



### LABORATORY REPORT

Prepared For: The Boeing Company-SSFL  
5800 Woolsey Canyon Road  
Canoga Park, CA 91304-1148  
Attention: Bill McIlvaine

Project: Boeing SSFL-NPDES (sand)  
TAS#

Sampled: 10/31/05-11/01/05  
Received: 11/01/05  
Revised: 11/03/05 19:20

NELAP #01108CA California ELAP#1197 CSDLAC #10117

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain of Custody, 1 page, is included and is an integral part of this report.  
This entire report was reviewed and approved for release.*

### CASE NARRATIVE

**SAMPLE RECEIPT:** Samples were received intact, at 5°C, on ice and with chain of custody documentation.

**HOLDING TIMES:** All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

**PRESERVATION:** Samples requiring preservation were verified prior to sample analysis.

**QA/QC CRITERIA:** All analyses met method criteria, except as noted in the report with data qualifiers.

**COMMENTS:** Results that fall between the MDL and RL are 'J' flagged.

**SUBCONTRACTED:** No analyses were subcontracted to an outside laboratory.

**ADDITIONAL INFORMATION:** All samples were prepared as follows: 200 grams of sample was rinsed with DI water then added to 200 milliliters of DI water. The sample was set aside for 15 minutes and then decanted, acidified, digested and analyzed.  
All dissolved samples were prepared as follows: 200 grams of sample used from original mixture was added to 200 milliliters of DI water. The sample was set aside for 15 minutes and then decanted, filtered, acidified, digested and analyzed.

LABORATORY ID	CLIENT ID	MATRIX
IOK0111-01	Road Gravel-mixed w/ water (15 min)	Water
IOK0111-02	Pea Bag Gravel-mixed w/ water (15 min)	Water
IOK0111-03	Birds Eye Gravel-mixed w/ water (15 min)	Water

Reviewed By:

**Del Mar Analytical, Irvine**  
Michele Harper  
Project Manager

The Boeing Company-SSFL  
 5800 Woolsey Canyon Road  
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 Attention: Bill McIlvaine

Project ID: Boeing SSFL-NPDES (sand)  
 TAS#  
 Report Number: IOK0111

Sampled: 10/31/05-11/01/05  
 Received: 11/01/05

### METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IOK0111-01 (Road Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: mg/l									
Barium	EPA 200.7	5K01118	0.0060	0.010	<b>0.23</b>	1	11/01/05	11/02/05	
Boron	EPA 200.7	5K01118	0.0080	0.050	<b>0.010</b>	1	11/01/05	11/02/05	J
Iron	EPA 200.7	5K01118	0.015	0.040	<b>35</b>	1	11/01/05	11/02/05	
<b>Sample ID: IOK0111-02 (Pea Bag Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: mg/l									
Barium	EPA 200.7	5K01118	0.0060	0.010	<b>0.78</b>	1	11/01/05	11/02/05	
Boron	EPA 200.7	5K01118	0.0080	0.050	<b>0.064</b>	1	11/01/05	11/02/05	
Iron	EPA 200.7	5K01118	0.015	0.040	<b>160</b>	1	11/01/05	11/02/05	
<b>Sample ID: IOK0111-03 (Birds Eye Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 11/01/05</b>				
Reporting Units: mg/l									
Barium	EPA 200.7	5K01118	0.0060	0.010	<b>0.32</b>	1	11/01/05	11/02/05	
Boron	EPA 200.7	5K01118	0.0080	0.050	ND	1	11/01/05	11/02/05	
Iron	EPA 200.7	5K01118	0.015	0.040	<b>35</b>	1	11/01/05	11/02/05	M-HA
<b>Sample ID: IOK0111-01 (Road Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: ug/l									
Antimony	EPA 200.8	5K01119	0.050	2.0	<b>0.74</b>	1	11/01/05	11/02/05	J
Arsenic	EPA 200.7	5K01118	4.4	5.0	<b>11</b>	1	11/01/05	11/02/05	
Beryllium	EPA 200.7	5K01118	0.90	2.0	<b>1.1</b>	1	11/01/05	11/02/05	J
Cadmium	EPA 200.8	5K01119	0.025	1.0	<b>0.63</b>	1	11/01/05	11/02/05	J
Chromium	EPA 200.7	5K01118	2.0	5.0	<b>38</b>	1	11/01/05	11/02/05	
Cobalt	EPA 200.7	5K01118	2.0	10	<b>16</b>	1	11/01/05	11/02/05	
Copper	EPA 200.8	5K01119	0.25	2.0	<b>25</b>	1	11/01/05	11/02/05	
Lead	EPA 200.8	5K01119	0.040	1.0	<b>19</b>	1	11/01/05	11/02/05	
Manganese	EPA 200.7	5K01118	7.0	20	<b>610</b>	1	11/01/05	11/02/05	
Mercury	EPA 245.1	5K02063	0.050	0.20	<b>0.12</b>	1	11/02/05	11/02/05	J
Nickel	EPA 200.7	5K01118	2.0	10	<b>27</b>	1	11/01/05	11/02/05	
Selenium	EPA 200.8	5K01119	0.30	2.0	<b>1.1</b>	1	11/01/05	11/02/05	J
Silver	EPA 200.8	5K01119	0.025	1.0	<b>0.12</b>	1	11/01/05	11/02/05	J
Thallium	EPA 200.8	5K01119	0.15	1.0	<b>0.46</b>	1	11/01/05	11/02/05	J
Vanadium	EPA 200.7	5K01118	3.0	10	<b>80</b>	1	11/01/05	11/02/05	
Zinc	EPA 200.7	5K01118	15	20	<b>110</b>	1	11/01/05	11/02/05	

