Project: NPDES SDG: IPA1192 Analysis: Metals

DATA VALIDATION REPORT

## 2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

# 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

## 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



17461 Derian Ave., Suite 100, irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1914 E. Cookey Dr., Suite A., Collion, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesepoake Or., Suite 805, San Diego, CA 92123 (858) 505-8596 (AX (858) 305-9689 9830 South \$1st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0051 2320 E. Susset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Report Number: IPA1192

Sampled: 01/14/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Received: 01/15/06

## **METALS**

| Analyte  | Method      | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers   |
|--|-------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--|
| Sample ID: IPA1192-01 (Outfall 00<br>Reporting Units: ug/l | )4 - Water) |         |              |                    |                  |                    |                   |                  | Rev Qual   |
| Antimony   | EPA 200.8   | 6A16092 | 0.050        | 2.0                | 1.2              | 1                  | 01/16/06          | 01/17/06         | PING E I   |
| Cadmium  | EPA 200.8   | 6A16092 | 0.025        | 1.0                | 0.080            | ļ                  | 01/16/06          | 01/17/06         | J 1 8  |
| Copper   | EPA 200.8   | 6A16092 | 0.25         | 2.0                | 1.9              | 1                  | 01/16/06          | 01/17/06         | j  |
| Lead   | EPA 200.8   | 6A16092 | 0.040        | 1.0                | 0.69             | 1                  | 01/16/06          | 01/17/06         | J  |
| Mercury  | EPA 245.1   | 6A17070 | 0.050        | 0.20               | 0.051            | 1                  | 01/17/06          | 01/17/06         | The second secon |

Del Mar Analytical, Irvine Michele Chamberlin Project Manager

LEVEL IV

The results portain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IPA1192 < Page 2 of 11>

# **APPENDIX G**

# **Section 21**

Outfall 005, January 01, 2006

Del Mar Analytical Laboratory Report



# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 01/01/06 Received: 01/01/06

Issued: 01/18/06 08:29

#### 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.

## SAMPLE CROSS REFERENCE

SUBCONTRACTED:

Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID

CLIENT ID

MATRIX

IPA0005-01

Outfall 005

Water

Reviewed By:

**Del Mar Analytical, Irvine**Michele Chamberlin

Michele Chamberein

Project Manager





Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

Project ID: Routine Outfall 005

Pasadena, CA 91101

Report Number: IPA0005

Sampled: 01/01/06

Received: 01/01/06

## **METALS**

| Analyte                                | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0005-01 (Outfall 005 - W | /ater)    |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                  |           |         |              |                    |                  |                    |                   |                  |                    |
| Antimony                               | EPA 200.8 | 6A04084 | 0.18         | 2.0                | 5.9              | 1                  | 01/04/06          | 01/05/06         |                    |
| Cadmium                                | EPA 200.8 | 6A04084 | 0.015        | 1.0                | 0.052            | 1                  | 01/04/06          | 01/05/06         | J                  |
| Copper                                 | EPA 200.8 | 6A04084 | 0.49         | 2.0                | 2.2              | 1                  | 01/04/06          | 01/05/06         | В                  |
| Lead                                   | EPA 200.8 | 6A04084 | 0.040        | 1.0                | 0.72             | 1                  | 01/04/06          | 01/05/06         | J                  |
| Mercury                                | EPA 245.1 | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | 01/03/06         |                    |





Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPA0005

Sampled: 01/01/06

Received: 01/01/06

## **INORGANICS**

| Analyte                              | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--------------------------------------|----------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0005-01 (Outfall 005 - | Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l                |                |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                             | EPA 300.0      | 6A01004 | 2.6          | 5.0                | 160              | 10                 | 01/01/06          | 01/01/06         |                    |
| Nitrate/Nitrite-N                    | EPA 300.0      | 6A01004 | 0.72         | 2.6                | 51               | 10                 | 01/01/06          | 01/01/06         |                    |
| Oil & Grease                         | EPA 413.1      | 6A06048 | 0.91         | 4.9                | 2.3              | 1                  | 01/06/06          | 01/06/06         | J                  |
| Sulfate                              | EPA 300.0      | 6A01004 | 1.8          | 5.0                | 76               | 10                 | 01/01/06          | 01/01/06         |                    |
| Total Dissolved Solids               | SM2540C        | 6A03093 | 10           | 10                 | 980              | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Suspended Solids               | EPA 160.2      | 6A05089 | 10           | 10                 | 25               | 1                  | 01/05/06          | 01/05/06         |                    |
| Sample ID: IPA0005-01RE1 (Outfall 0  | 05 - Water)    |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l                |                |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                             | EPA 300.0      | 6A12052 | 1.5          | 5.0                | 160              | 10                 | 01/12/06          | 01/12/06         |                    |
| Total Dissolved Solids               | SM2540C        | 6A10114 | 10           | 10                 | 900              | 1                  | 01/06/06          | 01/06/06         |                    |





Project ID: Routine Outfall 005

Sampled: 01/01/06

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0005

Received: 01/01/06

# Attention: Bronwyn Kelly

## SHORT HOLD TIME DETAIL REPORT

|   | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 005 (IPA0005-01) - Water | er                     |                      |                       |                        |                       |
| EPA 300.0                                   | 2                      | 01/01/2006 09:06     | 01/01/2006 15:25      | 01/01/2006 17:30       | 01/01/2006 21:46      |



Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Report Number: IPA0005

Sampled: 01/01/06

Received: 01/01/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

## **METALS**

|  | 1            | Reporting   |       |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|--|--------------|-------------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                  | Result       | Limit       | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03072 Extracted: 01/03/06       |              |             |       |       |       |           |         |        |     |       |            |
|  | -            |             |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03072-B    | LK1)         |             |       |       |       |           |         |        |     |       |            |
| Mercury                                  | ND           | 0.20        | 0.063 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03072-BS)    | b            |             |       |       |       |           |         |        |     |       |            |
| Mercury                                  | 7.95         | 0.20        | 0.063 | ug/l  | 8.00  |           | 99      | 85-115 |     |       |            |
| •  |              |             |       |       |       |           |         |        |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A0)  | -            |             |       |       |       | rce: IOL2 |         |        |     |       |            |
| Mercury                                  | 7.95         | 0.20        | 0.063 | ug/l  | 8.00  | ND        | 99      | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006    | (6A03072-MSI | <b>D1</b> ) |       |       | Sour  | rce: IOL2 | 2617-01 |        |     |       |            |
| Mercury                                  | 8.00         | 0.20        | 0.063 | ug/l  | 8.00  | ND        | 100     | 70-130 | 1   | 20    |            |
| Batch: 6A04084 Extracted: 01/04/06       |              |             |       |       |       |           |         |        |     |       |            |
| 2.00.00.00.00.00.00.00.00.00.00.00.00.00 | •            |             |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-Bl   | LK1)         |             |       |       |       |           |         |        |     |       |            |
| Antimony                                 | 0.162        | 2.0         | 0.050 | ug/l  |       |           |         |        |     |       | J          |
| Cadmium                                  | ND           | 1.0         | 0.025 | ug/i  |       |           |         |        |     |       |            |
| Copper                                   | 0.321        | 2.0         | 0.25  | ug/l  |       |           |         |        |     |       | J          |
| Lead                                     | ND           | 1.0         | 0.040 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS1    | )            |             |       |       |       |           |         |        |     |       |            |
| Antimony                                 | 78.5         | 2.0         | 0.050 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Cadmium                                  | 80.2         | 1.0         | 0.025 | ug/l  | 80.0  |           | 100     | 85-115 |     |       |            |
| Copper                                   | 80.8         | 2.0         | 0.25  | ug/l  | 80.0  |           | 101     | 85-115 |     |       |            |
| Lead                                     | 78.3         | 1.0         | 0.040 | ug/l  | 80.0  |           | 98      | 85-I15 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A04  | 084-MS1)     |             |       |       | Sour  | ce: IOL2  | 694-49  |        |     |       |            |
| Antimony                                 | 78.2         | 2.0         | 0.050 | ug/l  | 80.0  | 0.26      | 97      | 70-130 |     |       |            |
| Cadmium                                  | 76.0         | 1.0         | 0.025 | ug/l  | 80.0  | ND        | 95      | 70-130 |     |       |            |
| Copper                                   | 102          | 2.0         | 0.25  | ug/l  | 80.0  | 23        | 99      | 70-130 |     |       |            |
| Lead                                     | 84.3         | 1.0         | 0.040 | ug/l  | 80.0  | 2.7       | 102     | 70-130 |     |       |            |

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



Project ID: Routine Outfall 005

Sampled: 01/01/06

Pasadena, CA 91101

Report Number: IPA0005

Received: 01/01/06

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

# METHOD BLANK/QC DATA

## **METALS**

| Analyte                                | Result       | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result | %REC    | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|--------------|--------------------|-------|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 6A04084 Extracted: 01/04/06     | <del>.</del> |                    |       |       |                |                  |         |                |     |              |                    |
| Matrix Spike Analyzed: 01/05/2006 (6A0 | 4084-MS2)    |                    |       |       | Sou            | rce: IOL         | 2694-50 |                |     |              |                    |
| Antimony                               | 80.0         | 2.0                | 0.050 | ug/l  | 80.0           | 0.094            | 100     | 70-130         |     |              |                    |
| Cadmium                                | 76.2         | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95      | 70-130         |     |              |                    |
| Copper                                 | 101          | 2.0                | 0.25  | ug/l  | 80.0           | 18               | 104     | 70-130         |     |              |                    |
| Lead                                   | 87.5         | 1.0                | 0.040 | ug/l  | 80.0           | 1.8              | 107     | 70-130         |     |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006  | (6A04084-M   | SD1)               |       |       | Sou            | rce: IOL2        | 2694-49 |                |     |              |                    |
| Antimony                               | 76.7         | 2.0                | 0.050 | ug/l  | 80.0           | 0.26             | 96      | 70-130         | 2   | 20           |                    |
| Cadmium                                | 76.1         | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95      | 70-130         | 0   | 20           |                    |
| Copper                                 | 101          | 2.0                | 0.25  | ug/l  | 80.0           | 23               | 98      | 70-130         | 1   | 20           |                    |
| Lead                                   | 83.9         | 1.0                | 0.040 | ug/l  | 80.0           | 2.7              | 102     | 70-130         | Ī   | 20           |                    |



Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0005

Sampled: 01/01/06 Received: 01/01/06

## METHOD BLANK/QC DATA

## **INORGANICS**

|  |              | Reporting |       |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|--|--------------|-----------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                | Result       | Limit     | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A01004 Extracted: 01/01/06     | <u> </u>     |           |       |       |       |           |         |        |     |       |            |
|  |              |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/01/2006 (6A01004-B  | LK1)         |           |       |       |       |           |         |        |     |       |            |
| Chloride                               | ND           | 0.50      | 0.15  | mg/l  |       |           |         |        |     |       |            |
| Nitrate/Nitrite-N                      | ND           | 0.15      | 0.080 | mg/l  |       |           |         |        |     |       |            |
| Sulfate                                | ND           | 0.50      | 0.45  | mg/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/01/2006 (6A01004-BS   | 1)           |           |       |       |       |           |         |        |     |       |            |
| Chloride                               | 4.88         | 0.50      | 0.15  | mg/l  | 5.00  |           | 98      | 90-110 |     |       | M-3        |
| Sulfate                                | 9.56         | 0.50      | 0.45  | mg/l  | 10.0  |           | 96      | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/01/2006 (6A0 | 1004-MS1)    |           |       |       | Sou   | rce: IPA( | 0003-01 |        |     |       |            |
| Sulfate                                | 14.4         | 0.50      | 0.45  | mg/l  | 10.0  | 5.1       | 93      | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/01/2006  | (6A01004-MS  | SD1)      |       |       | Sou   | rce: IPA( | 0003-01 |        |     |       |            |
| Sulfate                                | 14.8         | 0.50      | 0.45  | mg/l  | 10.0  | 5.1       | 97      | 80-120 | 3   | 20    |            |
| Batch: 6A03093 Extracted: 01/03/06     | <u>.</u>     |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03093-B  | LK1)         |           |       |       |       |           |         |        |     |       |            |
| Total Dissolved Solids                 | ND           | 10        | 10    | mg/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03093-BS   | 1)           |           |       |       |       |           |         |        |     |       |            |
| Total Dissolved Solids                 | 1000         | 10        | 10    | mg/l  | 1000  |           | 100     | 90-110 |     |       |            |
| Duplicate Analyzed: 01/03/2006 (6A0309 | 3-DUP1)      |           |       |       | Sou   | rce: IPA0 | 005-01  |        |     |       |            |
| Total Dissolved Solids                 | 981          | 10        | 10    | mg/l  |       | 980       |         |        | 0   | 10    |            |
| Batch: 6A05089 Extracted: 01/05/06     | <u>.</u>     |           |       |       |       |           |         |        |     |       |            |
|  | <del>-</del> |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A05089-B  | LK1)         |           |       |       |       |           |         |        |     |       |            |
| Total Suspended Solids                 | ND           | 10        | 10    | mg/l  |       |           |         |        |     |       |            |

Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 005

Report Number: IPA0005

Sampled: 01/01/06

Received: 01/01/06

# METHOD BLANK/QC DATA

## **INORGANICS**

|   |         | Reporting |      |       | Spike | Source    |          | %REC   |     | RPD   | Data       |
|---|---------|-----------|------|-------|-------|-----------|----------|--------|-----|-------|------------|
| Analyte   | Result  | Limit     | MDL  | Units | Level | Result    | %REC     | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05089 Extracted: 01/05/06                    | _       |           |      |       |       |           |          |        |     |       |            |
|   |         |           |      |       |       |           |          |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A05089-BS                  | l)      |           |      |       |       |           |          |        |     |       |            |
| Total Suspended Solids                                | 979     | 10        | 10   | mg/l  | 1000  |           | 98       | 85-115 |     |       |            |
| Duplicate Analyzed: 01/05/2006 (6A0508)               | 9-DUP1) |           |      |       | Sou   | rce: IPA( | 0012-01  |        |     |       |            |
| Total Suspended Solids                                | 458     | 10        | 10   | mg/l  |       | 350       |          |        | 27  | 10    | R-3        |
| Batch: 6A06048 Extracted: 01/06/06                    |         |           |      |       |       |           |          |        |     |       |            |
| Baten, 0/400040 Extracted, 01/00/00                   | -       |           |      |       |       |           |          |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06048-B                 | LK1)    |           |      |       |       |           |          |        |     |       |            |
| Oil & Grease  | ND      | 5.0       | 0.94 | mg/l  |       |           |          |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06048-BS)                 | n       |           |      |       |       |           |          |        |     |       | M-NR1      |
| Oil & Grease  | 19.2    | 5.0       | 0.94 | mg/l  | 20.0  |           | 96       | 65-120 |     |       |            |
| 1 CC D 1 1- 01/0//2007 /C 10/048                      | DCD4    |           |      | _     |       |           |          |        |     |       |            |
| LCS Dup Analyzed: 01/06/2006 (6A06048<br>Oil & Grease | 19.6    | 5.0       | 0.94 |       | 20.0  |           | 98       | 65-120 | 2   | 20    |            |
| Oil & Grease  | 19.0    | 5.0       | 0.94 | mg/l  | 20.0  |           | 98       | 03-120 | 2   | 20    |            |
| Batch: 6A10114 Extracted: 01/06/06                    |         |           |      |       |       |           |          |        |     |       |            |
| DI  | . TZ4\  |           |      |       |       |           |          |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A10114-Bl                | •       | 10        | 10   | ø     |       |           |          |        |     |       |            |
| Total Dissolved Solids                                | ND      | 10        | 10   | mg/l  |       |           |          |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A10114-BS1                 | )       |           |      |       |       |           |          |        |     |       |            |
| Total Dissolved Solids                                | 948     | 10        | 10   | mg/l  | 1000  |           | 95       | 90-110 |     |       |            |
| Duplicate Analyzed: 01/06/2006 (6A10114               | i-DUP1) |           |      |       | Sour  | ce: IPA0  | 005-01RI | E1     |     |       |            |
| Total Dissolved Solids                                | 946     | 10        | 10   | mg/l  |       | 900       |          |        | 5   | 10    |            |

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



Attention: Bronwyn Kelly

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0005

Sampled: 01/01/06

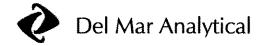
Received: 01/01/06

# METHOD BLANK/QC DATA

## **INORGANICS**

| Analyte  Batch: 6A12052 Extracted: 01/12/06 | Result | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---|--------|--------------------|------|-------|----------------|------------------|------|----------------|-----|--------------|--------------------|
| Blank Analyzed: 01/12/2006 (6A12052-B)      | ,      |                    |      |       |                |                  |      |                |     |              |                    |
| Chloride                                    | ND     | 0.50               | 0.15 | mg/l  |                |                  |      |                |     |              |                    |
| LCS Analyzed: 01/12/2006 (6A12052-BS1       | l)     |                    |      |       |                |                  |      |                |     |              |                    |
| Chloride                                    | 5.09   | 0.50               | 0.15 | mg/l  | 5.00           |                  | 102  | 90-110         |     |              | M-3                |

Sampled: 01/01/06



MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

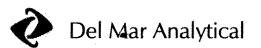
Report Number: IPA0005 Received: 01/01/06

Attention: Bronwyn Kelly

# **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

| LabNumber     | Analysis             | Analyte                       | Units | Result | MRL  | Compliance<br>Limit |
|---------------|----------------------|-------------------------------|-------|--------|------|---------------------|
|               |                      |                               |       |        |      |                     |
| IPA0005-01    | 413.1 Oil and Grease | Oil & Grease                  | mg/l  | 2.30   | 4.9  | 15                  |
| IPA0005-01    | Antimony-200.8       | Antimony                      | ug/l  | 5.90   | 2.0  | 6.00                |
| IPA0005-01    | Cadmium-200.8        | Cadmium                       | ug/l  | 0.052  | 1.0  | 4.00                |
| IPA0005-01    | Chloride - 300.0     | Chloride                      | mg/l  | 160    | 5.0  | 150                 |
| IPA0005-01    | Copper-200.8         | Copper                        | ug/l  | 2.20   | 2.0  | 14                  |
| IPA0005-01    | Mercury - 245.1      | Mercury                       | ug/l  | 0      | 0.20 | 0.20                |
| IPA0005-01    | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N             | mg/l  | 51     | 2.6  | 10.00               |
| IPA0005-01    | Sulfate-300.0        | Sulfate                       | mg/l  | 76     | 5.0  | 250                 |
| IPA0005-01    | TDS - SM 2540C       | Total Dissolved Solids        | mg/l  | 980    | 10   | 850                 |
| IPA0005-01RE1 | Chloride - 300.0     | Chloride                      | mg/l  | 160    | 5.0  | 150                 |
| IPA0005-01RE1 | TDS - SM 2540C       | <b>Total Dissolved Solids</b> | mg/l  | 900    | 10   | 850                 |



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0005

Sampled: 01/01/06

Received: 01/01/06

Attention: Bronwyn Kelly

## **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.

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

accepted based on acceptable recovery in the Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

R-3 The RPD exceeded the method control limit 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





Project ID: Routine Outfall 005

Sampled: 01/01/06

Pasadena, CA 91101

Report Number: IPA0005

Received: 01/01/06

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

## **Certification Summary**

## Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | X          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0005-01

Analysis Performed: EDD + Level 4

Samples: IPA0005-01

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

| Del Mar Analytical version 02/17/04 Client Name/Address: Roeing Routis | Anal           | lytical<br>s.  | Version    | 02/17/04<br>Project<br>Boeing- | SS                  | - Table 1  | 30:      | OF CUSTODY FORM        | Ö (s)                        | <b>a</b> |            | H ISI | ANALYSIS REQUIRED | 1                         | Dage 1 of 1  | - |
|--|----------------|--|------------|--------------------------------|---------------------|--|----------|------------------------|------------------------------|----------|------------|-------|-------------------|---------------------------|--|---|
| 300 North Lake Avenue, Suite 1200 Pasadena. CA 91101                   | Avenu<br>91101 | e, Suite 1;  | 200        | Stormw                         | Stormwater at FSDF- | SDF-1  |          | eteMeta<br>g           |                              | ·        |            |       |                   |                           | Temp = 5.6   |   |
| Project Manager: Bronwyn Kelly   | ger. B         | ronwyn K   | elly       | Phone (828) 5                  | Phone Number.       | der ministration de la companya de l |          | erable<br>Pb, H        |                              |          |            |       | <u></u>           |                           | P# / &O  |   |
| Sampler R F TX rrist   | is             | وز روم   | ر ک        | Fax Number: (626) 568-65       | (626) 568-6515      |  |          | al Recove<br>Cd, Cu, I | s bns) ((<br>essend <i>2</i> | SO4, NC  | SST ,8     |       |                   |                           | Comments   |   |
| Sample S   | Sample         | Container  | * C        | Sampling                       | pling               | Preservative   | Bottle . | stoT<br>.de            |                              |          | SOT        |       | <u> </u>          |                           |  |   |
| 1-   |                | Poly-1L  | -          | .0                             |                     | HN03   | 4        | ×                      |                              |          |            |       |                   |                           |  |   |
| Ouffall 005- W   | >              | Paly-1   | -          |                                |                     | HN03   | 18       | ×                      |                              |          |            |       |                   |                           | etemen men men metalmin sem blenge syk-nin ble bleveske krivitetske der men men sem och selme frimme |   |
| Outfall 005 W  | >              | Glass-   | 2          |                                |                     | None   | 2A, 2B   |                        | ×                            |          |            |       |                   |                           |  |   |
| Outfall 005  | *              | Glass.<br>Amber  | 2          |                                |                     | 당  | 3A, 3B   |                        | ×                            |          |            |       |                   |                           |  |   |
| Outfall 005  | 3              | Poly-500<br>mi   | 2          | B                              |                     | None   | ₩, 4B    |                        |                              | ×        |            |       |                   |                           |  |   |
| Outfall 005  | 3              | Poly-500   | ~          | 1.60                           | 900                 | None   | 5A, 5B   |                        |                              |          | ×          |       |                   |                           |  |   |
|  |                |  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
|  |                |  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           | \$\$\$\$\$\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\   |   |
|  |                |  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
|  |                | - Carrier and Carr |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
|  |                |  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
|  |                |  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
|  |                | L  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
|  |                |  |            |                                |                     |  |          |                        |                              |          |            |       |                   |                           |  |   |
| Relinquished By  | \<br>\<br>>    | <b>N</b>   | ă          | Date/Time:<br>o/-c/-c/-        | 7.7.7. s            | Received By  | 4        | <u></u>                | Sate/Time:                   | )/<br>;; | \ <u>`</u> | 13/5  | احْر              | 24 Hours 5 Days           | ne: (check)<br>5 Days  |   |
| Remainshed By  | / × ·          |  | Ĭ,         | Date/Time:                     | 125                 | Received By  | }        |                        | Date/Time                    | 4 as     | 30/        | -     |                   | 48 Hours                  | 10 Days  |   |
| Kelinouished Bv  | ),             | ۶<br><u>آ</u>  | )<br> <br> | Date/Time:                     |                     | Received By  |          |                        | Date/Time.                   |          |            |       |                   | Perchiorate Only 72 Hours | ly 72 Hours  |   |
| -  |                |  | i          |                                |                     |  |          | (                      |                              |          |            | •     |                   | Metals Only 72 Hours      | Hours  |   |
|  |                |  |            |                                |                     |  |          |                        | _                            |          |            | 1020  |                   | Commission integral       | ) · · · · · · · · · · · · · · · · · · ·  |   |
|  |                |  |            |                                |                     |  |          |                        |                              | <u>`</u> |            | 1     |                   | Name and and              | Sample megaliy (Check)   |   |



January 16, 2006

Alta Project I.D.: 27137

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 04, 2006 under your Project Name "IPA0005". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier

Director of HRMS Services

Washe More



Alto Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. This report should not be reproduced except in full without the written approval. of ALTA.



