329_Grab	Total/NA	Water	SM 2540F	

### Prep Batch: 317260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133103-1	Outfall001_20230329_Grab	Total/NA	Water	1664A	
MB 570-317260/1-A	Method Blank	Total/NA	Water	1664A	
LCS 570-317260/2-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 570-317260/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	

### Analysis Batch: 317720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133103-1	Outfall001_20230329_Grab	Total/NA	Water	1664A	317260
MB 570-317260/1-A	Method Blank	Total/NA	Water	1664A	317260
LCS 570-317260/2-A	Lab Control Sample	Total/NA	Water	1664A	317260
LCSD 570-317260/3-A	Lab Control Sample Dup	Total/NA	Water	1664A	317260

### Analysis Batch: 319451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-133103-1	Outfall001_20230329_Grab	Total/NA	Water	SM 2510B	
MB 570-319451/35	Method Blank	Total/NA	Water	SM 2510B	

# Lab Chronicle

Client: Haley & Aldrich, Inc.  
 Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

**Client Sample ID: Outfall001\_20230329\_Grab**

**Lab Sample ID: 570-133103-1**

**Date Collected: 03/29/23 11:10**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	316247	03/31/23 07:08	N1A	EET CAL 4
Instrument ID: GCMSJJ										
Total/NA	Prep	1664A			998 mL	1000 mL	317260	04/04/23 10:31	RY4P	EET CAL 4
Total/NA	Analysis	1664A		1			317720	04/05/23 13:31	L6IE	EET CAL 4
Instrument ID: NO EQUIQ										
Total/NA	Analysis	SM 2510B		1			319451	04/11/23 18:16	BDH9	EET CAL 4
Instrument ID: ManSciMantech										
Total/NA	Analysis	SM 2540F		1	1000 mL	1 L	316508	03/31/23 11:59	ZVB7	EET CAL 4
Instrument ID: NOEQUIP										

**Client Sample ID: TB-20230329**

**Lab Sample ID: 570-133103-2**

**Date Collected: 03/29/23 11:10**

**Matrix: Water**

**Date Received: 03/30/23 17:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	10 mL	10 mL	316247	03/31/23 05:41	N1A	EET CAL 4
Instrument ID: GCMSJJ										

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

# Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Job ID: 570-133103-1

## Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23
Washington	State	C916-18	10-11-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Method Summary

Client: Haley & Aldrich, Inc.

Job ID: 570-133103-1

Project/Site: Boeing NPDES SSFL - Routine Outfall - 001 Grat

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	EPA	EET CAL 4
1664A	HEM and SGT-HEM	1664A	EET CAL 4
SM 2510B	Conductivity, Specific Conductance	SM	EET CAL 4
SM 2540F	Solids, Settleable	SM	EET CAL 4
1664A	HEM and SGT-HEM (Aqueous)	1664A	EET CAL 4

**Protocol References:**

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

**Laboratory References:**

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



# Sample Summary

Client: Haley & Aldrich, Inc.  
Project/Site: Boeing NPDES SSFL - Routine Outfall - 001  
Grab

Job ID: 570-133103-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-133103-1	Outfall001_20230329_Grab	Water	03/29/23 11:10	03/30/23 17:10
570-133103-2	TB-20230329	Water	03/29/23 11:10	03/30/23 17:10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 570-133103-1

**Login Number: 133103**

**List Number: 1**

**Creator: Patel, Jayesh**

**List Source: Eurofins Calscience**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