**Del Mar Analytical, Irvine**  
 Michele Harper  
 Project Manager

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 Report Number: IOK0111

Sampled: 10/31/05-11/01/05  
 Received: 11/01/05

### METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IOK0111-02 (Pea Bag Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: ug/l									
Antimony	EPA 200.8	5K01119	0.50	20	1.7	10	11/01/05	11/02/05	RL-1, J
Arsenic	EPA 200.7	5K01118	4.4	5.0	70	1	11/01/05	11/02/05	
Beryllium	EPA 200.7	5K01118	0.90	2.0	3.3	1	11/01/05	11/02/05	
Cadmium	EPA 200.8	5K01119	0.25	10	0.77	10	11/01/05	11/02/05	RL-1, J
Chromium	EPA 200.7	5K01118	2.0	5.0	100	1	11/01/05	11/02/05	
Cobalt	EPA 200.7	5K01118	2.0	10	57	1	11/01/05	11/02/05	
Copper	EPA 200.8	5K01119	2.5	20	86	10	11/01/05	11/02/05	
Lead	EPA 200.8	5K01119	0.040	1.0	87	1	11/01/05	11/02/05	
Manganese	EPA 200.7	5K01118	7.0	20	3300	1	11/01/05	11/02/05	
Mercury	EPA 245.1	5K02063	0.050	0.20	0.23	1	11/02/05	11/02/05	
Nickel	EPA 200.7	5K01118	2.0	10	59	1	11/01/05	11/02/05	
Selenium	EPA 200.8	5K01119	3.0	20	ND	10	11/01/05	11/02/05	RL-1
Silver	EPA 200.8	5K01119	0.25	10	0.54	10	11/01/05	11/02/05	RL-1, J
Thallium	EPA 200.8	5K01119	0.15	1.0	1.7	1	11/01/05	11/02/05	
Vanadium	EPA 200.7	5K01118	3.0	10	240	1	11/01/05	11/02/05	
Zinc	EPA 200.7	5K01118	15	20	590	1	11/01/05	11/02/05	