Section I: Sample Inventory Report
Date Received: 1/4/2006

Aita Lab. ID

Client Sample ID

27137-001

IPA0005

# **SECTION II**

Project 27137 Page 3 of 273

Martha M. Maier 16-Jan-2006 11:43

Approved By:

| Method Blank           |                 | The comments of the control of the c |  | EPA Method 1613                    |
|------------------------|-----------------|--|--|------------------------------------|
| Matrix: Aqueous        | QC Batch No.:   | 7632   | Lab Sample: 0-MB001  |                                    |
| Sample Size: 1.00 L    | Date Extracted: | 8-Jan-06   | Date Analyzed DB-5: 11-Jan-06  | Date Analyzed DB-225: NA           |
| Analyte Conc. (ug/L)   | DL a EMI        | EMPC b Qualifiers  | Labeled Standard   | %R LCL-UCL <sup>d</sup> Qualifiers |
| 2,3,7,8-TCDD ND        | 0.000000671     |  | <u>1S</u> 13C-2,3,7,8-TCDD   | 84.0 25 - 164                      |
| 1,2,3,7,8-PeCDD ND     | 0.000000560     |  | 13C-1,2,3,7,8-PeCDD  | 78.7 25 - 181                      |
| 1,2,3,4,7,8-HxCDD ND   | 0.00000149      |  | 13C-1,2,3,4,7,8-HxCDD  | 81.9 32-141                        |
| 1,2,3,6,7,8-HxCDD ND   | 0.00000147      |  | 13C-1,2,3,6,7,8-HxCDD  | 74.4 28 - 130                      |
| 1,2,3,7,8,9-HxCDD      | 0.00000145      |  | 13C-1,2,3,4,6,7,8-HpCDD  | 75.6 23 - 140                      |
| 1,2,3,4,6,7,8-HpCDD ND | 0.00000146      |  | 13C-0CDD   | 40.1 17 - 157                      |
| OCDD ND                | 0.00000535      |  | 13C-2,3,7,8-TCDF   | 82.6 24 - 169                      |
| 2,3,7,8-TCDF ND        | 0.000000546     |  | 13C-1,2,3,7,8-PeCDF  | 65.3 24 - 185                      |
| DY                     | 0.00000112      |  | 13C-2,3,4,7,8-PeCDF  | 71.3 21-178                        |
| S                      |                 |  | 13C-1,2,3,4,7,8-HxCDF  | 73.7 26 - 152                      |
| 2                      | 0.000000511     |  | 13C-1,2,3,6,7,8-HxCDF  | 70.0 26 - 123                      |
| 1,2,3,6,7,8-HxCDF ND   | 0.000000518     |  | 13C-2,3,4,6,7,8-HxCDF  | 78.0 28 - 136                      |
| 2,3,4,6,7,8-HxCDF      | 0.000000522     |  | 13C-1,2,3,7,8,9-HxCDF  | 79.2 29 - 147                      |
|                        |                 |  | 13C-1,2,3,4,6,7,8-HpCDF  | 64.7 28 - 143                      |
| Q.                     | 0.000000764     |  | 13C-1,2,3,4,7,8,9-HpCDF  | 76.3                               |
| (9-HpCDF ND            |                 |  | 13C-OCDF   | 49.6 17 - 157                      |
| OCDF                   | 0,00000360      |  | CRS 37Cl-2,3,7,8-TCDD  | 88.7 35 - 197                      |
| Totals                 |                 |  | Footnotes  |                                    |
| Total TCDD ND          | 0.00000671      |  | Sample specific estimated detection limit.     Estimated maximum possible concentration. |                                    |
| 2                      | 0.00000147      |  | c. Method detection limit.   |                                    |
| Total HpCDD            | 0.00000146      |  | d. Lower control limit - upper control limit.  |                                    |
| Total TCDF ND          | 0.000000546     |  |  |                                    |
| Total PeCDR            | 0.000000097     |  | or o   |                                    |
|                        | 0.000000553     |  |  |                                    |
| Total HpCDF            | 0.00000092      |  |  |                                    |

Analyst JMH

| OPR Results                        |                                |                  |  | EPA Method 1613       | d 1613 |
|------------------------------------|--------------------------------|------------------|--|-----------------------|--------|
| Matrix Aqueous Sample Size: 1.00 L | QC Batch No<br>Date Extracted. | 7632<br>8-Jan-06 | Lab Sample: 0-OPR001 Date Analyzed DB-5: 11-Jan-06 | Date Analyzed DB-225: | S: NA  |
| Analyte                            | Spike Conc. Conc. (ng/mL)      | OPR Limits       | Labeled Standard                                   | %R LCL                | CLUCL  |
| 2,3,7,8-TCDD                       | 10.0 8.44                      | 6.7 - 15.8       | <u>IS</u> 13C-2,3,7,8-TCDD                         | 66.2 25 - 104         | , o.   |
| 1,2,3,7,8-PeCDD                    | 50.0 48.8                      | 35-71            | 13C-1,2,3,7,8-PeCDD                                | 70.5 25 - 181         | 00     |
| 1,2,3,4,7,8-HxCDD                  | 50.0 48.8                      | 35 - 82          | 13C-1,2,3,4,7,8-HxCDD                              | 68.7 32 - 141         | [4]    |
| 1,2,3,6,7,8-HxCDD                  | 50.0                           | 38-67            | 13C-1,2,3,6,7,8-HxCDD                              | 65.6 28 - 130         | 130    |
| 1,2,3,7,8,9-HxCDD                  | 50.0 48.7                      | 32.81            | 13C-1,2,3,4,6,7,8-HpCDD                            | 70.6 23 - 140         | 40     |
| 1,2,3,4,6,7,8-HpCDD                | 50.0 47.2                      | 35 - 70          | 13C-0CDD   | 49.9 17 - 157         | 157    |
| ОСДО                               | 100                            | 78 - 144         | 13C-2,3,7,8-TCDF                                   | 62.9 24 - 169         | 691    |
| 2,3,7,8-TCDF                       | 10.0                           | 7.5 - 15.8       | 13C-1,2,3,7,8-PeCDF                                | 63.1 24 - 185         | 185    |
| 1,2,3,7,8-PeCDF                    | 50.0% 46.6                     | 40 - 67          | 13C-2,3,4,7,8-PeCDF                                | 64.2 21 - 178         | 178    |
| 2,3,4,7,8-PeCDF                    | 50.0 48.4                      | 34 - 80          | 13C-1,2,3,4,7,8-HxCDF                              | 65.4 26 - 152         | 152    |
| 1,2,3,4,7,8-HxCDF                  | 50.0 47.6                      | 36 - 67          | 13C-1,2,3,6,7,8-HxCDF                              | 63.8 26 - 123         | 123    |
| 1,2,3,6,7,8-HxCDF                  | 50.0 48.7                      | 42 - 65          | 13C-2,3,4,6,7,8-HxCDF                              | 67.9 28 - 136         | 136    |
| 2,3,4,6,7,8-HxCDF                  | 50,0                           | 35 - 78          | 13C-1,2,3,7,8,9-HxCDF                              | 70.4 29 - 147         | 147    |
| 1,2,3,7,8,9-HxCDF                  | 50.0 47.3                      | 39 - 65          | 13C-1,2,3,4,6,7,8-HpCDF                            | 63.1 28 - 143         | 143    |
| 1,2,3,4,6,7,8-HpCDF                | 50.0                           | 41-61            | 13C-1,2,3,4,7,8,9-HpCDF                            | 70.1 26-138           | 138    |
| 1,2,3,4,7,8,9-HpCDF                | 50.0 48.4                      | 39 - 69          | 13C-OCDF   | 56.4 17 - 157         | 157    |
| OCDF                               | 246 001                        | 63 - 170         | CRS 37Cl-2,3,7,8-TCDD                              | 81.7 35 197           | 197    |

Approved By: Martha M. Maier 16-Jan-2006 11:43

Analyst: JMH

| Sample ID: IPA0005   |             |  |                    |  |   |   | EPA N  | EPA Method 1613            |
|--|-------------|--|--------------------|--|---|---|--|----------------------------|
| Client Data  Name Del Mar Analytical, Irvine Project: IPA0005 Date Collected 1-Jan-06 Time Collected: 0906   | SI Z S      | Sample Data<br>Matrix.<br>Sample Size: | Aqueous<br>0.925 L | Laboratory Data<br>Lab Sample:<br>QC Batch No.:<br>Date Analyzed DB-5:                   | 27137-001<br>7632<br>12-Jan-06          | Date Received:<br>Date Extracted<br>Date Analyzed | Date Received:<br>Date Lixtracted<br>Date Analyzed DB-225: | 4-Jan-06<br>8-Jan-06<br>NA |
| Analyte Conc. (ug/L) DL  | et et       | EMPCb                                  | Qualifiers         | Labeled Standard   | ırd                                     | %R 1  | TCT-CCT <sub>q</sub>                                       | Ouslifiers                 |
| 2,3,7,8-TCDD ND 0.00   | 0.000000816 | 9                                      |                    | IS 13C-2,3,7,8-TCDD  | Q                                       | 65.7  | 25 161   |                            |
| <b>Q S</b>   | 0.000000897 | 7                                      |                    | 13C-1,2,3,7,8-PeCDD  | CDD                                     | 66.4  | 25 - 181   |                            |
| 1,2,3,4,7,8-HxCDD ND 0.00<br>1,2,3,6,7,8-HxCDD ND 0.00   | 0.00000125  |  |                    | 13C-1,2,3,4,7,8-HXCDD  | axcou<br>axcou                          | 62.6  | 32 - 141<br>28 - 130                                       |                            |
| Ð  | 0.00000123  |  |                    | 13C-1,2,3,4,6,7,8-HpCDD  | HPCDD                                   | 64.6  | 23 - 140   |                            |
| Ω  |             |  |                    | 13C-OCDD   | * ************************************* | 40.7  | 17-157   |                            |
| 0.0000311  |             |  | -                  | 13C-2,3,7,8-TCDF   | ¥                                       | 61.4  | 24 - 169   | t. ==<br>                  |
| 2  | 0.000000735 | 8                                      |                    | 13C-1,2,3,7,8-PeCDF  | CDF                                     | 59.9  | 24 - 185   |                            |
| ON THE STATE OF TH | 0.00000131  |  | 79.<br>19.         | 13C-2,3,4,7,8-PeCDF  | CDF                                     | 61.7  | 21 - 178   |                            |
| 2  | 0.00000112  |  | :                  | 13C-1,2,3,4,7,8-HxCDF  | HxCDF                                   | 62.6  | 26 - 152   |                            |
| <b>9</b>   | 0.000000015 | <b>S</b>                               |                    | 13C-1,2,3,6,7,8-HxCDF  | HXCDF                                   | 63.1  | 26 - 123   |                            |
| Q  | 0.000000864 | 4                                      |                    | 13C-2,3,4,6,7,8-HxCDF  | HXCDF                                   | 64.1  | 28 - 136   |                            |
| 2,3,4,6,7,8-HxCDF 0.0  | 0.000000071 |  |                    | 13C-1,2,3,7,8,9-HxCDF  | HxCDF                                   | 66.3  | 29 - 147   |                            |
| Q  | 0.00000133  |  | -                  | 13C-1,2,3,4,6,7,8-HpCDF  | 8-HpCDF                                 | 57.8  | 28 - 143   |                            |
| 1,2,3,4,6,7,8-HpCDF 0.0  | 0.00000176  |  |                    | 13C-1,2,3,4,7,8,9-HpCDF  | э-нрсрг                                 | 2.99  | 26 - 138   | 1&1<br>1.                  |
| Q  | 0.00000169  |  |                    | 13C-OCDF   |   | 49.3  | - 157  |                            |
| OCDF 25 A STATE OCCDF 25 A STATE OCCUPANCE  |             | 0.00000839                             | 39                 | CRS 37CI-2,3,7,8-TCDD  | OO                                      | 75.9  | 35 - 197   |                            |
| Totals   |             |  |                    | Footnotes  |   |   |  |                            |
| Total TCDD ND 0.0  | 0.000000816 | 9                                      |                    | Sample specific estimated detection limit.     Estimated maximum possible concentration. | d detection limit.                      | H.  | 81<br>197  |                            |
|  | 0.00000124  |  | :                  | c. Method detection limit.   |   |   |  |                            |
| Total HpCDD  |             | e galler<br>Galler<br>Galler           |                    | d. Lower control limit - upper control limit.  | er control limit.                       |   |  | 35 N                       |
| 2  <br>2  <br>2  <br>3  <br>3  <br>3   | 0.000000735 | <u>ي</u>                               | ary<br>asy         |  | 4.2                                     |   |  |                            |
| <b>QX</b>  | 0.00000121  |  |                    |  |   |   |  |                            |
| Total HxCDF ND 0.0   | 0.00000101  | K                                      | \$4.               |  |   |   |  |                            |
| minimum consistent and the second   |             |  |                    |  |   |   |  |                            |

Analyst: JMH

Approved By: Martha M. Maier 16-Jan-2006 11:43

Project 27137

# APPENDIX

Project 27137 Page 7 of 273

## **DATA QUALIFIERS & ABBREVIATIONS**

This compound was also detected in the method blank. The amount reported is the maximum possible concentration due to possible D chlorinated diphenylether interference.

The reported value exceeds the calibration range of the instrument. Ε

The signal-to-noise ratio is greater than 10:1. Η

I Chemical interference

The amount detected is below the Lower Calibration Limit of the instrument. J

See Cover Letter

В

Concentration Conc.

DL Sample-specific estimated Detection Limit

The minimum concentration of a substance that can be measured and MDL reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

Estimated Maximum Possible Concentration **EMPC** 

NA Not applicable

Reporting Limit - concentrations that corresponds to low calibration point RL

Not Detected ND

Toxic Equivalency **TEQ** 

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

# **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number             |
|---|--------------------------------|
| State of Alaska, DEC                        | CA413-02                       |
| State of Arizona                            | AZ0639                         |
|   | 05-013-0                       |
| State of Arkansas, DEQ                      |                                |
| State of Arkansas, DOH                      | Reciprocity through CA 02102CA |
| State of California – NELAP Primary AA      | 02102CA                        |
| State of Colorado                           | NI 0102                        |
| State of Connecticut                        | PH-0182                        |
| State of Florida, DEP                       | E87777                         |
| Commonwealth of Kentucky                    | 90063                          |
| State of Louisiana, Health and Hospitals    | LA050001                       |
| State of Louisiana, DEQ                     | 01977                          |
| State of Maine                              | CA0413                         |
| State of Michigan                           | 81178087                       |
| State of Mississippi                        | Reciprocity through CA         |
| Naval Facilities Engineering Service Center |                                |
| State of Nevada                             | CA413                          |
| State of New Jersey                         | CA003                          |
| State of New Mexico                         | Reciprocity through CA         |
| State of New York, DOH                      | 11411                          |
| State of North Carolina                     | 06700                          |
| State of North Dakota, DOH                  | R-078                          |
| State of Oklahoma                           | D9919                          |
| State of Oregon                             | CA200001-002                   |
| State of Pennsylvania                       | 68-00490                       |
| State of South Carolina                     | 87002001                       |
| State of Tennessee                          | 02996                          |
| State of Texas                              | TX247-2005A                    |
| U.S. Army Corps of Engineers                |                                |
| State of Utah                               | 9169330940                     |
| Commonwealth of Virginia                    | 00013                          |
| State of Washington                         | C1285                          |
| State of Wisconsin                          | 998036160                      |
| State of Wyoming                            | 8TMS-Q                         |



Project 27137

17461 Derian Ave. Suite 100, Irvine. CA 92614 Ph (949) 261-1022 Fax (949) 261-1228 1014 E. Cooley Dr., Suite A. Colton, CA 92324 Ph (909) 370-4567 Fex (909) 370-1046 9484 Chesapenice Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 505-9689 9830 South 51st Street, Suite 8-120, Phoenix, AZ 85044 Ph (480) 785-0043 Fex (480) 785-0851 Fax (702) 798-3621

# SUBCONTRACT ORDER - PROJECT # IPA0005

| SENDE  | NG LAHORATORY                          | ¥:                     | 1 1   | RECEIVING LABORAT                                | ORY:         |
|--|--|------------------------|---|--|--------------|
| Del Mar Analytical, Irvine   |  |                        | Alta Analytical - S   | UB 71  | 127          |
| 17461 Derian Avenue. Suit  | e 100                                  |                        | 1104 Windfield W  | $\alpha$   | 121 .        |
| Irvine, CA 92614   | •                                      |                        | El Dorado Hills, C.   | A 95762  | 137 .<br>.7℃ |
| Phone: (949) 261-1022  |  |                        | Phone :(916) 933-1  | 1640   | .7°          |
| Fax: (949) 261-1228  |  |                        | Fax: (916) 673-010  | 06   |              |
| Project Manager: Michele C   | Chamberlin                             |                        | ,   |  |              |
|  |  |                        |   |  |              |
| Standard TAT is requeste   | d unless specific (                    | due date is reques     | sted ⇒ Due Date:  |  | Initials:    |
| Analysis   | Expiration                             |                        | Comments  |  |              |
| Sample ID: IPA0005-01 Wa<br>1613-Dioxin-HR-Alta<br>EDD + Level 4           | 01/08/06 09:06<br>01/29/06 09:06       | d: 01/01/06 09:06      | Instant Nofication J flags, 17 congeners, no Excel EDD cmail to pm. | TEQ.ug/L,sub=Alta<br>Include Std logs for Lvl IV | ,            |
| Containers Supplied:<br>1 L Amber (IPA0005-01C)<br>1 L Amber (IPA0005-01D) |  |                        |   |  |              |
|  | ······································ | ,                      |   |  | <del> </del> |
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|  |  |                        |   |  |              |
|  |  |                        |   |  |              |
| •  |  | SAMD                   | PLE INTEGRITY:  |  | •            |
| All containers intact:   | □ No                                   | Sample labels/COC agn  |   | Samples Received On Ice::                        | □ Yes □ №    |
| Custody Seals Present: Tyes  | □ No .                                 | Samples Preserved Prop | erly: 🗌 Yes 🖟 No  | Samples Received at (temp):                      |              |
|  | 1.12/61                                | (                      | Bettina of Ber  | 1.1 1/4/8  | 1935         |
| - Joues  | 1/2/06                                 | T:                     | Density Pro   | Date Date  | Time         |
| Released By  | 1/5/06 Date                            | Time                   | Received By   | Date   | Time         |
| Released By  | Date                                   |                        | Received By  Received By  | Date Date  | Time         |

# SAMPLE LOG-IN CHECKLIST

Alta Project #: 27137

| Samples Arrival: | Date/Time | 0935    | Initials: | SB    | Location:<br>WR-2   |                 |  |  |  |
|------------------|-----------|---------|-----------|-------|---------------------|-----------------|--|--|--|
| Logged in:       | Date/Time | 0730    | Initials: | SB    | Location:           | 7               |  |  |  |
| Delivered By:    | EedEx     | UPS     | Cal       | DHL   | Hand Othe Delivered |                 |  |  |  |
| Preservation:    | Ice       | Blu     | ie Ice    | Dry l | lce None            |                 |  |  |  |
| Temp °C C.       | 7         | Time: 💍 | 145       |       | Thermometer I       | <b>D:</b> DT-20 |  |  |  |

|  |           |            |              |    | YES                                   | NO       | NA       |
|--|-----------|------------|--------------|----|---------------------------------------|----------|----------|
| Adequate Sample Volume Received?                                       | ,         |            |              |    | V                                     |          |          |
| Holding Time Acceptable?   |           |            |              |    | V                                     |          |          |
| Shipping Container(s) Intact?  |           |            |              |    | /                                     |          |          |
| Shipping Custody Seals Intact?   |           |            |              |    | V                                     |          |          |
| Shipping Documentation Present?  |           |            |              |    | V                                     | <u> </u> |          |
| Airbill Trk# 792   | 4791      | 0341t      | 33           |    | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |          |          |
| Sample Container Intact?   |           |            |              |    | V                                     |          |          |
| Sample Custody Seals Intact?   |           |            |              |    | 12                                    |          | <b>V</b> |
| Chain of Custody / Sample Documer                                      | tation Pr | esent?     |              |    | <u> </u>                              | <b></b>  |          |
| COC Anomaly/Sample Acceptance F  | orm con   | pleted?    |              |    |                                       | V        |          |
| If Chlorinated or Drinking Water Sam                                   | ples, Acc | ceptable P | reservation? |    |                                       |          | <        |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? |           |            | coc          | •  | nple<br>ainer                         | No       | ne       |
| Shipping Container   | Alta      | Client     | Retain       | Re | turn                                  | Disp     | oose     |

Comments:

# **Section 22**

Outfall 005, January 01, 2006 AMEC Data Validation Reports

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

Package ID B4DF8

Task Order 1261.001D.01

 $MEC^{X}$ 

12269 East Vassar Drive

| Au          | rora, CO 80014                                 | SDG No. IPA0005   |
|-------------|--|---|
|             |  | No. of Analyses 1   |
|             | Laboratory Alta                                | Date: February 10, 2006   |
|             | Reviewer K. Shadow                             |   |
|             | Analysis/Method Dioxin/Fura                    | an by Method 1613 Scala M-  |
| 12.22       |  |   |
| AC          | TION ITEMS <sup>a</sup>                        |   |
| •           | Case Narrative                                 |   |
|             | Deficiencies                                   |   |
| 2.          | Out of Scone Analyses                          |   |
| <i>a</i> .  | Out of Scope Analyses                          |   |
|             |  |   |
| 3.          | Analyses Not Conducted                         |   |
|             |  |   |
|             |  |   |
| 4.          | Missing Hardcopy                               |   |
|             | Deliverables                                   |   |
|             |  |   |
| 5.          | Incorrect Hardcopy                             |   |
|             | Deliverables                                   |   |
|             |  |   |
| 6.          | Deviations from Analysis                       | Detects below the laboratory lower calibration level were qualified |
|             | Protocol, e.g.,                                | as estimated.   |
|             | Holding Times                                  | Qualification was assigned for an EMPC.                             |
|             | GC/MS Tune/Inst. Performance                   |   |
|             | Calibration                                    |   |
|             | Method blanks                                  |   |
|             | Surrogates                                     |   |
|             | Matrix Spike/Dup LCS Field QC                  |   |
|             | Internal Standard Performance                  |   |
|             | •  |   |
|             | Compound Identification  Quantitation          |   |
|             | System Performance                             |   |
| COL         | MENTS <sup>b</sup>                             |   |
|             |  |   |
| ····        |  |   |
| <del></del> |  |   |
|             | <del></del>                                    |   |
| <del></del> | the contractor analytical laborators in not an | eeting contract and/or method requirements.                         |
| "SŁ         |  |   |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 005

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA0005

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project:

DATA VALIDATION REPORT

SDG: Analysis:

**NPDES** IPA0005 D/F

## 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPA0005

Project Manager:

P. Costa

Water

Matrix:

Analysis:

Dioxins/Furans

QC Level:

Level IV

1

0

No. of Samples:

No. of Reanalyses/Dilutions:

Reviewer:

K. Shadowlight

Date of Review:

February 10, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

1

Project: SDG: Analysis: NPDES IPA0005 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | (Del Mar)  | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|------------|-------------------------|--------|------------|
| Outfall 005 | IPA0005-01 | 27137-001               | Water  | 1613       |

2

SDG: Analysis: NPDES IPA0005 D/F

## 2. DATA VALIDATION FINDINGS

## 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

# 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

## 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however no sample custody seals were present. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

## 2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

# 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

## 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

# 2.2.2 Mass Spectrometer Performance

Project: NPDES SDG: IPA0005 Analysis: D/F

DATA VALIDATION REPORT

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

## 2.3 CALIBRATION

## 2.3.1 Initial Calibration

The initial calibration was analyzed 12/30/2005 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

## 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

## 2.4 BLANKS

One method blank (0-7632-MB001) was extracted and analyzed with the sample in this SDG. No compounds were reported in the method blank associated with the site sample. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

## 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

## 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on

B4DF8 4 Revision 0

Project: SDG:

ect: NPDES i: IPA0005 ysis: D/F

DATA VALIDATION REPORT

SDG: Analysis:

the OPR results. No qualifications were required.

## 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

# 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

## 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

## 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

## 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

# 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. Any reported estimated maximum possible concentration (EMPC) was qualified as an estimated nondetect, "UJ." No further qualifications were required.

Project 27137

| I I (CLAILT)                           |  |              |   |                      |  | 四 十0                  |                |                         | 2                     |                       |                        | ر د                   |                     |                     | 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |                  |                 | , a                     | - 4,            |  | - Code N         |   | Z C                        |  |
|--|--|--------------|---|----------------------|--|-----------------------|----------------|-------------------------|-----------------------|-----------------------|------------------------|-----------------------|---------------------|---------------------|---|------------------|-----------------|-------------------------|-----------------|--|------------------|---|----------------------------|--|
| Total upcast                           | Total HxCDF  | Total TCDF   | Total HxCDD   | Total PcCDD          | Totals   | OCDF                  | 7 2 4 7 6 0 14 | 1,2,3,7,8,9-HxCDF       | 2,3,4,6,7,8-HxCDF     | 2,3,6,7,8-HxCDF       | 2,347,8-HxCDF          | 2.3.4.7.8-PeCDF       | 12378-PeCUF         |                     | 1,2,3,4,6,7,8-HpCDD                     | ,2,3,7,8,9.HxCDD | 2,3,6,7,8-HxCDD | 2,3,4,7,8-11xCDD        | 1,2,3,7,8-PeCDD | 17 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | Analyte          | Project  Date Collected.  Time Collected: | Client Data<br>Name        |  |
|  |  | \$ 100 miles |   |                      |  |                       |                | Co<br>P                 | Ser.                  |                       | 2                      | ,                     |                     | :                   |   | DD.              | G               | <b>8</b>                | •<br>:          |  | Conc.            | 1-Jan-06<br>0906                          | Del Mar Analytical, Irvine | ¥ 7×0000   |
|  | ₹ €  | g 8          | ND<br>0.00000631  | N S                  |  | ND                    | <u>Z</u>       | ቼ <b>ቼ</b>              | E                     | 8                     | 3                      | S                     | <b>3</b>            | Z<br>D              | 0.0000311                               | , ND             | 8               | ND.                     | 3 3             | N<br>D                                 | (ug/L)           |   | lytical, Irvine            |  |
|  | 0.00000101   | 0.000000735  | · a   | 0.000000816          |  |                       | 0.00000169     | 0.00000133              | 0.000000971           | 0.000000864           | 0.000000915            | 0.00000112            | 0.00000131          | .00000              |   | 0.000000123      | 0.00000125      |                         | 0.0000000897    | 9180000000                             | DL a             |   |                            |  |
|  | 01<br>72   | 735<br>21    | 124   | 316<br>897           |  | 0.00000839            |                |                         | 71                    | 64                    |                        | N                     |                     | <u>ن</u><br>ن       |   | 3                |                 | 5                       | 3 7             | i6                                     | EMPCb            | Sample Size:                              | Sample Data<br>Matrix      |  |
|  | •  | *            |   |                      | **************************************   | 839                   |                |                         |                       |                       |                        |                       |                     | •                   | ,<br>•••• •                             | - 100<br>- 100   |                 | a<br>Service<br>Service |                 |  | Qualifiers       | 0.925 L                                   | Aqueous                    | <u> </u>   |
| ************************************** |  |              | c. Method detection limit. d. Lower control limit - upper control limit.                          |                      | Footnotes  | CRS 37CI-2,3,7,8-TCDD | 13C-OCDF       | 13C-1,2,3,4,7,8,9-HpCDF | 13C-1,2,3,7,8,9-HxCDF | 13C-2,3,4,6,7,8-HxCDF | 13C-1,2,3,6,7,8-Hx-CDF | 13C-1,2,3,4,7,8-HxCDF | 13C-2,3,4,7,8-PeCDF | 13C-1,2,3,7,8-PeCDF | 13C-2,3,7,8-TCDF                        | 130-0000         |                 |                         |                 | IS 13C-2.3.7.8-TCDD                    | Labeled Standard | QC Batch No.:<br>Date Analyzed DB-5:      | Lub Sample:                |  |
| Musella M. Maior                       |  |              | pper control limit  | ted detection limit. | a de la companya de constituent de la companya del companya del companya de la co | EDD .                 |                | ,9-HpCDF                | HACON                 | HxCDF                 | · .                    | 3                     | CDF                 | aCD;                | <b>24</b>                               | in pour          | HxCDD           | HxCDD                   | ac              | ם                                      | ard              | 7632<br>12-Jan-06                         | 27137-001                  |  |
| 4-12-16 lan 2006 11-43                 | and the state of t |              |   |                      | -confessory/organicum services subject to the confessor subject to the  | 75.9 35 - 197         | 49.3 17-157    | 66.7 26 - 138           |                       |                       | 1 1                    | 62.6                  | 61.7 21 - 178       | 59.9 24 - 185       | 61.4 24 - 169                           | 40.7 17-157      | 5.              |                         |                 | 65.7 25 161                            | %R LCL-UCLd      | Date Extracted  Date Analyzed DB-225.     | Date Received              | And the second s |
| ,<br>,                                 | - Andrew Control of the Control of t | ,            | 75<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2 |                      |  | 202                   |                |                         |                       | 152                   | <br>3                  |                       |                     |                     |   |                  |                 |                         |                 |  | Qualifiers       | 8-Jan-06<br>NA                            | 4-Jan-06                   |  |

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Level IV

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

|   |  |  |             | Package ID                             | В4МТ9   |
|---|--|--|-------------|--|---|
| ME                                      | $C^{x}$                                    |  |             |  | 1261,001D.01  |
| 122                                     | 69 East Vassar Drive                       |  |             | SDG No.                                | IPA0005   |
| Aur                                     | ora, CO 80014                              |  | No.         | of Analyses                            | 1   |
|   | Laboratory Del Mar A                       | nalytical                              |             | Date: Februa                           | ary 3, 2006   |
|   | Reviewer P. Meeks                          |  |             | Reviewer's S                           | gnature   |
|   | Analysis/Method Metals                     |  |             | 1 P.Me                                 | D   |
|   |  |  |             |  |   |
| AC.                                     | TION ITEMS'                                |  |             |  |   |
|   | Case Narrative                             |  |             |  |   |
|   | Deficiencies                               |  |             |  |   |
|   |  |  |             |  | ·   |
| 2.                                      | Out of Scope                               |  |             |  |   |
|   | Analyses                                   |  |             |  |   |
|   |  |  |             |  |   |
|   |  |  |             |  |   |
| 3.                                      | Analyses Not Conducted                     |  |             |  |   |
|   |  | ·                                      |             |  |   |
| *************************************** |  |  |             | ·                                      |   |
| 4.                                      | Missing Hardcopy                           |  |             |  |   |
|   | Deliverables                               |  |             |  |   |
|   |  |  |             |  | war water and the same of the |
|   |  |  |             |  |   |
| 5.                                      | Incorrect Hardcopy Deliverables            |  |             |  |   |
|   | Denverables                                | · · · · · · · · · · · · · · · · · · ·  | ·           | <del></del>                            |   |
|   |  |  |             |  |   |
| 6.                                      | Deviations from Analysis                   |  |             |  |   |
| ٥.                                      | Protocol, e.g.,                            | Analytes detected below the            | he ren      | ortina limit we                        | re qualified as estimated   |
|   | Holding Times                              | Alialytes detected ector to            | ne rep      | Orting mint we                         | ro quantion as comment.   |
|   | GC/MS Tune/Inst. Performance               |  |             |  |   |
|   | Calibration                                |  | <del></del> |  |   |
|   | Method blanks                              | <del>.,,</del>                         | ·····       |  | <u> </u>  |
|   | Surrogates                                 | <u> </u>                               |             |  |   |
|   | Matrix Spike/Dup LCS                       |  |             | ······································ |   |
|   | Field QC                                   | ······································ |             |  |   |
|   | Internal Standard Performance              |  |             | -                                      |   |
|   | Compound Identification                    |  |             |  |   |
|   | Quantitation                               |  |             |  |   |
|   | System Performance                         |  |             |  |   |
| CO                                      | MMENTS <sup>*</sup>                        |  |             |  | // /  |
| ·                                       | <u> </u>                                   | <del> </del>                           |             |  | <del></del>   |
|   |  |  |             |  |   |
|   |  |  |             |  |   |
| * Su                                    | beontracted analytical laboratory is not m | eeting contract and/or method requi    | rements     | L.                                     |   |

b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 005

ANALYSIS: METALS

**SAMPLE DELIVERY GROUP IPA0005** 

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

Analysis:

NPDES IPA0005 Metals

DATA VALIDATION REPORT

# 1. INTRODUCTION

Task Order Title: NPDES Sampling

MEC<sup>X</sup> Project Number: 1261.001D.01 Sample Delivery Group: IPA0005

Project Manager: P. Costa

Matrix: Water Analysis: Metals QC Level: Level IV

No. of Samples: 1
No. of Reanalyses/Dilutions: 0

Reviewer: P. Meeks

Date of Review: February 3, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

B4MT9 1 Revision 0

NPDES IPA0005

SDG: Analysis:

Metals

Table 1. Sample Identification

DATA VALIDATION REPORT

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 005 | IPA0005-01    | Water  | 200.8, 245.1 |

**NPDES** 

SDG: Analysis: IPA0005 Metals

DATA VALIDATION REPORT

## 2. DATA VALIDATION FINDINGS

## 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

## 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

## 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

## 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

# 2.2 ICP-MS TUNING

The method specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

#### 2.4 BLANKS

The method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No qualifications were required.

**B4MT9** 

NPDES

SDG: Analysis: IPA0005 Metals

DATA VALIDATION REPORT

## 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Antimony and lead, which are not present in the ICSA or ICSAB, were detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for lead or antimony, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

## 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

### 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

# 2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

# 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

## 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No

B4MT9 4 Revision 0

Project: NPDES SDG: IPA0005 Analysis: Metals

DATA VALIDATION REPORT

transcription errors or calculation errors were noted. Cadmium and lead detected below the reporting limit were qualified as estimated, "J," and annotated with "DNQ," in accordance with the requirements of the NPDES permit. No further qualifications were required.

### 2.12 FIELD QC SAMPLES

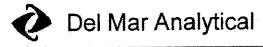
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

# 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

# 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 005

Report Number: IPA0005

Sampled: 01/01/06

Received: 01/01/06

METALS

| Analyte                          | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers | _i   |
|----------------------------------|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|------|
| Sample ID: IPA0005-01 (Outfall 0 |           |         |              |                    |                  |                    |                   |                  | Revol              | Code |
| Reporting Units: ug/l            |           |         |              |                    |                  | *                  | 01:04:06          | 01/02/04         |                    |      |
| Antimony                         | EPA 200.8 | 6A04084 | 0.18         | 2.0                | 5.9              | l l                | 01/04/06          | 01/05/06         |                    | and  |
| Cadmium                          | EPA 200.8 | 6A04084 | 0.015        | 1.0                | 0.052            | 1                  | 01/04/06          | 01/05/06         | 1 7                | DNG  |
| Copper                           | EPA 200.8 | 6A04084 | 0.49         | 2.0                | 2.2              | 1                  | 01/04/06          | 01/05/06         | В                  |      |
| Lead                             | EPA 200.8 | 6A04084 | 0.040        | 1.0                | 0.72             | - 1                | 01/04/06          | 01/05/06         | JJ                 | DNO  |
| Mercury                          | EPA 245.1 | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | 01/03/06         | O                  |      |

LEVEL IV

Del Mar Analytical, Irvine Michele Chamberlin Project Manager

> The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IPA0005 <Page 2 of 12>

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

|   |   | Package ID B4WCI           |
|---|---|----------------------------|
| MEC*  |   | Task Order 1261.001D.01    |
| 12269 East Vassar Drive                               |   | SDG No. IPA0005            |
| Aurora, CO 80014                                      | 1                                       | No. of Analyses 1          |
| Laboratory Del Mar                                    |   | Date: February 4, 2006     |
| Reviewer P. Meeks                                     |   | Reviewer's Signature       |
| Analysis/Method General M                             |   | P.M.S                      |
| Analysis/iviculou General I                           | /IIICiais                               |                            |
| ACTION ITEMS*   |   |                            |
| . Case Narrative                                      |   |                            |
| Deficiencies  |   |                            |
|   |   |                            |
| 2. Out of Scope                                       |   |                            |
| Analyses  |   |                            |
| Allalyses   |   |                            |
|   | *************************************** |                            |
| A A A A A A A A A A A A A A A A A A A                 |   |                            |
| 3. Analyses Not Conducted                             |   |                            |
|   |   |                            |
|   |   |                            |
| 4. Missing Hardcopy                                   |   |                            |
| Deliverables  |   |                            |
|   | <u> </u>                                |                            |
|   |   |                            |
| 5. Incorrect Hardcopy                                 | *************************************** |                            |
| Deliverables  |   |                            |
|   |   |                            |
|   |   |                            |
| 6. Deviations from Analysis                           |   |                            |
| Protocol, e.g.,                                       | Reanalysis results rejected in          | favor of original results. |
| Holding Times   |   |                            |
| GC/MS Tune/Inst. Performance                          |   |                            |
| Calibration   |   |                            |
| Method blanks   |   |                            |
| Surrogates  |   |                            |
| Matrix Spike/Dup LCS                                  |   |                            |
| Field QC  |   |                            |
| Internal Standard Performance                         | ·                                       |                            |
| Compound Identification                               |   |                            |
| Quantitation  |   |                            |
| System Performance                                    |   |                            |
| COMMENTS <sup>b</sup>                                 |   |                            |
| <u>a ranga manananananananananananananananananana</u> | ······································  |                            |
| <u> </u>  |   |                            |
|   |   |                            |
| * Subcontracted analytical laboratory is not          | meeting contract and/or method requirem | ents.                      |

<sup>b</sup> Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 005

ANALYSIS: GENERAL MINERALS

SAMPLE DELIVERY GROUP: IPA0005

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

NPDES

SDG: Analysis: IPA0005 Gen. Min.

# DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title: NPDES Sampling

MEC<sup>X</sup> Project Number: 1261.001D.01 Sample Delivery Group: IOJ0411

Project Manager: P. Costa

Matrix: Water

Analysis: General Minerals

QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Reviewer: P. Meeks

Date of Review: February 4, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0), USEPA Methods for Chemical Analysis of Water and Wastes Method 300.0, Standard Methods for the Examination of Water and Wastewater Method SM2540-C, and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

B4WC1 1 Revision 0

**NPDES** IPA0005

DATA VALIDATION REPORT Analysis:

SDG:

Gen. Min.

Table 1. Sample Identification

| Client ID       | Laboratory ID  | Matrix | COC Method       |
|-----------------|----------------|--------|------------------|
| Outfall 005     | IPA0005-01     | Water  | General Minerals |
| Outfall 005 RE1 | IPA0005-01 RE1 | Water  | General Minerals |

NPDES

SDG: Analysis:

Gen. Min.

DATA VALIDATION REPORT

## 2. DATA VALIDATION FINDINGS

## 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

## 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of  $4^{\circ}$ C  $\pm$   $2^{\circ}$ C. No preservation problems were noted by the laboratory. No qualifications were required.

# 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary.

Per a request from MWH personnel, Outfall 005 was reanalyzed for chloride and TDS. As the laboratory did not append the client ID of the reanalysis with "RE1," the reviewer added this information to the Form I. No sample qualifications were required.

## 2.1.3 Holding Times

The holding times were assessed by comparing the dates of collection with the dates of analysis. The 28-day sulfate and chloride the seven-day TDS, and the 48-hour nitrate analytical holding times were met. No qualifications were required.

# 2.2 CALIBRATION

For chloride, sulfate, and nitrate, the initial calibration correlation coefficients were ≥0.995 and the ICV and CCV recoveries were within the control limits of 90-110%. Balance calibration logs were included in the data package for TDS. No qualifications were required.

## 2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

B4WC1 3 Revision 0

NPDES

DATA VALIDATION REPORT

SDG: Analysis:

Gen. Min.

### 2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS recoveries were within the laboratory-established control limits. No LCS recovery was listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the LCS and was recovered acceptably. No qualifications were required.

#### 2.5 LABORATORY DUPLICATES

Duplicate analyses were performed on Outfall 005 and Outfall 005 RE1 for TDS only. The RPD was less than the laboratory control limit of ≤20%. No qualifications were required.

### 2.6 MATRIX SPIKES

No MS/MSD analyses were performed in association with this SDG; therefore, no assessment was made with respect to this criterion. Evaluation of method accuracy was based on LCS results. No qualifications were required.

#### 2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Chloride, nitrate, and sulfate were reported from 10× dilutions. The chloride and sulfate MDLs, and the nitrate MDL and reporting limit were not correctly adjusted for the dilutions; therefore, the reviewer hand corrected the Form I.

As the reanalysis results for chloride and TDS were similar to the original results, the reviewer rejected, "R," the reanalysis results, Outfall 005 RE1, in favor of the original results, Outfall 005. No further qualifications were required.

## 2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

# 2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

## 2.8.2 Field Duplicates

B4WC1 4 Revision 0

**NPDES** 

Gen. Min.

SDG: Analysis:

IPA0005

DATA VALIDATION REPORT

There were no field duplicate pairs associated with this SDG.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 251-1022 FAX (949) 260-3297 17461 Denian Ave., Suite 100, Irvine, CA 92814 (949) 261-1022 FAX (949) 280-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (658) 505-9689
9830 Suith 51st St., Suite B-120, Proenix, AZ 85044 (480) 785-0043 FAX (480) 785-0051
2520 E. Sunsat Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 005

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Attention: Bronwyn Kelly

Sampled: 01/01/06

Report Number: IPA0005

Received: 01/01/06

## **INORGANICS**

| Method           | Batch  | MDL<br>Limit  | Reporting<br>Limit  | Sample<br>Result  | Dilution<br>Factor  | Date<br>Extracted   | Date<br>Analyzed   | Data Qualifiers  | 1Qvd  |
|------------------|--|---|---|---|---|---|--|--|---|
| - Water) - cont. |  |   |   |   |   |   |  |  | Code  |
|                  |  |   |   |   |   |   |  |  |   |
| EPA 300.0        | 6A01004  | 251.  | 5.0   | 160   | 10  | 01/01/06  | 01/01/06   |  | \$  |
| EPA 300:0        | 6A01004  | 220.  | 40261.5   | 51  | 10  | 01/01/06  | 01/01/06   |  | 12  |
| EPA 413.1        | 6A06048  | 0.91  | 4.9   | 2.3   | 1   | 01/06/06  | 01/06/06   | <del>*</del> 1   |   |
| EPA 300.0        | 6A01004  | 48-4  | 5.0   | 76  | 10  | 01/01/06  | 01/01/06   |  | \$  |
| SM2540C          | 6A03093  | 10  | 10  | 980   | 1   | 01/03/06  | 01/03/06   |  |   |
| EPA 160.2        | 6A05089  | 10  | 10  | 25  | ]   | 01/05/06  | 01/05/06   | *  |   |
| 005 - Water) Out | fall 005   | RE1   |   |   |   |   |  |  |   |
|                  |  |   | -   |   |   |   |  |  |   |
| EPA 300.0        | 6A12052  | 1.5   | 5.0   | 160   | 10  | 01/12/06  | 01/12/06   | R  | D   |
| SM2540C          | 6A10114  | 10  | 10  | 900   | 1   | 01/06/06  | 01/06/06   | R  | D   |
|                  | EPA 300.0<br>EPA 300.0<br>EPA 413.1<br>EPA 300.0<br>SM2540C<br>EPA 160.2 | EPA 300.0 6A01004 EPA 300.0 6A01004 EPA 413.1 6A06048 EPA 300.0 6A01004 SM2540C 6A03093 EPA 160.2 6A05089  005 - Water) Outfall co5 | - Water) - cont.  EPA 300.0 6A01004 261.  EPA 300.0 6A01004 0.720.  EPA 413.1 6A06048 0.91  EPA 300.0 6A01004 1.644  SM2540C 6A03093 10  EPA 160.2 6A05089 10  005 - Water) Outfull 005 RE1.  EPA 300.0 6A12052 1.5 | - Water) - cont.  EPA 300.0 6A01004 261.5 5.0  EPA 300.0 6A01004 0.720.40 261.5  EPA 413.1 6A06048 0.91 4.9  EPA 300.0 6A01004 1.84.5 5.0  SM2540C 6A03093 10 10  EPA 160.2 6A05089 10 10  005 - Water) Outfall 005 RE1.  EPA 300.0 6A12052 1.5 5.0 | -Water) - cont.  EPA 300.0 6A01004 261.5 5.0 160 EPA 300.0 6A01004 0.720.60 261.5 51 EPA 413.1 6A06048 0.91 4.9 2.3 EPA 300.0 6A01004 1.84.5 5.0 76 SM2540C 6A03093 10 10 980 EPA 160.2 6A05089 10 10 25  005 - Water) Outfull COS RE1  EPA 300.0 6A12052 1.5 5.0 160 | - Water) - cont.  EPA 300.0 6A01004 261.5 5.0 160 10  EPA 300.0 6A01004 0720.40 261.5 51 10  EPA 413.1 6A06048 0.91 4.9 2.3 1  EPA 300.0 6A01004 184.5 5.0 76 10  SM2540C 6A03093 10 10 980 1  EPA 160.2 6A05089 10 10 25 1  005 - Water) Outfall COS RE1  EPA 300.0 6A12052 1.5 5.0 160 10 | -Water) - cont.  EPA 300.0 6A01004 261.5 5.0 160 10 01/01/06 EPA 300.0 6A01004 0.720.40 261.5 51 10 01/01/06 EPA 413.1 6A06048 0.91 4.9 2.3 1 01/06/06 EPA 300.0 6A01004 1.84.5 5.0 76 10 01/01/06 SM2540C 6A03093 10 10 980 1 01/03/06 EPA 160.2 6A05089 10 10 25 1 01/05/06  O05 - Water) Outfall COS RE1  EPA 300.0 6A12052 1.5 5.0 160 10 01/12/06 | -Water) - cont.  EPA 300.0 6A01004 261.5 5.0 160 10 01/01/06 01/01/06 EPA 300.0 6A01004 0.720.40 261.5 51 10 01/01/06 01/01/06 EPA 413.1 6A06048 0.91 4.9 2.3 1 01/06/06 01/06/06 EPA 300.0 6A01004 184.5 5.0 76 10 01/01/06 01/01/06 SM2540C 6A03093 10 10 980 1 01/03/06 01/03/06 EPA 160.2 6A05089 10 10 25 1 01/05/06 01/05/06  O05 - Water) Outfull COS RE1  EPA 300.0 6A12052 1.5 5.0 160 10 01/12/06 01/12/06 | -Water) - cont.  EPA 300.0 6A01004 261.5 5.0 160 10 01/01/06 01/01/06 EPA 300.0 6A01004 0.720.40 261.5 51 10 01/01/06 01/01/06 EPA 413.1 6A06048 0.91 4.9 2.3 1 01/06/06 01/06/06 EPA 300.0 6A01004 1.84.5 5.0 76 10 01/01/06 01/01/06 SM2540C 6A03093 10 10 980 1 01/03/06 01/03/06 EPA 160.2 6A05089 10 10 25 1 01/05/06 01/05/06  COS - Water) Outfall COS RE1  EPA 300.0 6A12052 1.5 5.0 160 10 01/12/06 01/12/06 R |

\* Analysis not validated

Del Mar Analytical, Irvine Michele Chamberlin Project Manager

# APPENDIX G

# **Section 23**

Outfall 006, January 01, 2006 Del Mar Analytical Laboratory Report



# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: Routine Outfall 006

Sampled: 01/01/06 Received: 01/01/06

Issued: 01/16/06 09:51

### 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, I page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

#### **CASE NARRATIVE**

Samples were received intact, at 3°C, on ice and with chain of custody documentation. SAMPLE RECEIPT:

All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar HOLDING TIMES:

Analytical Sample Acceptance Policy unless otherwise noted in the report.