**Sample ID: IOK0111-03 (Birds Eye Gravel-mixed w/ water (15 min) - Water)**

**Sampled: 11/01/05**

Reporting Units: ug/l

Antimony	EPA 200.8	5K01119	0.10	4.0	0.48	2	11/01/05	11/02/05	B, M2, RL-1, J
Arsenic	EPA 200.7	5K01118	4.4	5.0	13	1	11/01/05	11/02/05	
Beryllium	EPA 200.7	5K01118	0.90	2.0	ND	1	11/01/05	11/02/05	
Cadmium	EPA 200.8	5K01119	0.050	2.0	1.4	2	11/01/05	11/02/05	RL-1, J
Chromium	EPA 200.7	5K01118	2.0	5.0	58	1	11/01/05	11/02/05	
Cobalt	EPA 200.7	5K01118	2.0	10	9.3	1	11/01/05	11/02/05	J
Copper	EPA 200.8	5K01119	0.50	4.0	32	2	11/01/05	11/02/05	
Lead	EPA 200.8	5K01119	0.040	1.0	8.1	1	11/01/05	11/02/05	
Manganese	EPA 200.7	5K01118	7.0	20	400	1	11/01/05	11/02/05	
Mercury	EPA 245.1	5K02063	0.050	0.20	0.086	1	11/02/05	11/02/05	J
Nickel	EPA 200.7	5K01118	2.0	10	26	1	11/01/05	11/02/05	
Selenium	EPA 200.8	5K01119	0.60	4.0	12	2	11/01/05	11/02/05	
Silver	EPA 200.8	5K01119	0.050	2.0	0.092	2	11/01/05	11/02/05	RL-1, J
Thallium	EPA 200.8	5K01119	0.15	1.0	0.42	1	11/01/05	11/02/05	J
Vanadium	EPA 200.7	5K01118	3.0	10	96	1	11/01/05	11/02/05	
Zinc	EPA 200.7	5K01118	15	20	83	1	11/01/05	11/02/05	

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 Project Manager

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### DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IOK0111-01 (Road Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: mg/l									
Barium	EPA 200.7-Diss	5K02130	0.0060	0.010	ND	1	11/02/05	11/02/05	
Boron	EPA 200.7-Diss	5K02130	0.0080	0.050	ND	1	11/02/05	11/02/05	
<b>Iron</b>	EPA 200.7-Diss	5K02130	0.015	0.040	<b>0.025</b>	1	11/02/05	11/02/05	J
<b>Sample ID: IOK0111-02 (Pea Bag Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: mg/l									
Barium	EPA 200.7-Diss	5K02130	0.0060	0.010	ND	1	11/02/05	11/02/05	
Boron	EPA 200.7-Diss	5K02130	0.0080	0.050	ND	1	11/02/05	11/02/05	
<b>Iron</b>	EPA 200.7-Diss	5K02130	0.015	0.040	<b>0.13</b>	1	11/02/05	11/02/05	
<b>Sample ID: IOK0111-03 (Birds Eye Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 11/01/05</b>				
Reporting Units: mg/l									
<b>Barium</b>	EPA 200.7-Diss	5K02130	0.0060	0.010	<b>0.0072</b>	1	11/02/05	11/02/05	J
Boron	EPA 200.7-Diss	5K02130	0.0080	0.050	ND	1	11/02/05	11/02/05	
<b>Iron</b>	EPA 200.7-Diss	5K02130	0.015	0.040	<b>0.20</b>	1	11/02/05	11/02/05	
<b>Sample ID: IOK0111-01 (Road Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
Reporting Units: ug/l									
<b>Antimony</b>	EPA 200.8-Diss	5K02129	0.050	2.0	<b>0.14</b>	1	11/02/05	11/03/05	J
<b>Arsenic</b>	EPA 200.7-Diss	5K02130	4.4	5.0	<b>7.2</b>	1	11/02/05	11/02/05	
Beryllium	EPA 200.7-Diss	5K02130	0.90	2.0	ND	1	11/02/05	11/02/05	
Cadmium	EPA 200.8-Diss	5K02129	0.025	1.0	ND	1	11/02/05	11/03/05	
Chromium	EPA 200.7-Diss	5K02130	2.0	5.0	ND	1	11/02/05	11/02/05	
Cobalt	EPA 200.7-Diss	5K02130	2.0	10	ND	1	11/02/05	11/02/05	
<b>Copper</b>	EPA 200.8-Diss	5K02129	0.25	2.0	<b>0.48</b>	1	11/02/05	11/03/05	J
Lead	EPA 200.8-Diss	5K02129	0.040	1.0	ND	1	11/02/05	11/03/05	
Manganese	EPA 200.7-Diss	5K02130	7.0	20	ND	1	11/02/05	11/02/05	
Mercury	EPA 245.1-Diss	5K03062	0.050	0.20	ND	1	11/03/05	11/03/05	
Nickel	EPA 200.7-Diss	5K02130	2.0	10	ND	1	11/02/05	11/02/05	
Selenium	EPA 200.8-Diss	5K02129	0.30	2.0	ND	1	11/02/05	11/03/05	
Silver	EPA 200.8-Diss	5K02129	0.025	1.0	ND	1	11/02/05	11/03/05	
Thallium	EPA 200.8-Diss	5K02129	0.15	1.0	ND	1	11/02/05	11/03/05	
Vanadium	EPA 200.7-Diss	5K02130	3.0	10	ND	1	11/02/05	11/02/05	
Zinc	EPA 200.7-Diss	5K02130	15	20	ND	1	11/02/05	11/02/05	

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Project Manager



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Sampled: 10/31/05-11/01/05  
 Received: 11/01/05

## DISSOLVED METALS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IOK0111-02 (Pea Bag Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 10/31/05</b>				
<b>Reporting Units: ug/l</b>									
<b>Antimony</b>	EPA 200.8-Diss	5K02129	0.050	2.0	<b>0.40</b>	1	11/02/05	11/03/05	J
<b>Arsenic</b>	EPA 200.7-Diss	5K02130	4.4	5.0	<b>4.7</b>	1	11/02/05	11/02/05	J
Beryllium	EPA 200.7-Diss	5K02130	0.90	2.0	ND	1	11/02/05	11/02/05	
Cadmium	EPA 200.8-Diss	5K02129	0.025	1.0	ND	1	11/02/05	11/03/05	
Chromium	EPA 200.7-Diss	5K02130	2.0	5.0	ND	1	11/02/05	11/02/05	
Cobalt	EPA 200.7-Diss	5K02130	2.0	10	ND	1	11/02/05	11/02/05	
<b>Copper</b>	EPA 200.8-Diss	5K02129	0.25	2.0	<b>1.3</b>	1	11/02/05	11/03/05	J
<b>Lead</b>	EPA 200.8-Diss	5K02129	0.040	1.0	<b>0.076</b>	1	11/02/05	11/03/05	J
Manganese	EPA 200.7-Diss	5K02130	7.0	20	ND	1	11/02/05	11/02/05	
Mercury	EPA 245.1-Diss	5K03062	0.050	0.20	ND	1	11/03/05	11/03/05	
Nickel	EPA 200.7-Diss	5K02130	2.0	10	ND	1	11/02/05	11/02/05	
Selenium	EPA 200.8-Diss	5K02129	0.30	2.0	ND	1	11/02/05	11/03/05	
Silver	EPA 200.8-Diss	5K02129	0.025	1.0	ND	1	11/02/05	11/03/05	
Thallium	EPA 200.8-Diss	5K02129	0.15	1.0	ND	1	11/02/05	11/03/05	
Vanadium	EPA 200.7-Diss	5K02130	3.0	10	ND	1	11/02/05	11/02/05	
Zinc	EPA 200.7-Diss	5K02130	15	20	ND	1	11/02/05	11/02/05	
<b>Sample ID: IOK0111-03 (Birds Eye Gravel-mixed w/ water (15 min) - Water)</b>					<b>Sampled: 11/01/05</b>				
<b>Reporting Units: ug/l</b>									
<b>Antimony</b>	EPA 200.8-Diss	5K02129	0.050	2.0	<b>0.14</b>	1	11/02/05	11/03/05	J
Arsenic	EPA 200.7-Diss	5K02130	4.4	5.0	ND	1	11/02/05	11/02/05	
Beryllium	EPA 200.7-Diss	5K02130	0.90	2.0	ND	1	11/02/05	11/02/05	
Cadmium	EPA 200.8-Diss	5K02129	0.025	1.0	ND	1	11/02/05	11/03/05	
Chromium	EPA 200.7-Diss	5K02130	2.0	5.0	ND	1	11/02/05	11/02/05	
Cobalt	EPA 200.7-Diss	5K02130	2.0	10	ND	1	11/02/05	11/02/05	
<b>Copper</b>	EPA 200.8-Diss	5K02129	0.25	2.0	<b>0.43</b>	1	11/02/05	11/03/05	J
Lead	EPA 200.8-Diss	5K02129	0.040	1.0	ND	1	11/02/05	11/03/05	
Manganese	EPA 200.7-Diss	5K02130	7.0	20	ND	1	11/02/05	11/02/05	
Mercury	EPA 245.1-Diss	5K03062	0.050	0.20	ND	1	11/03/05	11/03/05	
Nickel	EPA 200.7-Diss	5K02130	2.0	10	ND	1	11/02/05	11/02/05	
<b>Selenium</b>	EPA 200.8-Diss	5K02129	0.30	2.0	<b>6.1</b>	1	11/02/05	11/03/05	
Silver	EPA 200.8-Diss	5K02129	0.025	1.0	ND	1	11/02/05	11/03/05	
Thallium	EPA 200.8-Diss	5K02129	0.15	1.0	ND	1	11/02/05	11/03/05	
<b>Vanadium</b>	EPA 200.7-Diss	5K02130	3.0	10	<b>3.9</b>	1	11/02/05	11/02/05	J
Zinc	EPA 200.7-Diss	5K02130	15	20	ND	1	11/02/05	11/02/05	