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

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

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

Refer to the last page for specific subcontract laboratory information included in this report. SUBCONTRACTED:

> LABORATORY ID CLIENT ID MATRIX Water IPA0003-01

Outfall 006

Reviewed By:

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

any Windham

Project Manager



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0003

Sampled: 01/01/06

Received: 01/01/06

Attention: Bronwyn Kelly

## **METALS**

| Analyte                              | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--------------------------------------|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0003-01 (Outfall 006 - | Water)    |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                |           |         |              |                    |                  |                    |                   |                  |                    |
| Antimony                             | EPA 200.8 | 6A04084 | 0.18         | 2.0                | 5.0              | 1                  | 01/04/06          | 01/05/06         |                    |
| Cadmium                              | EPA 200.8 | 6A04084 | 0.015        | 1.0                | ND               | 1                  | 01/04/06          | 01/05/06         |                    |
| Copper                               | EPA 200.8 | 6A04084 | 0.49         | 2.0                | 3.0              | 1                  | 01/04/06          | 01/05/06         | В                  |
| Lead                                 | EPA 200.8 | 6A04084 | 0.040        | 1.0                | 0.34             | 1                  | 01/04/06          | 01/05/06         | J                  |
| Mercury                              | EPA 245.1 | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | 01/03/06         |                    |



Sampled: 01/01/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0003 Received: 01/01/06

Attention: Bronwyn Kelly

# **INORGANICS**

| Method             | Batch   | MDL<br>Limit  | Reporting<br>Limit   | Sample<br>Result  | Dilution<br>Factor   | Date<br>Extracted  | Date<br>Analyzed  | Data<br>Qualifiers  |
|--------------------|---|---|--|---|--|--|---|---|
| 5 - Water) - cont. |   |   |  |   |  |  |   |   |
|                    |   |   |  |   |  |  |   |   |
| EPA 300.0          | 6A01004   | 1.3   | 2.5  | 48  | 5  | 01/01/06   | 01/01/06  |   |
| EPA 300.0          | 6A01004   | 0.072   | 0.26   | 0.13  | 1  | 01/01/06   | 01/01/06  | J   |
| EPA 413.1          | 6A06048   | 0.91  | 4.9  | 1.6   | 1  | 01/06/06   | 01/06/06  | J   |
| EPA 300.0          | 6A01004   | 0.18  | 0.50   | 5.1   | 1  | 01/01/06   | 01/01/06  |   |
| SM2540C            | 6A03093   | 10  | 10   | 200   | . 1  | 01/03/06   | 01/03/06  |   |
| EPA 160.2          | 6A05089   | 10  | 10   | ND  | 1  | 01/05/06   | 01/05/06  |   |
|                    | EPA 300.0<br>EPA 300.0<br>EPA 413.1<br>EPA 300.0<br>SM2540C | EPA 300.0 6A01004<br>EPA 300.0 6A01004<br>EPA 413.1 6A06048<br>EPA 300.0 6A01004<br>SM2540C 6A03093 | Method         Batch         Limit           5 - Water) - cont.         EPA 300.0         6A01004         1.3           EPA 300.0         6A01004         0.072           EPA 413.1         6A06048         0.91           EPA 300.0         6A01004         0.18           SM2540C         6A03093         10 | Method         Batch         Limit         Limit           5 - Water) - cont.         EPA 300.0         6A01004         1.3         2.5           EPA 300.0         6A01004         0.072         0.26           EPA 413.1         6A06048         0.91         4.9           EPA 300.0         6A01004         0.18         0.50           SM2540C         6A03093         10         10 | Method         Batch         Limit         Limit         Result           5 - Water) - cont.         EPA 300.0         6A01004         1.3         2.5         48           EPA 300.0         6A01004         0.072         0.26         0.13           EPA 413.1         6A06048         0.91         4.9         1.6           EPA 300.0         6A01004         0.18         0.50         5.1           SM2540C         6A03093         10         10         200 | Method         Batch         Limit         Limit         Result         Factor           5 - Water) - cont.           EPA 300.0         6A01004         1.3         2.5         48         5           EPA 300.0         6A01004         0.072         0.26         0.13         1           EPA 413.1         6A06048         0.91         4.9         1.6         1           EPA 300.0         6A01004         0.18         0.50         5.1         1           SM2540C         6A03093         10         10         200         .1 | Method         Batch         Limit         Limit         Result         Factor         Extracted           5 - Water) - cont.           EPA 300.0         6A01004         1.3         2.5         48         5         01/01/06           EPA 300.0         6A01004         0.072         0.26         0.13         1         01/01/06           EPA 413.1         6A06048         0.91         4.9         1.6         1         01/06/06           EPA 300.0         6A01004         0.18         0.50         5.1         1         01/01/06           SM2540C         6A03093         10         10         200         .1         01/03/06 | Method         Batch         Limit         Limit         Result         Factor         Extracted         Analyzed           5 - Water) - cont.           EPA 300.0         6A01004         1.3         2.5         48         5         01/01/06         01/03/06 </td |



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0003 Attention: Bronwyn Kelly Sampled: 01/01/06

Received: 01/01/06

## SHORT HOLD TIME DETAIL REPORT

|  | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|--|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 006 (IPA0003-01) - Wate | er                     |                      |                       |                        |                       |
| EPA 300.0                                  | 2                      | 01/01/2006 09:25     | 01/01/2006 15:25      | 01/01/2006 17:30       | 01/01/2006 18:42      |

MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0003

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

#### **METALS**

|   |            | Reporting | ;     |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|---|------------|-----------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                 | Result     | Limit     | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03072 Extracted: 01/03/06      | <u>.</u>   |           |       |       |       |           |         |        |     |       |            |
| m                                       | \          |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03072-B   | •          | 0.00      | 0.064 |       |       |           |         |        |     |       |            |
| Mercury                                 | ND         | 0.20      | 0.063 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03072-BS    | 1)         |           |       |       |       |           |         |        |     |       |            |
| Mercury                                 | 7.95       | 0.20      | 0.063 | ug/l  | 8.00  |           | 99      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A0  | 3072-MS1)  |           |       |       | Sou   | rce: IOL  | 2617-01 |        |     |       |            |
| Mercury                                 | 7.95       | 0.20      | 0.063 | ug/l  | 8.00  | ND        | 99      | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006   | (6A03072-M | SD1)      |       |       | Sou   | rce: IOL  | 2617-01 |        |     |       |            |
| Mercury                                 | 8.00       | 0.20      | 0.063 | ug/l  | 8.00  | ND        | 100     | 70-130 | 1   | 20    |            |
| Batch: 6A04084 Extracted: 01/04/06      |            |           |       |       |       |           |         |        |     |       |            |
|   | •          |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-B   | LK1)       |           |       |       |       |           |         |        |     |       |            |
| Antimony                                | 0.162      | 2.0       | 0.050 | ug/l  |       |           |         |        |     |       | J          |
| Cadmium                                 | ND         | 1.0       | 0.025 | ug/l  |       |           |         |        |     |       |            |
| Copper                                  | 0.321      | 2.0       | 0.25  | ug/l  |       |           |         |        |     |       | J          |
| Lead                                    | ND         | 1.0       | 0.040 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS)   | I)         |           |       |       |       |           |         |        |     |       |            |
| Antimony                                | 78.5       | 2.0       | 0.050 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Cadmium                                 | 80.2       | 1.0       | 0.025 | ug/l  | 80.0  |           | 100     | 85-115 |     |       |            |
| Copper                                  | 80.8       | 2.0       | 0.25  | ug/l  | 80.0  |           | 101     | 85-115 |     |       |            |
| Lead                                    | 78.3       | 1.0       | 0.040 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A0- | 4084-MS1)  |           |       |       | Sou   | rce: IOL2 | 2694-49 |        |     |       |            |
| Antimony                                | 78.2       | 2.0       | 0.050 | ug/I  | 80.0  | 0.26      | 97      | 70-130 |     |       |            |
| Cadmium                                 | 76.0       | 1.0       | 0.025 | ug/l  | 80.0  | ND        | 95      | 70-130 |     |       |            |
| Copper                                  | 102        | 2.0       | 0.25  | ug/l  | 80.0  | 23        | 99      | 70-130 |     |       |            |
| Lead                                    | 84.3       | 1.0       | 0.040 | ug/l  | 80.0  | 2.7       | 102     | 70-130 |     |       |            |
|   |            |           |       |       |       |           |         |        |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPA0003

Sampled: 01/01/06

Received: 01/01/06

# METHOD BLANK/QC DATA

### **METALS**

| Analyte                               | Result     | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result |   | %REC   | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---------------------------------------|------------|--------------------|-------|-------|----------------|------------------|---|--------|-----|--------------|--------------------|
| Batch: 6A04084 Extracted: 01/04/0     |            |                    |       |       |                |                  | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |        |     |              | <b>C</b>           |
| Matrix Spike Analyzed: 01/05/2006 (6A | 04084-MS2) |                    |       |       | Sou            | rce: IOL         | 2694-50                                 |        |     |              |                    |
| Antimony                              | 80.0       | 2.0                | 0.050 | ug/l  | 80.0           | 0.094            | 100                                     | 70-130 |     |              |                    |
| Cadmium                               | 76.2       | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95                                      | 70-130 |     |              |                    |
| Copper                                | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 18               | 104                                     | 70-130 |     |              |                    |
| Lead                                  | 87.5       | 1.0                | 0.040 | ug/l  | 80.0           | 1.8              | 107                                     | 70-130 |     |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006 | (6A04084-N | ISD1)              |       |       | Sou            | rce: IOL         | 2694-49                                 |        |     |              |                    |
| Antimony                              | 76.7       | 2.0                | 0.050 | ug/l  | 80.0           | 0.26             | 96                                      | 70-130 | 2   | 20           |                    |
| Cadmium                               | 76.1       | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95                                      | 70-130 | 0   | 20           |                    |
| Copper                                | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 23               | 98                                      | 70-130 | 1   | 20           |                    |
| Lead                                  | 83.9       | 1.0                | 0.040 | ug/l  | 80.0           | 2.7              | 102                                     | 70-130 | 1   | 20           |                    |



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0003

Sampled: 01/01/06

Received: 01/01/06

# METHOD BLANK/QC DATA

### **INORGANICS**

|  |            | Reporting |       |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|--|------------|-----------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                | Result     | Limit     | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A01004 Extracted: 01/01/0      | <u>6</u>   |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/01/2006 (6A01004-1  | DI 121\    |           |       |       |       |           |         |        |     |       |            |
| Chloride                               | ND         | 0.50      | 0.15  | M     |       |           |         |        |     |       |            |
| Chioride Nitrate/Nitrite-N             | ND<br>ND   |           | 0.15  | mg/l  |       |           |         |        |     |       |            |
|  |            | 0.15      | 0.080 | mg/l  |       |           |         |        |     |       |            |
| Sulfate                                | ND         | 0.50      | 0.45  | mg/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/01/2006 (6A01004-BS   | S1)        |           |       |       |       |           |         |        |     |       |            |
| Chloride                               | 4.88       | 0.50      | 0.15  | mg/l  | 5.00  |           | 98      | 90-110 |     |       | M-3        |
| Sulfate                                | 9.56       | 0.50      | 0.45  | mg/l  | 10.0  |           | 96      | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/01/2006 (6A  | 01004-MS1) |           |       |       | Sou   | rce: IPA( | 0003-01 |        |     |       |            |
| Sulfate                                | 14.4       | 0.50      | 0.45  | mg/l  | 10.0  | 5.1       | 93      | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/01/2006  | (6A01004-M | SD1)      |       |       | Sou   | rce: IPA( | 003-01  |        |     |       |            |
| Sulfate                                | 14.8       | 0.50      | 0.45  | mg/l  | 10.0  | 5.1       | 97      | 80-120 | 3   | 20    |            |
| Batch: 6A03093 Extracted: 01/03/00     | <u>5</u>   |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03093-E  | ILK1)      |           |       |       |       |           |         |        |     |       |            |
| Total Dissolved Solids                 | ND         | 10        | 10    | mg/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03093-BS   | (1)        |           |       |       |       |           |         |        |     |       |            |
| Total Dissolved Solids                 | 1000       | 10        | 10    | mg/l  | 1000  |           | 100     | 90-110 |     |       |            |
| Duplicate Analyzed: 01/03/2006 (6A0309 | 3-DUP1)    |           |       |       | Sou   | rce: IPA0 | 005-01  |        |     |       |            |
| Total Dissolved Solids                 | 981        | 10        | 10    | mg/l  |       | 980       |         |        | 0   | 10    |            |
| Batch: 6A05089 Extracted: 01/05/06     | <u>5</u> _ |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A05089-B  | LK1)       |           |       |       |       |           |         |        |     |       |            |
| Total Suspended Solids                 | ND         | 10        | 10    | mg/l  |       |           |         |        |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0003

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

## **INORGANICS**

|  |          | Reporting |      |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|--|----------|-----------|------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                | Result   | Limit     | MDL  | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05089 Extracted: 01/05/06     | <u>i</u> |           |      |       |       |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A05089-BS   | 1)       |           |      |       |       |           |        |        |     |       |            |
| Total Suspended Solids                 | 979      | 10        | 10   | mg/l  | 1000  |           | 98     | 85-115 |     |       |            |
| Duplicate Analyzed: 01/05/2006 (6A0508 | 9-DUP1)  |           |      |       | Sou   | rce: IPA0 | 012-01 |        |     |       |            |
| Total Suspended Solids                 | 458      | 10        | 10   | mg/l  |       | 350       |        |        | 27  | 10    | R-3        |
| Batch: 6A06048 Extracted: 01/06/06     | <u>.</u> |           |      |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06048-B  | LK1)     |           |      |       |       |           |        |        |     |       |            |
| Oil & Grease                           | ND       | 5.0       | 0.94 | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06048-BS   | 1)       |           |      |       |       |           |        |        |     |       | M-NR1      |
| Oil & Grease                           | 19.2     | 5.0       | 0.94 | mg/l  | 20.0  |           | 96     | 65-120 |     |       |            |
| LCS Dup Analyzed: 01/06/2006 (6A0604   | 8-BSD1)  |           |      |       |       |           |        |        |     |       |            |
| Oil & Grease                           | 19.6     | 5.0       | 0.94 | mg/l  | 20.0  |           | 98     | 65-120 | 2   | 20    |            |



Sampled: 01/01/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0003 Received: 01/01/06

Attention: Bronwyn Kelly

# **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

| LabNumber  | Analysis             | Analyte                | Units | Result | MRL  | Compliance<br>Limit |
|------------|----------------------|------------------------|-------|--------|------|---------------------|
| IPA0003-01 | 413.1 Oil and Grease | Oil & Grease           | mg/l  | 1,60   | 4.9  | 15                  |
| IPA0003-01 | Antimony-200.8       | Antimony               | ug/l  | 5.00   | 2.0  | 6.00                |
| IPA0003-01 | Cadmium-200.8        | Cadmium                | ug/l  | 0      | 1.0  | 4.00                |
| IPA0003-01 | Chloride - 300.0     | Chloride               | mg/l  | 48     | 2.5  | 150                 |
| IPA0003-01 | Copper-200.8         | Copper                 | ug/l  | 3.00   | 2.0  | 14                  |
| IPA0003-01 | Mercury - 245.1      | Mercury                | ug/l  | 0      | 0.20 | 0.20                |
| IPA0003-01 | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N      | mg/l  | 0.13   | 0.26 | 10.00               |
| IPA0003-01 | Sulfate-300.0        | Sulfate                | mg/l  | 5.10   | 0.50 | 250                 |
| IPA0003-01 | TDS - SM 2540C       | Total Dissolved Solids | mg/l  | 200    | 10   | 850                 |



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Report Number: IPA0003

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

R-3

## **DATA QUALIFIERS AND DEFINITIONS**

B Analyte was detected in the associated Method Blank.

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.

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

accepted based on acceptable recovery in the Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.

The RPD exceeded the method control limit 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



MWH-Pasadena/Boeing

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06 Pasadena, CA 91101 Report Number: IPA0003 Received: 01/01/06

Attention: Bronwyn Kelly

# **Certification Summary**

## Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | x          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0003-01

Analysis Performed: EDD + Level 4

Samples: IPA0003-01

| Del Mar Analytical version 02/17/05                                       | ב<br>ב                         | )<br>ECa   | Version                                 | -  |             | 1  |                         |            |   | Δ           | ANALYSIS RECLIRED   | CHA =   |  |   |
|---|--------------------------------|--|---|--|-------------|--|-------------------------|------------|---|-------------|---------------------|---|--|---|
| Client Name/Address   | Addres                         |  |   | Project  | 1           |  |                         |            |   |             | מולטור ו סוס שוניאו |   |  |   |
|   | (                              |  |   | Boeing-SSFL NPDES  | NPDES       |  | :s                      |            | 1.  |             |                     |   | Field readings:                              | 9                                       |
| MVVT-Fasaucilia<br>300 North Lake Avenue, Suite 1200<br>Pacadene CA 91101 | Avenu<br>9 Avenu<br>91101      | e, Suite 1;  | 200                                     | Stormwater at FSDF-2   | I FSDF-2    |  | Meta<br>9               |            | ,   |             |                     | WHILE AT HARLES                               | Temp = 55                                    | <b>3</b> -                              |
| Project Manager: Bronwyn Kelly  | ger B                          | ronwyn K   | (elly                                   | Phone Number:  | er:         | MINING AND ADDRESS OF THE PERSON AND ADDRESS | elds<br>H ,d            |            |   |             |                     | <u> </u>                                      | 48.7 =Ha                                     | K.                                      |
| Sampler: D. & RE.prof.  | CA.                            | rees   |   | (626) 568-6691<br>Fax Number:<br>(626) 568-6515  | 5<br>5      |  | il Recover<br>Cd, Cu, P | s bns) ((  | SO4, NO                                   | SST ,       |                     | ······································        | Some   | Comments                                |
| Sample  | Sample                         | Container  | # C                                     | Sampling   | Preservativ | itiv Bottle  | 1<br>stoT               |            |   | SOT.        |                     |   |  |   |
| +-  | ×                              | Poly-1L  | -                                       | 3 (: 60  | HNO3        | 14   | ×                       |            |   |             |                     |   |  |   |
| 1.  | 3                              | Poly-1L  | -                                       |  | HN03        | 49   | ×                       |            |   |             |                     |   |  |   |
| 900 He  | 3                              | Glass-   | ~                                       | The second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a second section in the second section in the second section is a section in the second section in the section is a section in the section in the section is a section in the section in the section is a section in the section in the section is a section in the section in the section in the section is a section in the section in the section in the section is a section in the section in the section in the section in the section is a section in the section in  | None        | 2A, 2B   | -                       | ×          |   |             |                     |   |  |   |
| Outfall 006 V   | 3                              | Glass-   | ~                                       |  | 文           | 3A, 3B   |                         |            | ×   |             |                     |   |  |   |
| Outfall 006   | *                              | Poly-500   | ~                                       | 3  | None        | 44.48  | *                       |            | ×   |             |                     |   |  | *************************************** |
| Outfall 006   | ×                              | Poly-500   | 7                                       | 90-1-1   | None        | 5A, 5B   | ~                       |            |   | ×           |                     |   |  |   |
|   |                                |  |   |  |             |  |                         |            |   |             |                     |   |  |   |
|   |                                |  | _                                       |  |             |  |                         |            |   |             |                     |   |  |   |
|   |                                |  |   |  |             |  |                         |            |   |             |                     |   |  |   |
|   |                                |  |   |  |             |  |                         |            |   |             |                     |   |  |   |
|   |                                |  |   |  |             |  |                         |            |   |             |                     |   |  |   |
|   |                                |  |   |  |             |  |                         |            |   |             |                     |   |  |   |
|   |                                |  |   |  |             |  |                         |            |   |             |                     |   |  |   |
| Relinquished By   |                                |  | -0                                      | Date/Time: 13/2  | Received By | and the same of th |                         | Date/Time: | 1 4 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | 0 //        | 13.5                |   | Turn around Time: (check)<br>24 Hours 5 Days |   |
| Rein Not By   | 2                              |  | Date //                                 | Lime   | Received    | ed By  |                         | Date/Time: | ë   | <b>⊾</b> .[ |                     | 48 Hours                                      | 10 Days<br>Normal                            | 1                                       |
| Relinquished By   | \<br>**                        |  |   | Date/Time:   | Received    | ed By  | •                       | Date/Time: | 3e:                                       |             |                     | Perchlorate                                   | Perchiorate Only 72 Hours                    | 1                                       |
|   |                                |  |   |  |             |  | 3                       |            |   | 9           | 11/06 1529          | Metais Only 72 Hours<br>Sample integrity: (Ch | eck)<br>On ice:                              | 3.6                                     |
|   | Westernament Water of the same | Personal complete control of the con | *************************************** | ALL PROPERTY AND ASSOCIATION OF THE PROPERTY ASSOCIATION O |             | ***************************************  |                         |            |   |             |                     |   |  |   |



January 16, 2006

Alta Project I.D.: 27133

Ms. Michele Chamberlin Del Mar Analyticai, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 04, 2006 under your Project Name "IPA0003". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely.

Martha M. Maicr

Director of HRMS Services

Walle Marer



Project 27133

Alia Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable text methods. This report should not be reproduced except in full without the written approval of ALTA.



Page 1 of 274

Section I: Sample Inventory Report

Date Received:

1/4/2006

Alta Lab. ID

Client Sample ID

27133-001

IPA0003-01

# **SECTION II**

Page 3 of 274

| Method Blank         |                 |   |  | EPA Method 1613  |
|----------------------|-----------------|---|--|--|
| Matrix: Aqueous      | QC Batch No.:   | 7632  | Lab Sample: 0-MB001  |  |
| Sample Size: 1.00 L  | Date Extracted: | 8-Jan-06  | Date Analyzed DB-5: 11-Jan-06  | Date Analyzed DB-225: NA   |
| Analyte Conc. (ug/L) | DL a EN         | EMPC <sup>b</sup> Qualifiers                                | Labeled Standard   | %R LCL-UCL <sup>d</sup> Qualifiers   |
| 2,3,7,8-TCDD ND      | 0.00000671      |   | <u>1S</u> 13C-2,3,7,8-TCDD   | 84.0 25 161  |
| 1,2,3,7,8-PeCDD ND   | 0.000000560     |   | 13C-1,2,3,7,8-PeCDD  | 78.7 25 - 181  |
| 1,2,3,4,7,8-HxCDD ND | 0.00000149      |   | 13C-1,2,3,4,7,8-HxCDD  | 81.9 32 - 141  |
| 1,2,3,6,7,8-HxCDD ND | 0.00000147      |   | 13C-1,2,3,6,7,8-HxCDD  | 74.4 28 - 130  |
| 1,2,3,7,8,9-HxCDD    | 0.00000145      |   | 13C-1,2,3,4,6,7,8-HpCDD  | 75.6 23 - 140  |
| _                    | 0.00000146      |   | 13C-OCDD   | 40.1 17 - 157  |
| OCDD                 |                 |   | 13C-2,3,7,8-TCDF   | 82.6 24 - 169  |
| 2,3,7,8-TCDF ND      | 0.000000546     |   | 13C-1,2,3,7,8-PeCDF  | 65.3 24-185  |
| 1,2,3,7,8-PeCDF ND   | 0.00000112      |   | 13C-2,3,4,7,8-PeCDF  | 71.3 21 - 178  |
| 2,3,4,7,8-PeCDF ND   | 0.000000885     |   | 13C-1,2,3,4,7,8-HxCDF  | 73.7 26 - 152  |
| 1,2,3,4,7,8-HxCDF    | 0.000000511     |   | 13C-1,2,3,6,7,8-HxCDF  | 70.0 26 - 123  |
| 1,2,3,6,7,8-HxCDF ND |                 |   | 13C-2,3,4,6,7,8-HxCDF  | 78.0 28 - 136  |
| 2,3,4,6,7,8-HxCDF    | 0.000000522     |   | 13C-1,2,3,7,8,9-HxCDF  | 79.2 29-147  |
|                      | 0.000000675     |   | 13C-1,2,3,4,6,7,8-HpCDF  | 64.7 28 - 143  |
| 1,2,3,4,6,7,8-HpCDF  | 6.000000764     |   | 13C-1,2,3,4,7,8,9-HpCDF  | 76.3 26-138  |
| 9-HpCDF              |                 | :   | 13C-OCDF   | 49.6 17 - 157  |
| OCDF                 | 0.00000360      |   | CRS 37Cl-2,3,7,8-TCDD  | 88.7 35 - 197  |
| Totals               |                 |   | Footnotes  |  |
| Total TCDD ND        | 0.000000671     |   | Sample specific estimated detection limit     Besimated maximum possible concentration |  |
|                      |                 |   | c. Method detection limit.   |  |
|                      | 0.00000146      |   | d. Lower control limit - upper control limit.  |  |
| Total TCDF ND        | 0.000000546     | 1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>100 |  |  |
| r<br>V               | 7.50000000      |   |  |  |
| Total HpCDF ND       | 0.00000692      |   |  | And the state of t |
| Analyst: JMH         |                 |   | Approved By: Martha M. Maier   | Maier 16-Jan-2006 11:31  |