**Del Mar Analytical, Irvine**  
 Michele Harper  
 Project Manager



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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 5K01118 Extracted: 11/01/05</b>											
<b>Blank Analyzed: 11/02/2005 (5K01118-BLK1)</b>											
Arsenic	ND	5.0	4.4	ug/l							
Barium	ND	0.010	0.0060	mg/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.0080	mg/l							
Chromium	ND	5.0	2.0	ug/l							
Cobalt	ND	10	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							
Manganese	ND	20	7.0	ug/l							
Nickel	ND	10	2.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
Zinc	ND	20	15	ug/l							
<b>LCS Analyzed: 11/02/2005 (5K01118-BS1)</b>											
Arsenic	482	5.0	4.4	ug/l	500		96	85-115			
Barium	0.454	0.010	0.0060	mg/l	0.500		91	85-115			
Beryllium	477	2.0	0.90	ug/l	500		95	85-115			
Boron	0.449	0.050	0.0080	mg/l	0.500		90	85-115			
Chromium	475	5.0	2.0	ug/l	500		95	85-115			
Cobalt	468	10	2.0	ug/l	500		94	85-115			
Iron	0.486	0.040	0.015	mg/l	0.500		97	85-115			
Manganese	477	20	7.0	ug/l	500		95	85-115			
Nickel	472	10	2.0	ug/l	500		94	85-115			
Vanadium	466	10	3.0	ug/l	500		93	85-115			
Zinc	457	20	15	ug/l	500		91	85-115			
<b>Matrix Spike Analyzed: 11/02/2005 (5K01118-MS1)</b>											
<b>Source: IOK0111-03</b>											
Arsenic	492	5.0	4.4	ug/l	500	13	96	70-130			
Barium	0.790	0.010	0.0060	mg/l	0.500	0.32	94	70-130			
Beryllium	491	2.0	0.90	ug/l	500	ND	98	70-130			
Boron	0.479	0.050	0.0080	mg/l	0.500	ND	96	70-130			
Chromium	560	5.0	2.0	ug/l	500	58	100	70-130			
Cobalt	488	10	2.0	ug/l	500	9.3	96	70-130			
Iron	44.1	0.040	0.015	mg/l	0.500	35	1820	70-130			M-HA
Manganese	924	20	7.0	ug/l	500	400	105	70-130			
Nickel	514	10	2.0	ug/l	500	26	98	70-130			
Vanadium	617	10	3.0	ug/l	500	96	104	70-130			

**Del Mar Analytical, Irvine**  
 Michele Harper  
 Project Manager

The Boeing Company-SSFL  
 5800 Woolsey Canyon Road  
 Canoga Park, CA 91304-1148  
 Attention: Bill McIlvaine

Project ID: Boeing SSFL-NPDES (sand)  
 TAS#  
 Report Number: IOK0111

Sampled: 10/31/05-11/01/05  
 Received: 11/01/05

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 5K01118 Extracted: 11/01/05</b>											
<b>Matrix Spike Analyzed: 11/02/2005 (5K01118-MS1)</b>						<b>Source: IOK0111-03</b>					
Zinc	563	20	15	ug/l	500	83	96	70-130			
<b>Matrix Spike Dup Analyzed: 11/02/2005 (5K01118-MSD1)</b>						<b>Source: IOK0111-03</b>					
Arsenic	490	5.0	4.4	ug/l	500	13	95	70-130	0	20	
Barium	0.782	0.010	0.0060	mg/l	0.500	0.32	92	70-130	1	20	
Beryllium	492	2.0	0.90	ug/l	500	ND	98	70-130	0	20	
Boron	0.476	0.050	0.0080	mg/l	0.500	ND	95	70-130	1	20	
Chromium	551	5.0	2.0	ug/l	500	58	99	70-130	2	20	
Cobalt	482	10	2.0	ug/l	500	9.3	95	70-130	1	20	
Iron	42.4	0.040	0.015	mg/l	0.500	35	1480	70-130	4	20	M-HA
Manganese	906	20	7.0	ug/l	500	400	101	70-130	2	20	
Nickel	507	10	2.0	ug/l	500	26	96	70-130	1	20	
Vanadium	608	10	3.0	ug/l	500	96	102	70-130	1	20	
Zinc	556	20	15	ug/l	500	83	95	70-130	1	20	