| OPR Results   |                           |                |      |                                 | *************************************** | EPA                   | EPA Method 1613 | [3         |
|---|---------------------------|----------------|------|---------------------------------|---|-----------------------|-----------------|------------|
|   | QC Batch No.              |                |      | Lab Sample: 0.                  | 0-OPR001                                | Date Analyzed DB 225. | (DB.225.        | <u> </u>   |
| Sample State: 1.00 L  | Date Exilad               | 64. 00-Jan-00  |      | Date Allatyzeu DD-5. 11-Jair-00 | -Jall-00                                | Date Altaly 280       | 1 DD-443.       |            |
| Analyte Spike C   | Spike Conc. Conc. (ng/mL) | mL) OPR Limits | nits | Labeled Standard                |   | %R                    | TCI-DCI         | _          |
| 2,3,7,8-TCDD 10   | 10.0 8.44                 | 6.7 - 15.8     | 5.8  | IS 13C-2,3,7,8-1CDD             |   | 66.2                  | 73 - 164        |            |
| 1,2,3,7,8-PeCDD 50  | 50.0 48.8                 | 35-71          | 71   | 13C-1,2,3,7,8-PeCDD             | _                                       | 70.5                  | 25 - 181        | ·········  |
| 1,2,3,4,7,8-HxCDD 50  | 50.0 48.8                 | 35 - 82        | 82   | 13C-1,2,3,4,7,8-HxCDD           |   | 68.7                  | 32 - 141        |            |
|   | 50.0 46.7                 | 38-67          | 57   | 13C-1,2,3,6,7,8-HxCDD           | CO                                      | 9'59                  | 28 - 130        | ····       |
| 1,2,3,7,8,9-HxCDD 50.0  | 0.0 48.7                  | 32 - 81        |      | 13C-1,2,3,4,6,7,8-HpCDD         | CDD                                     | 9.0%                  | 23 - 140        | v.         |
| 1,2,3,4,6,7,8-HpCDD 50  | 50.0 47.2                 | 35 - 70        | 70   | 13C-OCDD                        |   | 49.9                  | 17-157          |            |
| OCDD STATE OF THE | 100 95.4                  | 78 - 144       | 44   | 13C-2,3,7,8-TCDF                | A<br>A                                  | 62.9                  | 24 - 169        |            |
|   | 10.0 9.58                 | 7.5 - 15.8     | 5.8  | 13C-1,2,3,7,8-PeCDF             | **                                      | 63.1                  | 24 - 185        |            |
| 1,2,3,7,8-PeCDF   | 0.0                       | 40-67          | 67   | 13C-2,3,4,7,8-PeCDF             |   | 64.2                  | 21 - 178        |            |
|   | 50.0 48.4                 | 34 - 80        | 80   | 13C-1,2,3,4,7,8-HxCDF           | DF                                      | 65.4                  | 26 - 152        |            |
| 1,2,3,4,7,8-HxCDF 50.0  | 0.0                       | 36-67          |      | 13C-1,2,3,6,7,8-HxCDF           | D.                                      | 63.8                  | 26 - 123        |            |
| 1,2,3,6,7,8-HxCDF 50  | 50.0 48.7                 | 42 - 65        | 65   | 13C-2,3,4,6,7,8-HxCDF           | DF                                      | 61.9                  | 28 - 136        | `          |
| 2,3,4,6,7,8-HxCDF 50.0  | 0.0 47.3                  | 35 - 78        | 78   | 13C-1,2,3,7,8,9-HxCDF           | DF                                      | 70.4                  | 29 - 147        | <i>e-i</i> |
| 1,2,3,7,8,9-HxCDF   | 50.0 47.3                 | 39 - 65        | 65   | 13C-1,2,3,4,6,7,8-HpCDF         | CDF                                     | 63.1                  | 28 - 143        | :          |
| 1,2,3,4,6,7,8-HpCDF   | 50.0                      | 41-6           | . 20 | 13C-1,2,3,4,7,8,9-HpCDF         | CDF                                     | <br>1.6               | 26 - 138        |            |
|   | 50.0 48.4                 | 69 - 68        | 69   | 13C-0CDF                        |   | 56.4                  | 17 - 157        |            |
| OCDF  | 100 97.7                  | 63 - 170       | 170  | CRS 37CI-2,3,7,8-TCDD           | A                                       | 81.7                  | 35-197          | i<br>Ja    |

Approved By: Martha M. Maier 16-Jan-2006 11:31

Analyst: JMH

| Sample 1D: IPA0003-01   |                                  |  |   |                        | 3                                | EPA Method 1613            |
|---|----------------------------------|--|---|------------------------|----------------------------------|----------------------------|
| Clieut Data Name: Del Mar Analytical, Irvine Project: IPA0003 | Sample Data Matrix: Sample Size: | Aqueous<br>0.927 L   | Laboratory Data Lab Sample: QC Batch No.      | 27133-001<br>7632      | Date Received:<br>Date Extracted | 4-Jan-06<br>8-Jan-06       |
|   |                                  | The state of the s | Date Analyzed DB-5                            | 12-Jan-06              | Date Analyzed DB-225             | -225 NA                    |
| Analyte Conc. (ug/L) DL. a                                    | EMPC <sup>b</sup>                | Qualifiers   | Labeled Standard                              | dard                   | %R LCL-UCL <sup>d</sup>          | CL <sup>d</sup> Oualifiers |
| 2,3,7,8-TCDD 0.000000496                                      | 100496                           |  | IS 13C-2,5,7,8-TCDD                           | COC                    | 79.0 25                          | 161                        |
| QQ  | 000585                           |  | 13C-1,2,3,7,8-PeCDD                           | eCDD                   | 79.5 25 - 181                    | 18                         |
| 1,2,3,4,7,8-HxCDD 0.00000128                                  | 10128                            |  | 13C-1,2,3,4,7,8-HxCDD                         | -HxCDD                 | 76.4 32 - 141                    | 4]                         |
| 1,2,3,6,7,8-HxCDD ND 0.00000137                               | 00137                            |  | 13C-1,2,3,6,7,8-HxCDD                         | -HxCDD                 | 69.1 28 - 130                    | 30                         |
| 1,2,3,7,8,9-HxCDD ND 0.00000132                               | 00132                            |  | 13C-1,2,3,4,6,7,8-HpCDD                       | '8-HpCDD               | 68.8 23 - 140                    | . 40                       |
| 1,2,3,4,6,7,8-HpCDD 0.00000662                                |                                  | -  | 13C-0CDD                                      |                        | 41.2 17-157                      | 157                        |
| OCDD 0.0000757  |                                  | Ha<br>Ha   | 13C-2,3,7,8-TCDF                              | DF                     | 78.9 24-169                      | 691                        |
| 2,3,7,8-TCDF ND 0.000000526                                   | 00526                            |  | 13C-1,2,3,7,8-PeCDF                           | PeCDF                  | 79.3 24-185                      | 185                        |
| DF ND ND  | 0.000000007                      |  | 13C-2,3,4,7,8-PeCDF                           | PeCDF                  | 81.9 21 - 178                    | 8/1                        |
| QN  | 0.000000840                      |  | 13C-1,2,3,4,7,8-HxCDF                         | -HxCDF                 | 72.3 26 - 152                    | 152                        |
|   | 0.000000940                      |  | 13C-1,2,3,6,7,8-HxCDF                         | -HxCDF                 | 70.9 26 - 123                    | 123                        |
|   | 0.000000871                      |  | 13C-2,3,4,6,7,8-HxCDF                         | 3-HxCDF                | 75.3 28 - 136                    | 136                        |
| 2   | 0.00000026                       |  | 13C-1,2,3,7,8,9-HxCDF                         | -HxCDF                 | 75.4 29 - 147                    | 147                        |
| 1,2,3,7,8,9-HxCDF 0.00000134                                  | 20134                            |  | 13C-1,2,3,4,6,7,8-HpCDF                       | 7,8-HpCDF              | 62.4 28 - 143                    | 143                        |
| 1,2,3,4,6,7,8-HpCDF ND ND 0,00000207                          | 20207                            |  | 13C-1,2,3,4,7,8,9-HpCDF                       | 8,9-HpCDF              | 69.1 26 138                      | 300                        |
| 1,2,3,4,7,8,9-HpCDF ND 0.00000207                             | 00207                            |  | 13C-OCDF                                      |                        | 49.1 17-157                      | 157                        |
| OCDF 0.0000166  |                                  |  | CRS 37Cl-2,3,7,8-TCDD                         | CDD                    | 83,4 35                          | 197                        |
| Totals  |                                  |  | Footnotes                                     |                        |                                  |                            |
| QN  | 0.000000496                      |  | a. Sample specific estimated detection limit  | rted detection limit.  | :                                |                            |
| <b>Q</b> !  | 0.000000585                      |  | b. Estimated maximum possible concentration   | ossible concentration. |                                  | \$<br>                     |
| Total HxCDD   | 00132                            |  | d. Lower control limit - upper control limit. | pper control limit.    |                                  | er o                       |
| 2   | 0.000000526                      |  |   |                        |                                  |                            |
| Total PeCDF 0,0000  | 0.000000001                      |  |   | 1 L                    | i<br>P                           |                            |
| Total HxCDF ND 0.00000101                                     | 0.00000101                       |  |   |                        | Žit.                             |                            |
|   |                                  |  | Approved By:                                  | Martha M. Maier        | ier 16-Jan-2006 11:33            | 6 11:31                    |

# APPENDIX

Project 27133 Page 7 of 274

## DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEO Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

# **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number     |
|---|------------------------|
| State of Alaska, DEC                        | CA413-02               |
| State of Arizona                            | AZ0639                 |
| State of Arkansas, DEQ                      | 05-013-0               |
| State of Arkansas, DOH                      | Reciprocity through CA |
| State of California – NELAP Primary AA      | 02102CA                |
| State of Colorado                           |                        |
| State of Connecticut                        | PH-0182                |
| State of Florida, DEP                       | E87777                 |
| Commonwealth of Kentucky                    | 90063                  |
| State of Louisiana, Health and Hospitals    | LA050001               |
| State of Louisiana, DEQ                     | 01977                  |
| State of Maine                              | CA0413                 |
| State of Michigan                           | 81178087               |
| State of Mississippi                        | Reciprocity through CA |
| Naval Facilities Engineering Service Center |                        |
| State of Nevada                             | CA413                  |
| State of New Jersey                         | CA003                  |
| State of New Mexico                         | Reciprocity through CA |
| State of New York, DOH                      | 11411                  |
| State of North Carolina                     | 06700                  |
| State of North Dakota, DOH                  | R-078                  |
| State of Oklahoma                           | D9919                  |
| State of Oregon                             | CA200001-002           |
| State of Pennsylvania                       | 68-00490               |
| State of South Carolina                     | 87002001               |
| State of Tennessee                          | 02996                  |
| State of Texas                              | TX247-2005A            |
| U.S. Army Corps of Engineers                |                        |
| State of Utah                               | 9169330940             |
| Commonwealth of Virginia                    | 00013                  |
| State of Washington                         | C1285                  |
| State of Wisconsin                          | 998036160              |
| State of Wyoming                            | 8TMS-Q                 |



Project 27133

17461 Derian Ava. Suite 100, Invine, CA 92614 Ph (949) 261-1022 Fax (949) 261-1228

1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (999) 370-4667 Fax (909) 370-1046

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 Ph (619) 505-9596 Fax (619) 605-9689

9830 South Stat Street, Suite B-120, Phoenix, AZ 65044 Ph (480) 785-0043 Fax (480) 785-0851

2500 E. Sunset, Rd. Suite 32 Lies Venes, NV 99120 Ph (702) 798-3629 Fax (702) 798-3021

# SUBCONTRACT ORDER - PROJECT #IPA0003

# RECEIVING LABORATORY: SENDING LABORATORY: Alta Analytical - SUB 27133 Del Mar Analytical, Irvine 1104 Windfield Way 17461 Derian Avenue, Suite 100 El Dorado Hills, CA 95762 Irvine, CA 92614 Phone:(916) 933-1640 Phone: (949) 261-1022 Fax: (916) 673-0106 Fax: (949) 261-1228 9.9°C Project Manager. Michele Chambe lin Standard TAT is requested unless specific due date is requested => Due Date: Initials: Comments Expiration Sampled: 01/01/06 09:25 Instant Nofication Sample ID: IPA0003-01 Water J flags, 17 congeners, no TEQ, ug/L, sub=Alta 1613-Dioxin-HR-Alta 01/(:8/06 09:25 Excel EDD email to pm, Include Std logs for Lvl IV EDD + Level 4 01/29/06 09:25 Containers Supplied: 1 L Amber (IPA0003-01C) I L Amber (IPA0003-01D) SAMPLE INTEGRITY: Samples Received On ice:: Sample labels/COC agree: All containers intect: Samples Received at (temp): Samples Preserved Properly: Custody Seals Pre Time Released By Released By Date Time Received By

Page 1010 6274

# SAMPLE LOG-IN CHECKLIST

Alta Project #: 37133

| Samples Arrival: | Date/Time 1/4/06 | 0935    | Initials | UB  | Location:<br>WR-2 | <del>)</del> |
|------------------|------------------|---------|----------|-----|-------------------|--------------|
| Logged In:       | Date/Time        | 1519    | Initials | 320 | Location: WK      | 2-2          |
| Delivered By:    | FedEx            | UPS     | Cal      | DHL | Hand<br>Delivered | Other        |
| Preservation:    | loe              | Blu     | ie Ice   | Dry |                   | lone         |
| Temp °C O        | 9                | Time: 🧷 | 940      |     | Thermometer I     | D: DT-20     |

|  |             |        |        |   | YEŞ                 | NO       | NA         |  |  |
|--|-------------|--------|--------|---|---------------------|----------|------------|--|--|
| Adequate Sample Volume Receive                                       | d?          |        |        |   | <b>V</b>            |          |            |  |  |
| Holding Time Acceptable?   |             |        |        |   | V                   |          |            |  |  |
| Shipping Container(s) Intact?  |             |        |        |   | V                   |          |            |  |  |
| Shipping Custody Seals Intact?                                       |             |        |        |   | 1/                  |          |            |  |  |
| Shipping Documentation Present?                                      |             |        |        |   | 1/                  | <u> </u> |            |  |  |
| Airbill Trk# 79  | 24 79       | 03 41  | 61     | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 1                   |          |            |  |  |
| Sample Container Intact?   |             |        |        |   |                     |          |            |  |  |
| Sample Custody Seals Intact?   |             |        |        |   | ļ.,                 | 4        | \ <u> </u> |  |  |
| Chain of Custody / Sample Docum                                      | entation Pr | esent? |        |   | V                   | <b>↓</b> | 4          |  |  |
| COC Anomaly/Sample Acceptance  |             |        |        |   |                     | V        | <u> </u>   |  |  |
| If Chlorinated or Drinking Water Samples, Acceptable Preservation?   |             |        |        |   |                     |          | <b>V</b>   |  |  |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documente |             |        |        |   | Sample<br>Container |          | one        |  |  |
| Shipping Container   | Alta        | Client | Retain | (Re                                     | turn                | Dis      | pose       |  |  |

Comments:

.

# APPENDIX G

# **Section 24**

Outfall 006, January 01, 2006 AMEC Data Validation Reports

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

|         |                                 | Package ID B4MT2   |
|---------|---------------------------------|--|
| ME      | C <sup>x</sup>                  | Task Order 1261.001D.01  |
|         | 69 East Vassar Drive            | SDG No. IPA0003  |
| Aure    | ora, CO 80014                   | No. of Analyses 1  |
|         | Laboratory Del Mar A            |  |
|         | Reviewer P. Meeks               | Reviewer's Signature   |
|         | Analysis/Method Metals          | P. Needs   |
|         |                                 |  |
| ACI     | TION ITEMS'                     |  |
|         | Case Narrative                  |  |
|         | Deficiencies                    |  |
|         |                                 |  |
| 2.      | Out of Scope                    |  |
|         | Analyses                        |  |
|         |                                 |  |
|         |                                 |  |
| 3.      | Analyses Not Conducted          |  |
|         |                                 |  |
|         |                                 |  |
| 4.      | Missing Hardcopy                |  |
|         | Deliverables                    |  |
|         |                                 |  |
|         | <b>*</b>                        |  |
| 5.      | Incorrect Hardcopy Deliverables |  |
|         | Denverances                     |  |
|         |                                 |  |
| 6.      | Deviations from Analysis        | Analytes detected below the reporting limit were qualified as estimated. |
|         | Protocol, e.g.,                 |  |
|         | Holding Times                   |  |
|         | GC/MS Tune/Inst. Performance    |  |
|         | Calibration                     |  |
|         | Method blanks                   |  |
|         | Surrogates                      |  |
|         | Matrix Spike/Dup LCS            |  |
| ŀ       | Field QC                        |  |
|         | Internal Standard Performance   |  |
|         | Compound Identification         |  |
|         | Quantitation                    |  |
|         | System Performance              |  |
| CO      | MMENTS <sup>6</sup>             |  |
|         |                                 |  |
|         |                                 |  |
| <u></u> |                                 |  |
| ŧ       | · ·                             | meeting contract and/or method requirements.                             |



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 006

**ANALYSIS: METALS** 

SAMPLE DELIVERY GROUP IPA0003

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

**NPDES** IPA0003

Analysis:

Metals

# 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MECX Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

IPA0003

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

0

No. of Reanalyses/Dilutions:

P. Meeks

Reviewer: Date of Review:

February 3, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: NPDES SDG: IPA0003 Analysis: Metals

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 006 | IPA0003-01    | Water  | 200.8, 245.1 |

Project: NPDES SDG: IPA0003 Analysis: Metals

#### DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

## 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

## 2.4 BLANKS

The method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No qualifications were required.

B4MT2 3 Revision 0

Project:

**NPDES** 

SDG: Analysis: IPA0003 Metals

DATA VALIDATION REPORT

# 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Antimony and lead, which are not present in the ICSA or ICSAB, were detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for lead or antimony, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

#### 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

## 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No

B4MT2

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Revision 0

Project: NPDES SDG: IPA0003 Analysis: Metals

DATA VALIDATION REPORT

transcription errors or calculation errors were noted. Lead detected below the reporting limit was qualified as estimated, "J," and annotated with "DNQ," in accordance with the requirements of the NPDES permit. No further qualifications were required.

### 2.12 FIELD QC SAMPLES

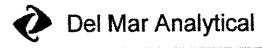
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

### 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

### 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



17461 Derian Ave., Suite 100, Invine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A. Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (460) 785-0043 FAX (460) 785-0651 FAX (460) 785-0651 FAX (702) 796-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06

Pasadena, CA 91101

Report Number: IPA0003

Received: 01/01/06

**METALS** 

| Analyte  | Method       | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |                |
|--|--------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|----------------|
| Sample ID: IPA0003-01 (Outfall Reporting Units: ug/l | 006 - Water) |         |              |                    |                  |                    |                   |                  | Rev                | Code           |
| Antimony   | EPA 200.8    | 6A04084 | 0.18         | 2.0                | 5.0              | 1                  | 01/04/06          | 01/05/06         |                    |                |
| Cadmium  | EPA 200.8    | 6A04084 | 0.015        | 1.0                | ND               | 1                  | 01/04/06          | 01/05/06         | U                  | element to the |
| Copper   | EPA 200.8    | 6A04084 | 0.49         | 2.0                | 3.0              | 1                  | 01/04/06          | 01/05/06         | В                  |                |
| Lead   | EPA 200.8    | 6A04084 | 0.040        | 1.0                | 0.34             | 1                  | 01/04/06          | 01/05/06         | JJ                 | DNG            |
| Mercury  | EPA 245.1    | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | 01/03/06         | U                  | -              |

TEAR IL

Del Mar Analytical, Irvine Amy Windham For Michele Chamberlin Project Manager

The results periain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IPA0003 <Page 2 of 11>

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID B4DF2 12260 East Vassar Drive Task Order <u>1261.001.01</u> Suite 500 SDG No. <u>IPA0003</u> No. of Analyses Lakewood, CO 80226 Date: February 3, 2006 Laboratory Alta Analytical Reviewer's Signature Reviewer E. Wessling Analysis/Method Dioxins/Furans by 1613 ACTION ITEMS\* Case Narrative **Deficiencies** 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy **Deliverables** Qualifications were assigned for the following: 6. Deviations from Analysis Protocol, e.g., --estimated values between the RL and the MDL **Holding Times** GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS<sup>b</sup> <sup>a</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 006

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA0003

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014 DATA VALIDATION REPORT Ans

Project: TTF SDG: IPA0003 Analysis: D/F

#### 1. INTRODUCTION

Task Order Title: NPDES
Contract Task Order: 1261.001.01
Sample Delivery Group: IPA0003

Project Manager: P. Costa

Matrix: Water

Analysis: Dioxins/Furans

QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Reviewer: E. Wes

Reviewer: E. Wessling
Date of Review: February 2, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Revision 0

Project: SDG: Analysis: TTF IPA0003 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

| Sample ID   | Laboratory ID<br>(Del Mar) | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 006 | IPA0003-01                 | 27133-001               | Water  | 1613       |

Project: SDG: Analysis: TTF IPA0003

DATA VALIDATION REPORT

## 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received within the temperature limits of 4°C ±2°C or slightly below. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however not sample custody seals were present. No qualifications were required.

#### 2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

#### 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

#### 2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

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Project: SDG:

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DATA VALIDATION REPORT Anal

SDG: Analysis:

D/F

#### 2.3 CALIBRATION

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 12/30/2005 on instrument VG-7. The calibration consisted of six concentration level standards (CS1 through CS6) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. The confirmation ICAL was analyzed on VG-6 on 4/29/2005. No qualifications were required.

## 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

#### 2.4 BLANKS

One method blank (0-7632-MB001) was extracted and analyzed with the sample in this SDG. No compounds were reported in the method blank associated with the site sample. A review of the method blank raw data and chromatograms indicated no false negatives or false positives. No qualifications were required.

## 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

# 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

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Project: SDG: Analysis: TTF IPA0003

DATA VALIDATION REPORT

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

## 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

### 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG. No qualification was required.

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No qualifications were required.

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Revision 0

Martha M. Majer 16-Jan-2006 11:31

Approved By:

|                 |  |   | IPA0003-01   動の                                 | の対象で                                   |   |            |  |                   | - Wash 1/4                           |  |
|-----------------|--|---|---|--|---|------------|--|-------------------|--------------------------------------|--|
|                 |  |   | 4         | `                                      | Sample Date   | ·          | Laboratory Data  |                   |                                      |  |
|                 |  | Project   | Del Mar Analytical, Irvino                      | 911                                    | Matrix:   | Aqueous    | Lab Sample:  | 27133-001         | Date Received:                       | 4-Jan-06   |
|                 | 45°  |   | 1-Jan-06  | ······································ | Sample Size.  | 0.927.L    | OC Datch No.: Date Analyzed DD-5:  | 7632<br>12.1sn-06 | Date Extracted: Date Analyzed DB-225 | 8-Jan-06   |
|                 | \$ %<br>y %  | Analyte   | Conc. (ug/L)                                    | DF #                                   | EMPC  | Qualifiers | Labeled Standard   |                   | %R LCL-UCL                           | o  |
| 5               | The state of the s | 2,3,7,8,3,000 ki  | R   | 0.000000496                            | 26  |            | IS 13C-2,3,7,8-TCDD  |                   | 79.0 25-164                          |  |
|                 |  | 1,2,3,7,8-PeCDD   | 1,2.3,7,8-PeCDD ND                              |  | 85  |            | 13C-1,2,3,7,8-PeCDD  | Q                 | 79.5 25 181                          |  |
| Michaelean pana |  | 1,7,3,4,7,8,HxCD  | 8   | Ĭ,                                     |   |            | DON'S' STREET  |                   |                                      |  |
| >               |  | 1.23.6, / B-HxCD  | 1.2.3.6.7.8-HxCDD ND                            | 0.00000137                             |   | i i        | 13C-1,2,3,6,7,8-HxCDD  |                   | 69.1 28 - 130                        |  |
| *               | <b>で</b>   | -   | 00000<br>GC                                     | C.                                     |   | · -        | 13C-OCDD   | (†<br>8)          | 41.2 17-157                          | F'   |
| ···········     |  | 1000<br>1000  | OGDD, 17 18 18 18 18 18 18 18 18 18 18 18 18 18 |  | 10000000000000000000000000000000000000  |            | West 13 C-2.2, As TODE   |                   |                                      |  |
| <u> </u>        | ***************************************  | 2,3,7,8-TCDF  | 2   | 3                                      | %:  |            | 13C-1,2,3,7,8-PeCDF  | į.                | 79.3 24 185                          | *  |
|                 | ***************************************  | 12.3.7.8.PeCDR  | 2,3,7,8 PCDE                                    |  |   |            | 13C.2,3,4,7,8-PecuF  | 200               | 81.94.21-178                         |  |
|                 |  | 2.3.4.7.8-PeCU (2.3.4.7.8 H&QU)   | 2.3.4.7,8-PecDF                                 | 0.000000840                            | 14<br>15<br>9-9   |            | 13C-1,2,3,4,7,8-HxCDF  |                   | 72.3 26-152<br>% 70.9 26-123         |  |
|                 |  | 1,2,3,6,7,8-HxCDF   | 2   |  | 1   |            | 13C-2,3,4,6,7,8-HxCDF  |                   | 75.3 28-136                          |  |
| -               |  | 2,3,4,6,7,8 HXCDF   S   S   S   N   | E. S.       | Ì                                      |   |            | 13C11237,8PHKCDF   |                   | 75.4 29 1.47                         |  |
| ·····           |  | 12.3.7.8.9-H <sub>W</sub> CDF<br>  12.3.4.6.78-H <sub>P</sub> CDH <sup>M</sup> 和A |   | 0.00000134                             |   |            | 13C-1,2,3,4,6,7,8-HpCDF  |                   | 62.4 28 - 143                        |  |
| <u> </u>        | Z<br>Ž   | 1.2.3.4.7.8.9.HpCDF NI<br>OCDF: If Delice of                                      | DF ND 0,0000166                                 |  |   | <u> </u>   | 13C-OCDF<br>CRS 37Cl 2,3,7,8-7CDD  |                   | 49.1 17-157<br>88.4 35-197           |  |
|                 | J  | Totals  |   |  | deresia de la facilita de la calenda de la facilita |            | Footnates  |                   |                                      |  |
| J J             | <u> </u>   | Total TCDD Total PecDD  | <b>Q</b>  | 0.000000496                            | 9   |            | a. Sample specific estimated detection limit.  b. Estimated maximum possible concentration | Mestion limit.    |                                      |  |
| <u> </u>        | - 2.₩.2*   | Total HxCDD Total HpCDD Total HpCDD   | UN<br>410000.0                                  | 0.00000132                             |   |            | c. Mathod detaction limit.  d. Lower control limit upper control limit.                    | Sonited limit.    |                                      |  |
| ろる              | <u> </u>   | Total TCDF Total PeCDR  | 9   | 0.000000526                            | •   |            |  |                   |                                      |  |
|                 | • •  | Total HACDF   | QX.   | 0.00000101                             |   |            |  |                   |                                      |  |
| <u> </u>        | J  | TOTAL STREET  |   | 0,000,000,000,000,000,000,000,000,000, |   | 79.        |  |                   |                                      | money chief to the project of the first of t |

Project 27133

Analysi: DMS

NPDES 4592

# **APPENDIX G**

# **Section 25**

Outfall 007, January 01, 2006 Del Mar Analytical Laboratory Report



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# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: Routine Outfall 007

Sampled: 01/01/06 Received: 01/01/06

Issued: 01/16/06 14:34

# 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.

#### SAMPLE CROSS REFERENCE

SUBCONTRACTED:

Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID

**CLIENT ID** 

MATRIX

IPA0007-01

Outfall 007

Water

Reviewed By:

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

any Windham

Project Manager



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-859 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0007

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

# **METALS**

|  |           |         | MDL   | Reporting | Sample | Dilution | Date      | Date     | Data       |
|--|-----------|---------|-------|-----------|--------|----------|-----------|----------|------------|
| Analyte                                | Method    | Batch   | Limit | Limit     | Result | Factor   | Extracted | Analyzed | Qualifiers |
| Sample ID: IPA0007-01 (Outfall 007 - \ | Water)    |         |       |           |        |          |           |          |            |
| Reporting Units: ug/l                  |           |         |       |           |        |          |           |          |            |
| Antimony                               | EPA 200.8 | 6A04084 | 0.050 | 2.0       | 4.6    | 1        | 01/04/06  | 01/05/06 |            |
| Cadmium                                | EPA 200.8 | 6A04084 | 0.025 | 1.0       | 0.22   | 1        | 01/04/06  | 01/05/06 | J          |
| Copper                                 | EPA 200.8 | 6A04084 | 0.25  | 2.0       | 8.0    | 1        | 01/04/06  | 01/05/06 |            |
| Lead                                   | EPA 200.8 | 6A04084 | 0.040 | 1.0       | 4.4    | 1        | 01/04/06  | 01/05/06 |            |
| Mercury                                | EPA 245.1 | 6A03072 | 0.050 | 0.20      | 0.087  | 1        | 01/03/06  | 01/03/06 | J          |



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPA0007

Sampled: 01/01/06

Received: 01/01/06

#### **INORGANICS**

| Analyte                              | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--------------------------------------|----------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0007-01 (Outfall 007 - | Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l                |                |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                             | EPA 300.0      | 6A01004 | 0.75         | 2.5                | 84               | 5                  | 01/01/06          | 01/01/06         |                    |
| Nitrate/Nitrite-N                    | EPA 300.0      | 6A01004 | 0.080        | 0.15               | 0.45             | 1                  | 01/01/06          | 01/01/06         |                    |
| Oil & Grease                         | EPA 413.1      | 6A06048 | 0.90         | 4.8                | 2.0              | 1                  | 01/06/06          | 01/06/06         | J                  |
| Sulfate                              | EPA 300.0      | 6A01004 | 0.45         | 0.50               | 24               | 1                  | 01/01/06          | 01/01/06         |                    |
| Total Dissolved Solids               | SM2540C        | 6A03093 | 10           | 10                 | 440              | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Suspended Solids               | EPA 160.2      | 6A05089 | 10           | 10                 | 72               | 1                  | 01/05/06          | 01/05/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0007

Sampled: 01/01/06

Received: 01/01/06

Attention: Bronwyn Kelly

## SHORT HOLD TIME DETAIL REPORT

|   | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 007 (IPA0007-01) - Water | r                      |                      |                       |                        |                       |
| EPA 300.0                                   | 2                      | 01/01/2006 10:06     | 01/01/2006 15:25      | 01/01/2006 17:30       | 01/01/2006 19:38      |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0007

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

#### **METALS**

|   |             | Reporting |       |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|---|-------------|-----------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit     | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03072 Extracted: 01/03/06      | _           |           |       |       |       |           |         |        |     |       |            |
|   |             |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03072-B   | •           |           |       |       |       |           |         |        |     |       |            |
| Mercury                                 | ND          | 0.20      | 0.063 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03072-BS    | 1)          |           |       |       |       |           |         |        |     |       |            |
| Mercury                                 | 7.95        | 0.20      | 0.063 | ug/l  | 8.00  |           | 99      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A0  | 3072-MS1)   |           |       |       | Sou   | rce: IOL2 | 2617-01 |        |     |       |            |
| Mercury                                 | 7.95        | 0.20      | 0.063 | ug/l  | 8.00  | ND        | 99      | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006   | (6A03072-MS | D1)       |       |       | Sou   | rce: IOL2 | 2617-01 |        |     |       |            |
| Mercury                                 | 8.00        | 0.20      | 0.063 | ug/l  | 8.00  | ND        | 100     | 70-130 | ı   | 20    |            |
| Batch: 6A04084 Extracted: 01/04/06      | _           |           |       |       |       |           |         |        |     |       |            |
|   | =           |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-B   | LK1)        |           |       |       |       |           |         |        |     |       |            |
| Antimony                                | 0.162       | 2.0       | 0.050 | ug/l  |       |           |         |        |     |       | J          |
| Cadmium                                 | ND          | 1.0       | 0.025 | ug/l  |       |           |         |        |     |       |            |
| Copper                                  | 0.321       | 2.0       | 0.25  | ug/l  |       |           |         |        |     |       | J          |
| Lead                                    | ND          | 1.0       | 0.040 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS)   | 1)          |           |       |       |       |           |         |        |     |       |            |
| Antimony                                | 78.5        | 2.0       | 0.050 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Cadmium                                 | 80.2        | 1.0       | 0.025 | ug/I  | 80.0  |           | 100     | 85-115 |     |       |            |
| Copper                                  | 80.8        | 2.0       | 0.25  | ug/l  | 80.0  |           | 101     | 85-115 |     |       |            |
| Lead                                    | 78.3        | 1.0       | 0.040 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A0- | 4084-MS1)   |           |       |       | Sour  | rce: IOL2 | 694-49  |        |     |       |            |
| Antimony                                | 78.2        | 2.0       | 0.050 | ug/l  | 80.0  | 0.26      | 97      | 70-130 |     |       |            |
| Cadmium                                 | 76.0        | 1.0       | 0.025 | ug/l  | 80.0  | ND        | 95      | 70-130 |     |       |            |
| Copper                                  | 102         | 2.0       | 0.25  | ug/l  | 80.0  | 23        | 99      | 70-130 |     |       |            |
| Lead                                    | 84.3        | 1.0       | 0.040 | ug/l  | 80.0  | 2.7       | 102     | 70-130 |     |       |            |
|   |             |           |       |       |       |           |         |        |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0007

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

#### **METALS**

| Analyte                                | Result     | Reporting<br>Limit | MDL      | Units   | Spike<br>Level | Source<br>Result | %REC    | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|------------|--------------------|----------|---------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 6A04084 Extracted: 01/04/06     | <u>i_</u>  |                    |          |         |                |                  |         |                |     |              |                    |
| Matrix Spike Analyzed: 01/05/2006 (6A0 |            | Sou                | rce: IOL | 2694-50 |                |                  |         |                |     |              |                    |
| Antimony                               | 80.0       | 2.0                | 0.050    | ug/l    | 80.0           | 0.094            | 100     | 70-130         |     |              |                    |
| Cadmium                                | 76.2       | 0.1                | 0.025    | ug/l    | 80.0           | ND               | 95      | 70-130         |     |              |                    |
| Copper                                 | 101        | 2.0                | 0.25     | ug/l    | 80.0           | 18               | 104     | 70-130         |     |              |                    |
| Lead                                   | 87.5       | 1.0                | 0.040    | ug/l    | 80.0           | 1.8              | 107     | 70-130         |     |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006  | (6A04084-M | SD1)               |          |         | Sou            | rce: IOL2        | 2694-49 |                |     |              |                    |
| Antimony                               | 76.7       | 2.0                | 0.050    | ug/l    | 80.0           | 0.26             | 96      | 70-130         | 2   | 20           |                    |
| Cadmium                                | 76.1       | 1.0                | 0.025    | ug/l    | 80.0           | ND               | 95      | 70-130         | 0   | 20           |                    |
| Copper                                 | 101        | 2.0                | 0.25     | ug/l    | 80.0           | 23               | 98      | 70-130         | 1   | 20           |                    |
| Lead                                   | 83.9       | 1.0                | 0.040    | ug/l    | 80.0           | 2,7              | 102     | 70-130         | 1   | 20           |                    |

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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Report Number: IPA0007

Attention: Bronwyn Kelly

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

### **INORGANICS**

| Analyte   | Result     | Reporting<br>Limit | MDL          | Units | Spike<br>Level | Source    | %REC   | %REC                                    | RPĐ | RPD<br>Limit | Data<br>Qualifiers |
|---|------------|--------------------|--------------|-------|----------------|-----------|--------|---|-----|--------------|--------------------|
| Batch: 6A01004 Extracted: 01/01/06                            |            |                    | A . M. M. P. |       |                |           |        | *************************************** |     |              | <b>C</b>           |
|   |            |                    |              |       |                |           |        |   |     |              |                    |
| Blank Analyzed: 01/01/2006 (6A01004-B                         | •          |                    |              |       |                |           |        |   |     |              |                    |
| Chloride  | ND         | 0.50               | 0.15         | mg/l  |                |           |        |   |     |              |                    |
| Nitrate/Nitrite-N   | ND<br>ND   | 0.15               | 0.080        | mg/l  |                |           |        |   |     |              |                    |
| Sulfate   | ND         | 0.50               | 0.45         | mg/l  |                |           |        |   |     |              |                    |
| LCS Analyzed: 01/01/2006 (6A01004-BS                          | 1)         |                    |              |       |                |           |        |   |     |              |                    |
| Chloride  | 4.88       | 0.50               | 0.15         | mg/l  | 5.00           |           | 98     | 90-110                                  |     |              | M-3                |
| Sulfate   | 9.56       | 0.50               | 0.45         | mg/l  | 10.0           |           | 96     | 90-110                                  |     |              |                    |
| Matrix Spike Analyzed: 01/01/2006 (6A0                        | 1004-MS1)  |                    |              |       | Sou            | rce: IPA( | 003-01 |   |     |              |                    |
| Sulfate   | 14.4       | 0.50               | 0.45         | mg/l  | 10.0           | 5.1       | 93     | 80-120                                  |     |              |                    |
| Matrix Spike Dup Analyzed: 01/01/2006                         | (6A01004-M | ISD1)              |              |       | Sou            | rce: IPA0 | 003-01 |   |     |              |                    |
| Sulfate   | 14.8       | 0.50               | 0.45         | mg/l  | 10.0           | 5.1       | 97     | 80-120                                  | 3   | 20           |                    |
| Batch: 6A03093 Extracted: 01/03/06                            | <u>.</u>   |                    |              |       |                |           |        |   |     |              |                    |
| Dt  | T TZ1)     |                    |              |       |                |           |        |   |     |              |                    |
| Blank Analyzed: 01/03/2006 (6A03093-B) Total Dissolved Solids | ND         | 10                 | 10           | /1    |                |           |        |   |     |              |                    |
| Total Dissolved Solids  | ND         | 10                 | 10           | mg/l  |                |           |        |   |     |              |                    |
| LCS Analyzed: 01/03/2006 (6A03093-BS)                         | 1)         |                    |              |       |                |           |        |   |     |              |                    |
| Total Dissolved Solids  | 1000       | 10                 | 10           | mg/l  | 1000           |           | 100    | 90-110                                  |     |              |                    |
| Duplicate Analyzed: 01/03/2006 (6A0309)                       | 3-DUP1)    |                    |              |       | Sou            | rce: IPA0 | 005-01 |   |     |              |                    |
| Total Dissolved Solids  | 981        | 10                 | 10           | mg/l  |                | 980       |        |   | 0   | 10           |                    |
| Batch: 6A05089 Extracted: 01/05/06                            | _          |                    |              |       |                |           |        |   |     |              |                    |
| Blank Analyzed: 01/05/2006 (6A05089-B)                        | LK1)       |                    |              |       |                |           |        |   |     |              |                    |
| Total Suspended Solids  | ND         | 10                 | 10           | mg/l  |                |           |        |   |     |              |                    |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPA0007

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

#### **INORGANICS**

| Analyte  | Result                 | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC   | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|------------------------|--------------------|------|-------|----------------|------------------|--------|----------------|-----|--------------|--------------------|
| Batch: 6A05089 Extracted: 01/05/06                             | <u> </u>               |                    |      |       |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/05/2006 (6A05089-BS<br>Total Suspended Solids | <b>1)</b><br>979       | 10                 | 10   | mg/l  | 1000           |                  | 98     | 85-115         |     |              |                    |
| Duplicate Analyzed: 01/05/2006 (6A0508) Total Suspended Solids | <b>19-DUP1)</b><br>458 | 10                 | 10   | mg/l  | Sou            | rce: IPA0<br>350 | 012-01 |                | 27  | 10           | R-3                |
| Batch: 6A06048 Extracted: 01/06/06                             | <u>í</u>               |                    |      |       |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/06/2006 (6A06048-B<br>Oil & Grease          | LK1)<br>ND             | 5.0                | 0.94 | mg/l  |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/06/2006 (6A06048-BS<br>Oil & Grease           | <b>1)</b><br>19.2      | 5.0                | 0.94 | mg/l  | 20.0           |                  | 96     | 65-120         |     |              | M-NR1              |
| LCS Dup Analyzed: 01/06/2006 (6A0604<br>Oil & Grease           | <b>8-BSD1)</b><br>19.6 | 5.0                | 0.94 | mg/l  | 20.0           |                  | 98     | 65-120         | 2   | 20           |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06 Report Number: IPA0007 Received: 01/01/06 Pasadena, CA 91101

Attention: Bronwyn Kelly

# **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

|            |                      |                        |       |        |      | Compliance |
|------------|----------------------|------------------------|-------|--------|------|------------|
| LabNumber  | Analysis             | Analyte                | Units | Result | MRL  | Limit      |
| IPA0007-01 | 413.1 Oil and Grease | Oil & Grease           | mg/l  | 2.00   | 4.8  | 15         |
| IPA0007-01 | Antimony-200.8       | Antimony               | ug/l  | 4.60   | 2.0  | 6.00       |
| IPA0007-01 | Cadmium-200.8        | Cadmium                | ug/l  | 0.22   | 1.0  | 4.00       |
| IPA0007-01 | Chloride - 300.0     | Chloride               | mg/l  | 84     | 2.5  | 150        |
| IPA0007-01 | Copper-200.8         | Copper                 | ug/l  | 8.00   | 2.0  | 14         |
| IPA0007-01 | Mercury - 245.1      | Mercury                | ug/l  | 0.087  | 0.20 | 0.20       |
| IPA0007-01 | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N      | mg/l  | 0.45   | 0.15 | 10.00      |
| IPA0007-01 | Sulfate-300.0        | Sulfate                | mg/l  | 24     | 0.50 | 250        |
| IPA0007-01 | TDS - SM 2540C       | Total Dissolved Solids | mg/l  | 440    | 10   | 850        |



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MWH-Pasadena/Boeing

M-3

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Sampled: 01/01/06 Received: 01/01/06

# DATA QUALIFIERS AND DEFINITIONS

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. Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

Report Number: IPA0007

accepted based on acceptable recovery in the Blank Spike (LCS).

There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike M-NR1

Duplicate.

The RPD exceeded the method control limit due to sample matrix effects. R-3

Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified. ND

**RPD** Relative Percent Difference



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Project ID: Routine Outfall 007 MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06 Pasadena, CA 91101 Received: 01/01/06 Report Number: IPA0007

Attention: Bronwyn Kelly

# **Certification Summary**

#### Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | X          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0007-01

Analysis Performed: EDD + Level 4

Samples: IPA0007-01

|  |                     | Field readings:   |                     | Temp = O.O.                       |                    | //: #Hd                        |                |                | Comments  |                     |                         |           |           |             |            |             |             |            |  |  | • |  |  | Turn around Time: (check) 24 Hours 50 Bays | 44 House   |                 |             | Perchiorate Only 72 Hours | Metais Only 72 Hours | Semple Integrity (Check) |
|--|---------------------|-------------------|---------------------|-----------------------------------|--------------------|--------------------------------|----------------|----------------|---|---------------------|-------------------------|-----------|-----------|-------------|------------|-------------|-------------|------------|--|--|---|--|--|--|------------|-----------------|-------------|---------------------------|----------------------|--------------------------|
| DEGINE OF THE PERIOD OF THE PE |                     |                   | 1.8                 | :15                               | ٧                  | 43)                            | 9:             | N 'I           | SO4   | '-IC                |                         |           |           | ×           | ×          | ×           | ×           |            |  |  |   |  |  | Date/Time: 10/6/                           | 1 +2/      | Date/Time:      |             | Date/Time:                | •                    | 1.15                     |
| DO SON LO NIENTO   |                     |                   |                     |                                   | e M                | ablas<br>1 'd                  | .e.            | cov,           | 1 Ke  | Preservative Bottle | *                       | HNO3 1A X | HNO3 1B X | None 2A, 2B | HCi 3A, 3B | None 4A, 4B | None 5A. 5B |            |  |  |   |  |  | Received By                                | 10-10 June | Received By     |             | Received By               | (                    | <b>ろ</b> 二(\             |
| Version 02/17/05   | Project             | Boeing-SSTL NTUES | Routine Outfall 007 | 200 Stormwater at Building 100    |                    |                                | (626) 568-6691 |                | (626) 568-6515                                      | * of Samolino       | Cont. Date/Time         | 70: 9-1-7 |           | 2           | 2          | 4           | 90-1-1      | 30:01      |  |  |   |  |  | Date/Time:                                 | 130        | Date/Time:      | 1 1/6 /3 1- | Date/Time:                |                      |                          |
| Tical  | Client Name/Address |                   | MWH-Pasadena        | and North Lake Avenue, Suite 1200 | Pasadena, CA 91101 | Project Manager: Bronwyn Kelly |                | Sampler / care | 100 J. J. W. J. | r                   | Description Matrix Type | ¥<br>P    | ×         | 3           | *          | 3           | 184         | Cuttan oc. |  |  |   |  |  | Relinquished By                            | 100        | Relinguished By | THE SHOWE   | Refinquished By           |                      |                          |



January 17, 2006

Alta Project I.D.: 27134

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 04, 2006 under your Project Name "IPA0007". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maicr

**Director of HRMS Services** 



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Section I: Sample Inventory Report
Date Received: 1/4/2006