### **Batch: 5K01119 Extracted: 11/01/05**

#### **Blank Analyzed: 11/02/2005 (5K01119-BLK1)**

Antimony	0.0517	2.0	0.050	ug/l							J
Cadmium	0.0446	1.0	0.025	ug/l							J
Copper	ND	2.0	0.25	ug/l							
Lead	0.0551	1.0	0.040	ug/l							J
Selenium	ND	2.0	0.30	ug/l							
Silver	ND	1.0	0.025	ug/l							
Thallium	ND	1.0	0.15	ug/l							

#### **LCS Analyzed: 11/02/2005 (5K01119-BS1)**

Antimony	83.7	2.0	0.050	ug/l	80.0		105	85-115			
Cadmium	84.2	1.0	0.025	ug/l	80.0		105	85-115			
Copper	85.5	2.0	0.25	ug/l	80.0		107	85-115			
Lead	83.2	1.0	0.040	ug/l	80.0		104	85-115			
Selenium	83.4	2.0	0.30	ug/l	80.0		104	85-115			
Silver	84.5	1.0	0.025	ug/l	80.0		106	85-115			
Thallium	83.7	1.0	0.15	ug/l	80.0		105	85-115			

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 Michele Harper  
 Project Manager

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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 5K01119 Extracted: 11/01/05</b>											
<b>Matrix Spike Analyzed: 11/02/2005 (5K01119-MS1)</b>						<b>Source: IOK0111-03</b>					
Antimony	32.9	2.0	0.050	ug/l	80.0	0.48	41	70-130			M2
Cadmium	71.1	1.0	0.025	ug/l	80.0	1.4	87	70-130			
Copper	99.7	2.0	0.25	ug/l	80.0	32	85	70-130			
Lead	91.4	1.0	0.040	ug/l	80.0	8.1	104	70-130			
Selenium	75.4	2.0	0.30	ug/l	80.0	12	79	70-130			
Silver	70.0	1.0	0.025	ug/l	80.0	0.092	87	70-130			
Thallium	83.4	1.0	0.15	ug/l	80.0	0.42	104	70-130			
<b>Matrix Spike Dup Analyzed: 11/02/2005 (5K01119-MSD1)</b>						<b>Source: IOK0111-03</b>					
Antimony	33.3	2.0	0.050	ug/l	80.0	0.48	41	70-130	1	20	M2
Cadmium	71.2	1.0	0.025	ug/l	80.0	1.4	87	70-130	0	20	
Copper	102	2.0	0.25	ug/l	80.0	32	88	70-130	2	20	
Lead	91.3	1.0	0.040	ug/l	80.0	8.1	104	70-130	0	20	
Selenium	74.3	2.0	0.30	ug/l	80.0	12	78	70-130	1	20	
Silver	70.1	1.0	0.025	ug/l	80.0	0.092	88	70-130	0	20	
Thallium	82.4	1.0	0.15	ug/l	80.0	0.42	102	70-130	1	20	
<b>Batch: 5K02063 Extracted: 11/02/05</b>											
<b>Blank Analyzed: 11/02/2005 (5K02063-BLK1)</b>											
Mercury	ND	0.20	0.050	ug/l							
<b>LCS Analyzed: 11/02/2005 (5K02063-BS1)</b>											
Mercury	8.32	0.20	0.050	ug/l	8.00		104	85-115			
<b>Matrix Spike Analyzed: 11/02/2005 (5K02063-MS1)</b>						<b>Source: IOK0060-01</b>					
Mercury	11.8	0.20	0.050	ug/l	8.00	3.8	100	70-130			

Del Mar Analytical, Irvine  
 Michele Harper  
 Project Manager





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 5800 Woolsey Canyon Road  
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## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 5K02063 Extracted: 11/02/05</b>											
<b>Matrix Spike Dup Analyzed: 11/02/2005 (5K02063-MSD1)</b>						<b>Source: IOK0060-01</b>					
Mercury	11.7	0.20	0.050	ug/l	8.00	3.8	99	70-130	1	20	