Alta Lab. ID Client Sample ID

27134-001 IPA0007-01

# **SECTION II**

Martha M. Maier 17-Jan-2006 13:35

Approved By:

| Aqueous         QC Batch No.:         7632         Lab Sample:         0-MB001           1.00 L         Date Extracted:         8-Jan-06         Date Analyzed DB-5:         11-Jan-06         Date Analyzed DB-5:         18-Da-12-Jay-B-CDD-7:         18-Da-12-Jay-B-CDD-7:         18-Da-12-Jay-B-CDD-7:         18-Da-12-Jay-B-CDD-7:         18-Da-12-Jay-B-CDP-7:         18-Da-12-Jay-B-CDP-7:<  | Method Blank      |                |           |            |  |             |         | EPA Met                         | EPA Method 1613 |
|--|-------------------|----------------|-----------|------------|--|-------------|---------|---------------------------------|-----------------|
| 1.00 L   Date Extracted: 8-Jan-06   Date Analyzed DB-5: 11-Jan-06   Date Analyzed DB-5: 11-J |                   | QC Batch N     |           | .32        |  | IB001       |         |                                 |                 |
| Core. (ugL)         DL. a EMPC b Qualifiers         Qualifiers         Labeled Standard         %R           0.0000005671         IS 13C-2,37,8-TCDD         84.0           DD         ND         0.000000560         13C-1,2,7,8-PcDD         78.1           CDD         ND         0.00000147         13C-1,2,3,4,7,8-HxCDD         74.4           CDD         ND         0.00000147         13C-1,2,3,4,7,8-HxCDD         74.4           CDD         ND         0.00000145         13C-1,2,3,4,7,8-HxCDD         74.4           CDD         ND         0.00000535         13C-1,2,3,4,7,8-HxCDD         75.6           HCDD         ND         0.000000546         13C-1,2,3,4,7,8-HxCDF         82.5           DF         ND         0.000000546         13C-2,3,4,7,8-PcDF         71.3           DF         ND         0.000000585         13C-1,2,3,4,7,8-PcDF         73.7           CDF         ND         0.00000051         13C-1,2,3,4,7,8-HxCDF         78.0           CDF         ND         0.00000051         13C-1,2,3,4,7,8-HxCDF         78.0           CDF         ND         0.00000051         13C-1,2,3,4,7,8-HxCDF         78.0           CDF         ND         0.00000052         13C-1,2,3,4,7,8-HxCDF         78.0<  |                   | Date Extrac    |           | Jan-06     |  | Jan-06      | Date An | Date Analyzed DB-225:           | NA              |
| ND         0.000000671         IS         13C-2,3,7,8-PcDD           DD         ND         0.00000560         13C-1,2,3,7,8-PcDD           CDD         ND         0.00000147         13C-1,2,3,7,8-PcDD           CDD         ND         0.00000145         13C-1,2,3,7,8-PcDD           CDD         ND         0.00000145         13C-1,2,3,4,7,8-HxCDD           CDD         ND         0.000000518         13C-1,2,3,4,7,8-PcDF           ND         0.000000518         13C-1,2,3,4,7,8-PcDF           DF         ND         0.00000051         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000051         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000051         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000051         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000051         13C-1,2,3,4,7,8-PcDF           ADD         0.00000051         13C-1,2,3,4,7,8-PcDF           ADD         0.00000052         13C-1,2,3,4,7,8-PcDF           ADDF         ND         0.000000674         13C-1,2,3,4,7,8-PcDF           ADD         ND         0.000000674         13C-1,2,3,4,7,8-PcDF           ADD         ND         0.000000674         13  |                   | DE             |           | Qualifiers | Labeled Standard   |             | %R      | LCL-UCL <sup>d</sup> Oualifiers | )ualifiers      |
| DD         ND         0.000000560         13C-1,2,3,7,8-PeCDD           CDD         ND         0.0000147         13C-1,2,3,7,8-PeCDD           CDD         ND         0.00000145         13C-1,2,3,4,7,8-HxCDD           CUD         ND         0.00000146         13C-1,2,3,4,7,8-HxCDD           HCDD         ND         0.00000046         13C-1,2,3,7,8-PeCDF           ND         0.00000051         13C-2,3,7,8-PeCDF           DF         ND         0.00000088         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000088         13C-1,2,3,7,8-PeCDF           CDF         ND         0.00000088         13C-1,2,3,7,8-PeCDF           CDF         ND         0.00000088         13C-1,2,3,7,8-PeCDF           CDF         ND         0.00000051         13C-1,2,3,7,8-PeCDF           CDF         ND         0.00000052         13C-1,2,3,7,8-PeCDF           CDF         ND         0.000000674         13C-1,2,3,7,8-PeCDF           AD         0.000000674         13C-1,2,3,7,8-PeCDF           ND         0.000000674         13C-1,2,3,7,8-PeCDF           ND         0.000000670         13C-1,2,3,7,8-PeCDF           ND         0.000000540         1.5 Estimated maximum possible concentration limit. </td <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>84.0</td> <td>25 - 164</td> <td></td>   |                   |                | -         |            |  |             | 84.0    | 25 - 164                        |                 |
| DD         ND         0.00000149         13C-1,2,3,7,8-HxCDD           DD         ND         0.00000147         13C-1,2,3,7,8-HxCDD           DD         ND         0.00000145         13C-1,2,3,4,7,8-HyCDD           DD         ND         0.00000146         13C-1,2,3,4,6,7,8-HyCDD           DD         ND         0.00000035         13C-2,3,7,8-TCDF           ND         0.00000012         13C-1,2,3,7,8-PeCDF           ND         0.00000012         13C-1,2,3,7,8-HyCDF           DF         ND         0.00000011           F         ND         0.00000018           F         ND         0.00000067           F         ND         0.00000067           DF         ND         0.00000067           ND         0.00000067         13C-1,2,3,7,8,9-HpCDF           ND         0.0000067         13C-1,2,3,7,8,9-HpCDF           ND         0.0000067         13C-0,2,3,7,8,-HpCDF           ND         0.0000006  | αq                |                | Q         |            |  |             | 78.7    | 25 - 181                        |                 |
| CDD         ND         0.00000147         13C-1,2,3,6,7,8-HxCDD           CUDD         ND         0.00000146         13C-1,2,3,4,6,7,8-HpCDD           HpCDD         ND         0.00000355         13C-2,3,7,8-TCDF           DF         ND         0.00000112         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000051         13C-1,2,3,7,8-PeCDF           CDF         ND         0.00000051         13C-1,2,3,7,8-HpCDF           CCDF         ND         0.00000051         13C-1,2,3,4,78-HpCDF           CCDF         ND         0.00000051         13C-1,2,3,4,78-HpCDF           CCDF         ND         0.00000052         13C-1,2,3,4,8,-HpCDF           HpCDF         ND         0.00000067         13C-1,2,3,4,8,-HpCDF           HpCDF         ND         0.00000067         13C-1,2,3,4,8,-HpCDF           HpCDF         ND         0.00000067         13C-1,2,3,4,8,-HpCDF           HpCDF         ND         0.00000067         13C-1,2,3,4,8,-HpCDF           HpCDF         ND         0.000000667         13C-1,2,3,4,8,-HpCDF           ND         0.00000067         13C-1,2,3,4,8,-HpCDF         13C-1,2,3,4,8,-HpCDF           ND         0.00000067         15C-1,2,3,4,8,-HpCDF         15C-1,2,3,4,8,-HpC  | QQ                |                |           |            | 13C-1,2,3,4,7,8-HxCD   | Q           | 81.9    | 32 - 141                        |                 |
| CUDD         ND         6.00000145         13C-1,2,3,4,6,7,8-HpCDD           4pCDD         ND         0.0000035         13C-0CDD           ND         0.000000546         13C-2,3,7,8-TCDF           DF         ND         0.000000112           DF         ND         0.00000051           CCDF         ND         0.00000051           CCDF         ND         0.00000052           CDF         ND         0.00000057           CDF         ND         0.00000057           CDF         ND         0.00000067           HPCDF         ND         0.00000067           ND         0.00000067         CRS           ND         0.00000067         Eximate specific esimated detection limit.           ND         0.000000660         Eximate specific esimated detection limit.           ND         0.000000660         Eximate specific esimated detection limit.           ND         0.000000660 <td< td=""><td></td><td>0.00000</td><td></td><td></td><td>13C-1,2,3,6,7,8-HxCD</td><td>. Q</td><td>74.4</td><td>28 - 130</td><td></td></td<>   |                   | 0.00000        |           |            | 13C-1,2,3,6,7,8-HxCD   | . Q         | 74.4    | 28 - 130                        |                 |
| tpCDD         ND         0.00000146         13C-OCDD           ND         0.000000535         13C-2,3,7,8-TCDF           DF         ND         0.00000012         13C-1,2,3,7,8-PcDF           DF         ND         0.00000081         13C-1,2,3,7,8-PcDF           CDF         ND         0.00000051         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000052         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000052         13C-1,2,3,4,7,8-PcDF           CDF         ND         0.00000067         13C-1,2,3,4,7,8-PcDF           HpCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-HpCDF           HpCDF         ND         0.00000067         13C-1,2,3,7,8-TCDD           HpCDF         ND         0.00000067         2.Sample specific estimated detection limit.           ND         0.00000067         2.Sample specific estimated detection limit.           ND         0.00000044         2.Method detection limit.           ND         0.000000546         4.Lower control limit - upper control limit.           ND         0.000000550         2.Method detection limit.           ND         0.000000560         4.Lower control limit - upper control limit.   | 4                 | 0.000001       |           |            | 13C-1,2,3,4,6,7,8-HpC  | 00:         | 75.6    | 23 - 140                        |                 |
| ND         0.00000535         13C-2,3,7,8-TCDF           DF         ND         0.000000546         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000085         13C-1,2,3,7,8-PeCDF           DF         ND         0.000000511         13C-1,2,3,7,8-PeCDF           CDF         ND         0.000000518         13C-1,2,3,7,8-PeCDF           CDF         ND         0.00000052         13C-1,2,3,7,8-PeCDF           CDF         ND         0.000000675         13C-1,2,3,7,8-PeCDF           HpCDF         ND         0.000000675         13C-1,2,3,7,8-PeCDF           HpCDF         ND         0.000000675         13C-1,2,3,7,8-PeCDF           HpCDF         ND         0.000000674         13C-1,2,3,7,8-PeCDF           HpCDF         ND         0.000000674         13C-1,2,3,7,8-PeCDF           HpCDF         ND         0.000000672         13C-1,2,3,7,8-PeCDF           ND         0.000000674         13C-1,2,3,7,8-PeCDF         13C-1,2,3,7,8-PeCDF           ND         0.000000670         13C-1,2,3,7,8-PeCDF         13C-1,2,3,7,8-PeCDF           ND         0.000000671         a. Sample specific estimated detection limit.           ND         0.0000000660         0.000000660         0.000000660  | Ω                 |                |           |            | 13C-OCDD   |             | 40.1    | 17 - 157                        |                 |
| DF         ND         0.000000546         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000885         13C-2,3,4,7,8-PeCDF           DF         ND         0.000000511         13C-1,2,3,4,7,8-HxCDF           CDF         ND         0.00000052         13C-1,2,3,4,7,8-HxCDF           CDF         ND         0.00000052         13C-1,2,3,4,7,8-HxCDF           CDF         ND         0.000000764         13C-1,2,3,4,7,8-HxCDF           HpCDF         ND         0.000000764         13C-1,2,3,4,7,8-HxCDF           HpCDF         ND         0.000000675         13C-1,2,3,4,7,8-HxCDF           HpCDF         ND         0.00000676         13C-1,2,3,4,7,8-HxCDF           HpCDF         ND         0.00000675         13C-1,2,3,4,8,9-HpCDF           ND         0.00000660         CRS         37C1-2,3,7,8-TCDD           ND         0.00000671         a. Sample specific estimated detection limit.           ND         0.00000146         b. Estimated maximum possible concentration.           ND         0.000000546         b. Estimated maximum possible concentration.           ND         0.000000553         c. Method detection limit.           ND         0.000000553         c. Method detection limit.           ND  |                   | _              |           |            | 13C-2,3,7,8-TCDF   |             | 82.6    | 24 - 169                        |                 |
| DF         ND         0.00000112         13C-2,3,4,7,8-PeCDF           DF         ND         0.00000081         13C-1,2,3,4,7,8-PeCDF           CDF         ND         0.00000051         13C-1,2,3,4,7,8-PeCDF           CDF         ND         0.00000052         13C-1,2,3,4,6,7,8-HxCDF           CDF         ND         0.000000675         13C-1,2,3,4,6,7,8-HxCDF           HpCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-HpCDF           HpCDF         ND         0.00000062         CRS         37C1-2,3,4,6,7,8-HpCDF           HpCDF         ND         0.00000062         CRS         37C1-2,3,4,6,7,8-HpCDF           ND         0.00000062         CRS         37C1-2,3,4,6,7,8-HpCDF           ND         0.00000062         CRS         37C1-2,3,4,7,8,9-HpCDF           ND         0.00000060         CRS         37C1-2,3,7,8-TCDD           ND         0.000000147         a. Sample specific estimated detection limit.           ND         0.000000546         b. Estimated maximum possible concentration.           ND         0.000000554         c. Method detection limit.           ND         0.000000553         c. Method detection limit.           ND         0.000000553   |                   |                | 9         |            | 13C-1,2,3,7,8-PeCDF  |             | 65.3    | 24 - 185                        |                 |
| ND         0.000000885         13C-1,2,3,4,7,8-HxCDF           ND         0.000000511         13C-1,2,3,6,7,8-HxCDF           ND         0.000000522         13C-1,2,3,6,7,8-HxCDF           ND         0.000000675         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000676         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000622         CRS           ND         0.000000671         a. Sample specific estimated detection limit.           ND         0.00000047         a. Sample specific estimated detection limit.           ND         0.000000546         b. Estimated maximum possible concentration.           ND         0.000000546         c. Method detection limit.           ND         0.000000546         d. Lower control limit - upper control limit.           ND         0.000000553         c. Method detection limit.           ND         0.000000553         c. Method detection limit.  | D.                | . •:           |           |            | 13C-2,3,4,7,8-PeCDF  |             | 71.3    | 21 - 178                        |                 |
| ND         0.000000511         13C-1,2,3,6,7,8-HxCDF           ND         0.000000518         13C-2,3,4,6,7,8-HxCDF           ND         0.000000675         13C-1,2,3,7,8,9-HxCDF           ND         0.000000622         CRS 37C-1,2,3,7,8-HpCDF           ND         0.000000671         Rootnotes           ND         0.00000671         a. Sample specific estimated detection limit.           ND         0.000000560         c. Method detection limit.           ND         0.000000546         c. Method detection limit.           ND         0.000000546         d. Lower control limit - upper control limit.           ND         0.000000550         c. Method detection limit.           ND         0.000000550         d. Lower control limit - upper control limit.   |                   |                | 55        |            | 13C-1,2,3,4,7,8-HxCD   | )F          | 73.7    | 26 - 152                        |                 |
| ND         0.000000518         13C-2,3,4,6,7,8-HxCDF           ND         0.000000522         13C-1,2,3,7,8,9-HxCDF           ND         0.000000675         13C-1,2,3,7,8,9-HxCDF           ND         0.000000622         CRS           ND         0.000000671         a. Sample specific estimated detection limit.           ND         0.000000560         b. Estimated maximum possible concentration.           ND         0.000000546         c. Method detection limit.           ND         0.000000546         c. Method detection limit.           ND         0.000000556         c. Method detection limit.   | )F                | er<br>L        | <b></b>   |            | 13C-1,2,3,6,7,8-HxCD   | ¥           | 70.0    | 26 - 123                        |                 |
| ND   0.00000675   13C-1,2,3,7,8,9-HxCDF  |                   |                | <b>00</b> |            | 13C-2,3,4,6,7,8-HxCL   | Ŧ.          | 78.0    | 28 - 136                        |                 |
| ND   0.00000675   13C-1,2,3,4,7,8-HpCDF   13C-1,2,3,4,7,8-HpCDF   13C-1,2,3,4,7,8,9-HpCDF   13C-0CDF   13C-0 |                   |                | 22        |            | 13C-1,2,3,7,8,9-HxCL   | Ŧ           | 79.2    | 29 - 147                        |                 |
| IpCDF         ND         0.000000764         13C-1,2,3,7,8,9-HpCDF           IpCDF         ND         0.00000052         CRS 37C1-2,3,7,8-TCDD           ND         0.000000671         a. Sample specific estimated detection limit.           ND         0.00000147         b. Estimated maximum possible concentration.           ND         0.000000146         c. Method detection limit.           ND         0.000000546         d. Lower control limit. upper control limit.           ND         0.000000533         o.000000533           ND         0.000000553   |                   |                | 75        |            | 13C-1,2,3,4,6,7,8-HpC  | CDF         | 64.7    | 28 - 143                        |                 |
| IpCDF         ND         0.00000622         I3C-OCDF           ND         0.00000671         a. Sample specific estimated detection limit.           ND         0.00000147         b. Estimated maximum possible concentration.           ND         0.00000146         c. Method detection limit.           ND         0.000000546         d. Lower control limit - upper control limit.           ND         0.000000553         o.000000553   |                   | .5.<br>        | <b>4</b>  |            | 13C-1,2,3,4,7,8,9-HpC  | JDF.        | 76.3    | 26 - 138                        | • .             |
| ND         0.00000360         CRS 37CI-2,3,7,8-TCDD           ND         0.00000671         a. Sample specific estimated detection limit.           ND         0.00000147         c. Method detection limit.           ND         0.00000146         d. Lower control limit upper control limit.           ND         0.000000346         d. Lower control limit upper control limit.           ND         0.000000553         o.000000553   |                   |                | 77        | ;          | I3C-OCDF   |             | 49,6    | 17 - 157                        |                 |
| ND 0.00000671<br>ND 0.00000147<br>ND 0.00000146<br>ND 0.00000546<br>ND 0.000000533   |                   |                |           |            | CRS 37CI-2,3,7,8-TCDD  |             | 88.7    | 35-197                          |                 |
| ND 0.00000671 ND 0.00000147 ND 0.00000146 ND 0.00000546 ND 0.00000053  | Totals            |                |           |            | Footnotes  |             |         |                                 |                 |
| ND 0.00000560 ND 0.0000147 ND 0.00000146 ND 0.000000546 ND 0.000000553   | _                 |                | 7.1       | -          | a, Sample specific estimated detection   | on limit.   |         |                                 |                 |
| ND 0.00000146 ND 0.000000546 ND 0.000000997 ND 0.000000553   | 1 %<br>1 %<br>1 % |                | 05        |            | b. Estimated maximum possible con-   | centration. |         |                                 |                 |
| ND 0.00000146<br>ND 0.00000097<br>ND 0.000000533   | _                 |                |           |            | c. Method detection limit.   |             | ,       |                                 |                 |
| 222  |                   |                |           |            | d. Lower control limit - upper contro  | M limit.    |         |                                 |                 |
| 999  |                   |                | 46        |            | -  |             |         |                                 |                 |
| 2 2  |                   |                | 7.6       |            |  |             |         |                                 |                 |
|  |                   |                | 53        |            |  |             |         |                                 |                 |
| NO   | Total HpCDF N     | ND 0.000000692 | 92        |            | The state of the s |             |         |                                 |                 |

Project 27134

Analyst: JMH

| OPR Results                         |                     |                                  |                  |   | EPA                   | EPA Method 1613 |
|-------------------------------------|---------------------|----------------------------------|------------------|---|-----------------------|-----------------|
| Matrix: Aqueous Sample Size: 1.00 L |                     | QC Batch No.:<br>Date Extracted: | 7632<br>8-Jan-06 | Lab Sample: 0-OPR001  Date Analyzed DB-5: 11-Jan-06 | Date Analyzed DB-225: | I DB-225: NA    |
| Analyte                             | Spike Conc. Conc. ( | Conc. (ng/mL)                    | OPR Limits       | Labeled Standard                                    | %R                    | TCL-UCL         |
| 2,3,7,8-TCDD                        | 10.0                | 8.44                             | 6.7 - 15.8       | IS 13C-2,3,7,8-TCDD                                 | 66.2                  | 25 - 164        |
| 1,2,3,7,8-PeCDD                     | 20.0                | 48.8                             | 35 - 71          | 13C-1,2,3,7,8-PeCDD                                 | 70.5                  | 25 - 181        |
| 1,2,3,4,7,8-HxCDD                   | 50.0                | 48.8                             | 35 - 82          | 13C-1,2,3,4,7,8-HxCDD                               | 68.7                  | 32 - 141        |
| 1,2,3,6,7,8-HxCDD                   | 50.0                | 46.7                             | 38 - 67          | 13C-1,2,3,6,7,8-HxCDD                               | 65.6                  | 28 - 130        |
| 1,2,3,7,8,9-HxCDD                   | 50.0                | 48.7                             | 32 - 81          | 13C-1,2,3,4,6,7,8-HpCDD                             | 70.6                  | 23 - 140        |
| 1,2,3,4,6,7,8-HpCDD                 | 50.0                | 47.2                             | 35 - 70          | 13C-0CDD  | 49.9                  | 17 - 157        |
| OCDD                                | 100                 | 95.4                             | 78 - 144         | 13C-2,3,7,8-TCDF                                    | 62.9                  | 24 - 169        |
| 2,3,7,8-TCDF                        | 10.0                | 9.58                             | 7.5 - 15.8       | 13C-1,2,3,7,8-PeCDF                                 | 63.1                  | 24 - 185        |
| 1,2,3,7,8-PeCDF                     | 50.0                | 46.6                             | 40 - 67          | 13C-2,3,4,7,8-PeCDF                                 | 64.2                  | 21 - 178        |
| 2,3,4,7,8-PeCDF                     | 50.0                | 48.4                             | 34 - 80          | 13C-1,2,3,4,7,8-HxCDF                               | 65.4                  | 26 - 152        |
| 1,2,3,4,7,8-HxCDF                   | 50.0                | 47.6                             | 36-67            | 13C-1,2,3,6,7,8-HxCDF                               | 63.8                  | 26 - 123        |
| 1,2,3,6,7,8-HxCDF                   | 50.0                | 48.7                             | 42 - 65          | 13C-2,3,4,6,7,8-HxCDF                               | 6.79                  | 28 - 136        |
| 2,3,4,6,7,8-HxCDF                   | 20.0                | 47.3                             | 35 - 78          | 13C-1,2,3,7,8,9-HxCDF                               | 70.4                  | 29 - 147        |
| 1,2,3,7,8,9-HxCDF                   | 50.0                | 47.3                             | 39 - 62          | 13C-1,2,3,4,6,7,8-HpCDF                             | 63.1                  | 28 - 143        |
| 1,2,3,4,6,7,8-HpCDF                 | 0'05                | 48.5                             | 41 - 61          | 13C-1,2,3,4,7,8,9-HpCDF                             | 70.1                  | 26 - 138        |
| 1,2,3,4,7,8,9-HpCDF                 | 50.0                | 48.4                             | 39 - 68          | 13C-OCDF  | 56.4                  | 17 - 157        |
| OCDF                                | 100                 | 97.7.                            | 63 - 170         | CRS 37Cl-2,3,7,8-TCDD                               | 81.7                  | 35 - 197        |

Approved By: Martha M. Maier 17-Jan-2006 13:35

Analyst: JMH

| Sample ID: IPA0007-01  | 7-01                       |             |              |  |   |                        |  | EPA N                | EPA Method 1613 |
|--|----------------------------|-------------|--------------|--|---|------------------------|--|----------------------|-----------------|
| Clent Data   |                            |             | Sample Data  |  | Laboratory Data                               |                        |  |                      |                 |
|  | Del Mar Analytical, Irvine | -           | Matrix:      | Aqueous                                | Lab Sample:                                   | 27134-001              | Date Received:                           | <del>.</del>         | 4-Jan-06        |
| Project: IFAU007  Date Collected: I-Jan-06  Time Collected: 1006 |                            |             | Sample Size: | 1.00 L                                 | QC Batch No.:<br>Date Analyzed DB-5:          | 7632<br>12-Jan-06      | Date Extracted:<br>Date Analyzed DB-225: | d:<br>d DB-225:      | 8-Jan-06<br>NA  |
| Analyte Conc.  | ic. (ug/L)                 | DL. a       | EMPCb        | Qualifiers                             | Labeled Standard                              | dard                   | %R LC                                    | rcr-ncr <sub>q</sub> | Oualifiers      |
| 2,3,7,8-TCDD   | R                          | 0.000000703 | 03           |  | IS 13C-2,3,7,8-TCDD                           | DD                     | 69.7 2                                   | 25 - 164             |                 |
| 1,2,3,7,8-PeCDD  | Q                          | 0.000000984 | 84           |  | 13C-1,2,3,7,8-PeCDD                           | eCDD                   | 67.0 2                                   | 25 - 181             |                 |
| 1,2,3,4,7,8-HxCDD  | QX                         | 0.00000156  | 9            | 5<br>-                                 | 13C-1,2,3,4,7,8-HxCDD                         | -HxCDD                 | 57.3 3                                   | 32 - 141             |                 |
| 1,2,3,6,7,8-HxCDD  | Q                          | 0.00000158  | <b>∞</b>     |  | 13C-1,2,3,6,7,8-HxCDD                         | -HxCDD                 | 55.5 2                                   | 28 - 130             |                 |
| 1,2,3,7,8,9-HxCDD  | Q                          | 0.00000153  | m            | * .                                    | 13C-1,2,3,4,6,7,8-HpCDD                       | 1,8-HpCDD              | 51.5                                     | 23 - 140             |                 |
| 1,2,3,4,6,7,8-HpCDD  | 0.0000303                  |             |              |  | 13C-OCDD                                      |                        | 35.2                                     | 17 - 157             |                 |
| ОСДО   | 0.000223                   |             |              |  | 13C-2,3,7,8-TCDF                              | JDF.                   | 68.1 2                                   | 24 - 169             |                 |
| 2,3,7,8-TCDF   | QN                         | 0.00000101  | -            |  | 13C-1,2,3,7,8-PeCDF                           | PeCDF                  | 65.3 2                                   | 24 - 185             |                 |
| 1,2,3,7,8-PeCDF  | Q                          | 0.00000123  | <u>.</u>     | -                                      | 13C-2,3,4,7,8-PeCDF                           | PeCDF                  | 62.4 2                                   | 21 - 178             |                 |
| 2,3,4,7,8-PeCDF  | Q                          | 0.00000113  | [3           |  | 13C-1,2,3,4,7,8-HxCDF                         | 3-HxCDF                | 53.8 2                                   | 26 - 152             |                 |
| 1,2,3,4,7,8-HxCDF  | QN                         | 0.00000132  | 2            |  | 13C-1,2,3,6,7,8-HxCDF                         | 3-HxCDF                | 53.3                                     | 26 - 123             |                 |
| 1,2,3,6,7,8-HxCDF  | Q.                         | 0.00000131  |              |  | 13C-2,3,4,6,7,8-HxCDF                         | 3-HxCDF                | 53.9 2                                   | 28 - 136             |                 |
| 2,3,4,6,7,8-HxCDF  | Q                          | 0.0000143   | ⊕<br>•       | :                                      | 13C-1,2,3,7,8,9-HxCDF                         | -HxCDF                 | 54.7                                     | 29 - 147             |                 |
| 1,2,3,7,8,9-HxCDF  | QN                         | 0.00000194  | 4            |  | 13C-1,2,3,4,6,7,8-HpCDF                       | 7,8-HpCDF              | 45.1 2                                   | 28 - 143             | -               |
| 1,2,3,4,6,7,8-HpCDF  | 0.00000540                 |             |              |  | 13C-1,2,3,4,7,8,9-HpCDF                       | 3,9-HpCDF              | 48.3                                     | 26 - 138             |                 |
| 1,2,3,4,7,8,9-HpCDF  | QN                         | 0.00000283  |              |  | 13C-OCDF                                      |                        | 37.1                                     | 17 - 157             |                 |
| OCDF   | 0.0000190                  |             |              |  | CRS 37CI-2,3,7,8-TCDD                         | CDD                    | 86.3                                     | 35 - 197             |                 |
| Totals   |                            |             |              |  | Footnotes                                     |                        |  |                      |                 |
| Total TCDD   | GN.                        | 0.000000703 | 703          |  | a. Sample specific estimated detection limit  | ited detection limit.  |  | 2                    |                 |
| Total PeCDD  | Ð                          | 0.000000984 | 984          |  | b. Estimated maximum possible concentration.  | ossible concentration. |  |                      |                 |
| Total HxCDD  | 0.00000816                 |             |              |  | c. Method detection limit.                    |                        |  |                      |                 |
| Total HpCDD  | 0.0000618                  |             |              | ************************************** | d. Lower control limit - upper control limit. | pper control limit.    |  |                      |                 |
| Total TCDF   | 2                          | 0.00000101  | 01           |  | ***   |                        |  |                      |                 |
| Total PeCDF  | 2                          | 0.00000118  | 18           |  |   |                        |  |                      |                 |
| Total HxCDF  | 0.00000215                 |             |              |  |   |                        |  |                      |                 |
| Total HpCDF  | 0.0000100                  |             |              |  |   |                        |  |                      |                 |
| Analyst: DMS   |                            |             |              |  | Approved By:                                  | Martha M. Maier        |  | 17-Jan-2006 13:35    | 10              |
|  |                            |             |              |  |   |                        |  |                      |                 |