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 5K02129 Extracted: 11/02/05</b>											
<b>Blank Analyzed: 11/03/2005 (5K02129-BLK1)</b>											
Antimony	ND	2.0	0.050	ug/l							
Cadmium	ND	1.0	0.025	ug/l							
Copper	ND	2.0	0.25	ug/l							
Lead	ND	1.0	0.040	ug/l							
Selenium	ND	2.0	0.30	ug/l							
Silver	ND	1.0	0.025	ug/l							
Thallium	ND	1.0	0.15	ug/l							
<b>LCS Analyzed: 11/03/2005 (5K02129-BS1)</b>											
Antimony	78.7	2.0	0.050	ug/l	80.0		98	85-115			
Cadmium	77.4	1.0	0.025	ug/l	80.0		97	85-115			
Copper	87.3	2.0	0.25	ug/l	80.0		109	85-115			
Lead	86.1	1.0	0.040	ug/l	80.0		108	85-115			
Selenium	81.3	2.0	0.30	ug/l	80.0		102	85-115			
Silver	79.8	1.0	0.025	ug/l	80.0		100	85-115			
Thallium	86.4	1.0	0.15	ug/l	80.0		108	85-115			
<b>Matrix Spike Analyzed: 11/03/2005 (5K02129-MS1) Source: IOK0111-03</b>											
Antimony	78.2	2.0	0.050	ug/l	80.0	0.14	98	70-130			
Cadmium	77.2	1.0	0.025	ug/l	80.0	ND	96	70-130			
Copper	86.2	2.0	0.25	ug/l	80.0	0.43	107	70-130			
Lead	84.6	1.0	0.040	ug/l	80.0	ND	106	70-130			
Selenium	85.7	2.0	0.30	ug/l	80.0	6.1	100	70-130			
Silver	78.5	1.0	0.025	ug/l	80.0	ND	98	70-130			
Thallium	85.9	1.0	0.15	ug/l	80.0	ND	107	70-130			
<b>Matrix Spike Dup Analyzed: 11/03/2005 (5K02129-MSD1) Source: IOK0111-03</b>											
Antimony	79.5	2.0	0.050	ug/l	80.0	0.14	99	70-130	2	20	
Cadmium	78.0	1.0	0.025	ug/l	80.0	ND	98	70-130	1	20	
Copper	86.7	2.0	0.25	ug/l	80.0	0.43	108	70-130	1	20	
Lead	87.0	1.0	0.040	ug/l	80.0	ND	109	70-130	3	20	
Selenium	86.1	2.0	0.30	ug/l	80.0	6.1	100	70-130	1	20	
Silver	79.9	1.0	0.025	ug/l	80.0	ND	100	70-130	2	20	
Thallium	87.1	1.0	0.15	ug/l	80.0	ND	109	70-130	1	20	

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 Michele Harper  
 Project Manager



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METHOD BLANK/QC DATA

DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: 5K02130 Extracted: 11/02/05

Blank Analyzed: 11/02/2005 (5K02130-BLK1)

Arsenic	ND	5.0	4.4	ug/l							
Barium	ND	0.010	0.0060	mg/l							
Beryllium	ND	2.0	0.90	ug/l							
Boron	ND	0.050	0.0080	mg/l							
Chromium	ND	5.0	2.0	ug/l							
Cobalt	ND	10	2.0	ug/l							
Iron	ND	0.040	0.015	mg/l							
Manganese	ND	20	7.0	ug/l							
Nickel	ND	10	2.0	ug/l							
Vanadium	ND	10	3.0	ug/l							
Zinc	ND	20	15	ug/l							

LCS Analyzed: 11/02/2005 (5K02130-BS1)

Arsenic	994	5.0	4.4	ug/l	1000		99	85-115			
Barium	1.00	0.010	0.0060	mg/l	1.00		100	85-115			
Beryllium	1000	2.0	0.90	ug/l	1000		100	85-115			
Boron	0.970	0.050	0.0080	mg/l	1.00		97	85-115			
Chromium	990	5.0	2.0	ug/l	1000		99	85-115			
Cobalt	1010	10	2.0	ug/l	1000		101	85-115			
Iron	1.01	0.040	0.015	mg/l	1.00		101	85-115			
Manganese	1020	20	7.0	ug/l	1000		102	85-115			
Nickel	1000	10	2.0	ug/l	1000		100	85-115			
Vanadium	1010	10	3.0	ug/l	1000		101	85-115			
Zinc	1010	20	15	ug/l	1000		101	85-115			

Matrix Spike Analyzed: 11/02/2005 (5K02130-MS1)

Source: IOK0111-01

Arsenic	1000	5.0	4.4	ug/l	1000	7.2	99	70-130			
Barium	1.00	0.010	0.0060	mg/l	1.00	ND	100	70-130			
Beryllium	1010	2.0	0.90	ug/l	1000	ND	101	70-130			
Boron	0.971	0.050	0.0080	mg/l	1.00	ND	97	70-130			
Chromium	992	5.0	2.0	ug/l	1000	ND	99	70-130			
Cobalt	1000	10	2.0	ug/l	1000	ND	100	70-130			
Iron	1.02	0.040	0.015	mg/l	1.00	0.025	100	70-130			
Manganese	1010	20	7.0	ug/l	1000	ND	101	70-130			
Nickel	1000	10	2.0	ug/l	1000	ND	100	70-130			
Vanadium	1000	10	3.0	ug/l	1000	ND	100	70-130			

Del Mar Analytical, Irvine  
Michele Harper  
Project Manager

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## METHOD BLANK/QC DATA

### DISSOLVED METALS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 5K02130 Extracted: 11/02/05</b>											
<b>Matrix Spike Analyzed: 11/02/2005 (5K02130-MS1)</b>						<b>Source: IOK0111-01</b>					
Zinc	1000	20	15	ug/l	1000	ND	100	70-130			
<b>Matrix Spike Dup Analyzed: 11/02/2005 (5K02130-MSD1)</b>						<b>Source: IOK0111-01</b>					
Arsenic	1020	5.0	4.4	ug/l	1000	7.2	101	70-130	2	20	
Barium	1.04	0.010	0.0060	mg/l	1.00	ND	104	70-130	4	20	
Beryllium	1000	2.0	0.90	ug/l	1000	ND	100	70-130	1	20	
Boron	1.01	0.050	0.0080	mg/l	1.00	ND	101	70-130	4	20	
Chromium	1010	5.0	2.0	ug/l	1000	ND	101	70-130	2	20	
Cobalt	1030	10	2.0	ug/l	1000	ND	103	70-130	3	20	
Iron	1.05	0.040	0.015	mg/l	1.00	0.025	102	70-130	3	20	
Manganese	1030	20	7.0	ug/l	1000	ND	103	70-130	2	20	
Nickel	1020	10	2.0	ug/l	1000	ND	102	70-130	2	20	
Vanadium	1030	10	3.0	ug/l	1000	ND	103	70-130	3	20	
Zinc	1030	20	15	ug/l	1000	ND	103	70-130	3	20	
<b>Batch: 5K03062 Extracted: 11/03/05</b>											
<b>Blank Analyzed: 11/03/2005 (5K03062-BLK1)</b>											
Mercury	ND	0.20	0.050	ug/l							
<b>LCS Analyzed: 11/03/2005 (5K03062-BS1)</b>											
Mercury	8.15	0.20	0.050	ug/l	8.00		102	85-115			
<b>Matrix Spike Analyzed: 11/03/2005 (5K03062-MS1)</b>						<b>Source: IOJ2027-01</b>					
Mercury	7.91	0.20	0.050	ug/l	8.00	ND	99	70-130			
<b>Matrix Spike Dup Analyzed: 11/03/2005 (5K03062-MSD1)</b>						<b>Source: IOJ2027-01</b>					
Mercury	8.00	0.20	0.050	ug/l	8.00	ND	100	70-130	1	20	

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### DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M2** The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- M-HA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- RL-1** Reporting limit raised due to sample matrix effects.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
Michele Harper  
Project Manager



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## Certification Summary

### Del Mar Analytical, Irvine

Method	Matrix	Nelac	California
EPA 200.7-Diss	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 245.1-Diss	Water	X	X
EPA 245.1	Water	X	X

*Nevada and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at [www.dmalabs.com](http://www.dmalabs.com).*

**Del Mar Analytical, Irvine**  
 Michele Harper  
 Project Manager