# APPENDIX

Page 7 of 280

# **DATA QUALIFIERS & ABBREVIATIONS**

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

\* See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

# **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number     |
|---|------------------------|
| State of Alaska, DEC                        | CA413-02               |
| State of Arizona                            | AZ0639                 |
| State of Arkansas, DEQ                      | 05-013-0               |
| State of Arkansas, DOH                      | Reciprocity through CA |
| State of California – NELAP Primary AA      | 02102CA                |
| State of Colorado                           |                        |
| State of Connecticut                        | PH-0182                |
| State of Florida, DEP                       | E87777                 |
| Commonwealth of Kentucky                    | 90063                  |
| State of Louisiana, Health and Hospitals    | LA050001               |
| State of Louisiana, DEQ                     | 01977                  |
| State of Maine                              | CA0413                 |
| State of Michigan                           | 81178087               |
| State of Mississippi                        | Reciprocity through CA |
| Naval Facilities Engineering Service Center |                        |
| State of Nevada                             | CA413                  |
| State of New Jersey                         | CA003                  |
| State of New Mexico                         | Reciprocity through CA |
| State of New York, DOH                      | 11411                  |
| State of North Carolina                     | 06700                  |
| State of North Dakota, DOH                  | R-078                  |
| State of Oklahoma                           | D9919                  |
| State of Oregon                             | CA200001-002           |
| State of Pennsylvania                       | 68-00490               |
| State of South Carolina                     | 87002001               |
| State of Tennessee                          | 02996                  |
| State of Texas                              | TX247-2005A            |
| U.S. Army Corps of Engineers                |                        |
| State of Utah                               | 9169330940             |
| Commonwealth of Virginia                    | 00013                  |
| State of Washington                         | C1285                  |
| State of Wisconsin                          | 998036160              |
| State of Wyoming                            | 8TMS-Q                 |



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Ph (909) 370-4667 Fax (909) 370-1046 Ph (619) 505-9596 Fax (619) 505-9689

Ph (949) 261-1022 Fax (949) 261-1228

9484 Cheespesius Drive, Suite 805, San Diego, CA 92123 9630 South 51st Street, Suite B-120, Phoenix, AZ 85044

2520 E. Surent Rd., Suite #3, Lee Veges, NV 89120

Ph (490) 785-0043 Fax (480) 785-0851

# SUBCONTRACT ORDER - PROJECT # IPA0007

| SENDING LABORATORY:  | RECEIVING LABORATORY:  |
|--|--|
| Del Mar Analytical, Irvine 17461 Derian Avenue. Suite 100 Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Chamberlin | Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106  0.9° |

| Standard TAT is requ  | ested unless specific due date is request | ed => Due Date:                                    | Initials: |
|-----------------------|---|--|-----------|
| Analysis              | Expiration .                              | Comments   |           |
| Sample ID: IPA0007-01 | Water Sampled: 01/01/06 10:06             | Instant Nofication                                 |           |
| 1613-Dioxin-HR-Alta   | 01/08/06 10:06                            | J flags, 17 congeners, no TEQ, ug/L, sub=Alta      | •         |
| EDD + Level 4         | 01/29/06 10:06                            | Excel EDD email to pm, Include Std logs for Lvl IV | <u>'</u>  |

|   |         | SAMPLE  | INTEGRITY:               |  |             |
|---|---------|---|--------------------------|--|-------------|
| All containers intact: Yes Custody Seals Present: Yes |         | Sample labels/COC agree:<br>Samples Preserved Properly: | ☐ Yes ☐ No<br>☐ Yes ☐ No | Samples Received On Ice::<br>Samples Received at (temp): | □ Yes □ No  |
| ( Sand)   | 1/3/66  |   |                          | Benedict 1/4/6   | 06 0935     |
| Released By   | // Date | : Time  | Received By              | Date'  | Time        |
| Released By   | Date    | . Time  | Received By              | Date   | Time        |
| Project 27134   |         |   | *                        |  | Pagg_0p6280 |

# SAMPLE LOG-IN CHECKLIST

| Alta Project #:  | 27134            |         |          |       |        |                  |          |
|------------------|------------------|---------|----------|-------|--------|------------------|----------|
| Samples Arrival: | Date/Time 1/4/06 | 0935    | Initials | UB    | Locati | on:<br>WR-2      | )        |
| Logged In:       | Date/Time        | 1527    | Initials | BLD   | Locati | on: W            | R-2      |
| Delivered By:    | FedEx            | UPS     | Cal      | DHL   | 1      | Hand<br>elivered | Other    |
| Preservation:    | lce              | Bit     | ie Ice   | Dry l | се     | No               | one      |
| Tomas oc O.      | 9                | Time: P | 1017     |       | Therm  | ometer ID        | ): DT-20 |

|  |           |          |              |     | YES,          | NO       | NA      |
|--|-----------|----------|--------------|-----|---------------|----------|---------|
| Adequate Sample Volume Received?                                       |           |          |              |     | V             | /        |         |
| Holding Time Acceptable?   |           |          |              |     | /             | ٠        |         |
| Shipping Container(s) Intact?  |           |          |              |     | 1/            |          |         |
| Shipping Custody Seals Intact?   |           |          |              |     | 1/            |          |         |
| Shipping Documentation Present?  |           |          |              |     | 1/            |          |         |
| Airbill Trk# 792   | 4 79      | 03 41    | 61           |     | 1/            | <u> </u> |         |
| Sample Container Intact?   |           |          |              |     | V             |          | /       |
| Sample Custody Seals Intact?   |           |          |              |     |               |          | V       |
| Chain of Custody / Sample Documen                                      | tation Pr | esent?   |              |     | V             |          | <u></u> |
| COC Anomaly/Sample Acceptance F  |           |          |              |     |               | 1/       |         |
| If Chlorinated or Drinking Water Sam                                   |           |          | reservation? |     |               |          | K       |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? |           |          | coc          |     | nple<br>ainer | (No      | one     |
| Shipping Container   | Alta      | (Client) | Retain       | (Re | turn          | Dis      | pose    |

Comments:

# **APPENDIX G**

# **Section 26**

Outfall 007, January 01, 2006 AMEC Data Validation Reports

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

 $MEC^{x}$ 

Package ID <u>B4MT7</u>
Task Order <u>1261.001D.01</u>

| 122   | 69 East Vassar Drive                        |   | SDG No. IPA0007                            |
|-------|---|---|--|
| Aur   | rora, CO 80014                              | No  | o. of Analyses 1                           |
|       | Laboratory Del Mar A                        | nalytical                                 | Date: February 3, 2006                     |
|       | Reviewer P. Meeks                           |   | Repjewer's Signature                       |
|       | Analysis/Method Metals                      |   | r. Mai                                     |
|       |   |   |  |
| AC'   | TION ITEMS*                                 |   |  |
|       | Case Narrative                              |   |  |
|       | Deficiencies                                |   |  |
|       | · · · · · · · · · · · · · · · · · · ·       |   |  |
| 2.    | Out of Scope                                |   |  |
|       | Analyses                                    |   |  |
|       |   |   |  |
|       |   |   |  |
| 3.    | Analyses Not Conducted                      |   |  |
|       |   | ***************************************   |  |
|       |   |   |  |
| 4.    | Missing Hardcopy                            |   |  |
|       | Deliverables                                |   |  |
|       |   |   |  |
|       |   |   |  |
| 5.    | Incorrect Hardcopy                          |   |  |
|       | Deliverables                                |   |  |
|       |   |   |  |
| 6.    | Deviations from Analysis                    |   |  |
| O,    | Protocol, e.g.,                             | Analytes detected below the re            | porting limit were qualified as estimated. |
|       | Holding Times                               | Zindiyees detected outpy the re           | porting intal viola quantum as to          |
|       | GC/MS Tune/Inst. Performance                |   |  |
|       | Calibration                                 |   |  |
|       | Method blanks                               | ······································    |  |
|       | Surrogates                                  | ·   |  |
|       | Matrix Spike/Dup LCS                        |   |  |
|       | Field QC                                    | · .                                       |  |
|       | Internal Standard Performance               |   |  |
|       | Compound Identification                     |   |  |
|       | Quantitation                                |   |  |
|       | System Performance                          |   |  |
| CO    | MMENTS <sup>b</sup>                         |   | •  |
| ····· |   |   |  |
|       |   |   |  |
|       |   |   |  |
| * St  | ubcontracted analytical laboratory is not n | secting contract and/or method requiremen | uts.                                       |

b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 007

ANALYSIS: METALS

SAMPLE DELIVERY GROUP IPA0007

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG: NPDES IPA0007

DATA VALIDATION REPORT

Analysis: Metals

#### 1. INTRODUCTION

Task Order Title: NPDES Sampling MEC<sup>x</sup> Project Number: 1261.001D.01

Sample Delivery Group: IPA0007 Project Manager: P. Costa

Matrix: Water
Analysis: Metals

Analysis: Metals QC Level: Level IV

No. of Samples: 1
No. of Reanalyses/Dilutions: 0

Reviewer: P. Meeks

Date of Review: February 3, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the  $MEC^X$  Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

B4MT7 1 Revision 0

Project:

NPDES IPA0007

SDG: Analysis:

Metals

Table 1. Sample Identification

DATA VALIDATION REPORT

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 007 | IPA0007-01    | Water  | 200.8, 245.1 |

Project:

**NPDES** 

SDG: Analysis: IPA0007 Metals

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

# 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

## 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

## 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method specified tune criteria were met and no qualifications were required.

## 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

# 2.4 BLANKS

The method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No qualifications were required.

**B4MT7** 

Project:

**NPDES** 

SDG: Analysis:

IPA0007 Metals

DATA VALIDATION REPORT

## 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Antimony and lead, which are not present in the ICSA or ICSAB, were detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for lead or antimony, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

# 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

## 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No

B4MT7 4 Revision 0

Project: NPDES SDG: IPA0007

DATA VALIDATION REPORT Analysis: Metals

transcription errors or calculation errors were noted. Cadmium and mercury detected below the reporting limit were qualified as estimated, "J," and annotated with "DNQ," in accordance with the requirements of the NPDES permit. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

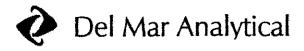
# 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

# 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.

B4MT7 5 Revision 0



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Cohon, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 007

300 North Lake Avenue, Suite 1200

Report Number: IPA0007

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

imber: irAuuu/

# **METALS**

| *   |                  | •       |              |                    |                  |   |          |                  |                    |             |
|---|------------------|---------|--------------|--------------------|------------------|---|----------|------------------|--------------------|-------------|
| Analyte   | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result |   |          | Date<br>Analyzed | Data<br>Qualifiers | \$          |
| Sample ID: IPA0007-01 (Outfall 0) Reporting Units: ug/l | 07 - Water)      |         |              |                    |                  |   |          |                  | Reval              | Qua<br>Code |
| Antimony  | EPA 200.8        | 6A04084 | 0.050        | 2.0                | 4.6              | 1 | 01/04/06 | 01/05/06         |                    |             |
| Cadmium   | EPA 200.8        | 6A04084 | 0.025        | 1.0                | 0.22             | 1 | 01/04/06 | 01/05/06         | 12                 | DVC         |
| Copper  | <b>EPA 200.8</b> | 6A04084 | 0.25         | 2.0                | 8.0              | 1 | 01/04/06 | 01/05/06         |                    |             |
| Lead  | EPA 200.8        | 6A04084 | 0.040        | 1.0                | 4.4              | 1 | 01/04/06 | 01/05/06         |                    |             |
| Mercury   | EPA 245.1        | 6A03072 | 0.050        | 0.20               | 0.087            | 1 | 01/03/06 | 01/03/06         | 17                 | DNG         |

LEVEL IV

**Del Mar Analytical, Irvine** Amy Windham For Michele Chamberlin Project Manager

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX

| ME   | Cx                                       |   | Package ID                              | B4DF6                                  |
|--|--|---|---|--|
| 122  | 269 East Vassar Drive                    |   | Task Order                              |  |
| Au   | ora, CO 80014                            |   | SDG No.                                 |  |
|  |  | No                                      | . of Analyses                           | 1                                      |
|  | Laboratory Alta                          |   | Date: Febr                              | uary 10, 2006                          |
|  | Reviewer K. Shadow                       |   | Reviewer's                              |  |
| 4  | Analysis/Method Dioxin/Fura              | n by Method 1613                        | K Shag                                  | met                                    |
| <del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del> |  |   |   | 2                                      |
| AC   | FION ITEMS*                              |   |   |  |
| ٠  | Case Narrative                           |   |   |  |
|  | Deficiencies                             |   |   |  |
|  |  |   |   |  |
| 2.   | Out of Scope Analyses                    | *************************************** |   | ······································ |
|  | en e |   |   |  |
|  |  |   |   |  |
| 3.   | Analyses Not Conducted                   |   |   |  |
|  |  |   |   |  |
| 4.   | Missing Hardcopy                         |   |   |  |
| 7.   | Deliverables                             |   |   |  |
|  | Deliverables                             |   |   |  |
| 5.   | Incorrect Hardcopy                       |   |   |  |
| •.   | Deliverables                             | 4-12-1                                  | <del></del>                             |  |
|  |  |   |   |  |
| 6.   | Deviations from Analysis                 | Detects below the labora                | tory lower calib                        | ration level were qualified            |
|  | Protocol, e.g.,                          | as estimated.                           | <u> </u>                                |  |
|  | Holding Times                            |   |   |  |
|  | GC/MS Tune/Inst. Performance             |   |   |  |
|  | Calibration                              |   |   |  |
|  | Method blanks                            |   |   |  |
|  | Surrogates                               |   |   |  |
|  | Matrix Spike/Dup LCS                     |   |   |  |
|  | Field QC                                 |   |   |  |
|  | Internal Standard Performance            |   |   |  |
|  | Compound Identification                  |   |   |  |
|  | Quantitation                             |   |   |  |
| ممد  | System Performance                       |   |   |  |
| UUN  | IMENTS <sup>5</sup>                      |   |   |  |
|  |  |   | *************************************** |  |
|  |  | ·                                       |   | · · · · · · · · · · · · · · · · · · ·  |
|  |  |   |   |  |
|  |  |   |   |  |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 007

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA0007

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Analysis:

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPA0007

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

Reviewer:

K. Shadowlight

Date of Review:

February 10, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: NPDES IPA0007 D/F

DATA VALIDATION REPORT

SDG: Analysis:

Table 1. Sample Identification

| Client ID   | Laboratory ID<br>(Del Mar) | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 007 | IPA0007-01                 | 27134-001               | Water  | 1613       |

**NPDES** IPA0007 Analysis: D/F

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

## 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

## 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however no sample custody seals were present. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

## 2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

#### 2.2 **INSTRUMENT PERFORMANCE**

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

3

#### 2.2.2 Mass Spectrometer Performance

Project: SDG: Analysis: NPDES IPA0007 D/F

DATA VALIDATION REPORT

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

#### 2.3 CALIBRATION

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 12/30/2005 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

#### 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

#### 2.4 BLANKS

One method blank (0-7632-MB001) was extracted and analyzed with the sample in this SDG. No compounds were reported in the method blank associated with the site sample. A review of the method blank raw data and chromatograms indicated no false. No qualifications were required.

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

B4DF6 4

Revision 0

Project: SDG: NPDES

D/F

DATA VALIDATION REPORT

SDG: Analysis:

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

## 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

#### 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No qualifications were required.

| E C      | Data                |                            | ·           | Sample Data  |   | Laboratory Data                               |                       |   |          |  |
|----------|---------------------|----------------------------|-------------|--------------|---|---|-----------------------|---|----------|--|
| Name     |                     | Del Mar Analytical, Irvine |             | Matrix:      | Aqueous                                 | Lab Sample:                                   | 27134-001             | Date Received:  | Ŧ        | 4-Jan-06   |
|          | lected:             |                            |             | Sample Size: | 1.00 L                                  | OC Batch No.:                                 | 7632                  | Date Extracted:   | <b></b>  | 8-Jan-06   |
| Analyte  | lyte Cane           | (na/L)                     | P. B        | PMPCP        | Onoliffore                              | Tabalas Canadan                               | 12-Jan-00             |   |          | NA S   |
| L        | l duo.              | ) ADV                      | 0 000000    | 2 1 2        | C AMBINITION O                          | ` .   |                       |   |          | Manne  |
|          | ক্ট                 |                            |             | - TS         |   | 12C-5,5,58-15UD                               | 3                     | 73  | 2. Z     | NAME OF THE PERSON NAME OF THE P |
|          | 100                 | 2                          | 0.000000984 | <b>5</b> 2   | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   | 13C-1,2,3,7,8-PeCDD                           | CD:                   | 67.0 2  | 25 - 181 |  |
| S.       |                     | ND 0,0000156               | 0.0000015   | 9            |   | 13C-1,2,3,4,7,8-HXCDD                         | HXCDD                 | 57.3  | 32-141   |  |
| 7.3      | SHEGOTO BY          | <b>A</b>                   | 0.00000158  | 00           |   | 13C-1,2,3,6,7,8-HxCDD                         | -HxCDD                | 55.5 2  | 28 - 130 |  |
| 1,2,3    | 1,2,3,7,8,9-HxCDD   | 9                          | 0.00000153  | 3            |   | 13C-1,2,3,4,6,7,8-HpCDD                       | 8-НрСDD               | 515 2   | 23-140   |  |
| 1,2,3    |                     |                            |             |              |   | 13C-OCDD                                      | ٠.                    | 35.2  | 17-157   |  |
| <u> </u> | OCDD                | 0.000223                   |             |              | を 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 13C-2,3,7,8-TCDF                              | <b>t</b> a            | 68.1  | 24-169   |  |
| 2,3,7    | 2,3,7,8-TCDF        | Ð                          | 0.00000101  |              |   | 13C-1,2,3,7,8-PeCDF                           | eCDF                  | 65.3  | 24 - 185 |  |
| <u></u>  | L,2,3,7,8-PeCDF     | Q                          | 0.00000123  | 2            |   | 13C-2,3,4,7,8-PeCDF                           | SOF.                  | najetí<br>Pojsky  | 21 - 178 |  |
| 2,3,4    | 2,3,4,7,8-PeCDF     | 2                          | 0.00000113  |              |   | 13C-1,2,3,4,7,8-HxCDF                         | -HxCDF                |   | 26 - 152 |  |
|          | 1,2,3,4,7,8-HxCDF   | 2                          | 0.00000132  | 2            |   | 13C-1,2,3,6,7,8-HXCDF                         | HCOM                  | 53.3  | 26-123   |  |
| 1,2,3    | 1,2,3,6,7,8-HxCDF   | Q                          | 0,00000131  | •••          |   | 13C-2,3,4,6,7,8-HxCDF                         | HxCDF                 | 53.9 2  | 28 - 136 |  |
| 2,3,4    | 2,3,4,6,7,8-HxCDF   | N                          | 0.00000143  |              |   | 13C-1,2,3,7,8,9-HxCDF                         | HXCDP                 | 54.7  | 29 - 147 |  |
| 12,3     | ,2,3,7,8,9-HxCDF    | Q                          | 0.00000194  | 7            |   | 13C-1,2,3,4,6,7,8-HpCDF                       | 8-HpCDF               | 45.1 2  | 28 - 143 |  |
| DAG 1.23 | 1,2,3,4,6,7,8-HpCDF | 0.00000540                 |             |              |   | 13C-1,2,3,4,7,8,9-HpCDF                       | 9-HpCDF               | 48.3  | 26-138   |  |
| 1,2,3    | 1,2,3,4,7,8,9-HpCDF | R                          | 0.00000283  |              |   | 13C-0CDF                                      | •                     | 37.1  | 17-157   | ,<br>()  |
| DAS OCUF |                     | 0.0000190                  |             |              |   | CRS 37CI-2,3,7,8-TCDD                         | QQ                    | 86.3  | 35-197   |  |
| Totals   | lis                 |                            | :           |              |   | Footnotes                                     |                       |   |          |  |
| Tota     | Total TCDD          | S                          | 0.000000703 | 03           |   | a. Sample specific estimated detection limit. | ed detection limit.   | Availability and the second of the second |          |  |
| Tota     | Total PeCDD         | 2                          | 0.000000984 | **           |   | b. Estimated maximum possible concentration.  | ssible concentration. |   | ,        |  |
| Tota     | Total HxCDD         | 0.00000816                 |             |              |   | c. Method detection limit.                    |                       |   |          |  |
| Tota     | Total HpCDD         | 0.0000618                  |             |              |   | d. Lower control limit - upper control limit. | per control limit.    | ٠,٠   |          | :  |
| Tota     | Total TCDF          | 呈                          | 0.00000101  |              |   |   |                       |   |          |  |
| Tota     | Total PeCDF         | 2                          | 0.00000118  |              |   | ÷.  | ě                     |   |          |  |
| Tota     | Total HxCDF         | 0.00000215                 |             | •            |   |   |                       |   |          |  |
| Tota     | Total HpCDF         | 0.0000100                  |             |              |   |   |                       |   | ٠        |  |

# **APPENDIX G**

# **Section 27**

Outfall 008, January 01, 2006

Del Mar Analytical Laboratory Report



# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: Routine Outfall 008

Sampled: 01/01/06 Received: 01/01/06

Issued: 01/16/06 14:43

#### 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.

#### SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID

**CLIENT ID** 

MATRIX

IPA0004-01

Outfall 008

Water

Reviewed By:

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

any Windham

Project Manager





Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

**METALS** 

|                                    |           |         | V II II I I I I I I I I I I I I I I I I | LJ.J               |                  |                    |                   |                  |                    |
|------------------------------------|-----------|---------|---|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Analyte                            | Method    | Batch   | MDL<br>Limit                            | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
| Sample ID: IPA0004-01 (Outfall 008 | - Water)  |         |   |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l              |           |         |   |                    |                  |                    |                   |                  |                    |
| Antimony                           | EPA 200.8 | 6A04084 | 0.050                                   | 2.0                | 0.77             | 1                  | 01/04/06          | 01/05/06         | B, J               |
| Cadmium                            | EPA 200.8 | 6A04084 | 0.025                                   | 1.0                | 0.14             | 1                  | 01/04/06          | 01/05/06         | J                  |
| Copper                             | EPA 200.8 | 6A04084 | 0.25                                    | 2.0                | 12               | 1                  | 01/04/06          | 01/05/06         |                    |
| Lead                               | EPA 200.8 | 6A04084 | 0.040                                   | 1.0                | 20               | 1                  | 01/04/06          | 01/05/06         |                    |
| Mercury                            | EPA 245.1 | 6A04080 | 0.050                                   | 0.20               | ND               | 1                  | 01/04/06          | 01/04/06         |                    |



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

**INORGANICS** 

| Analyte                                | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|----------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0004-01 (Outfall 008 - V | Vater) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l                  |                |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                               | EPA 300.0      | 6A01004 | 0.15         | 0.50               | 2.9              | 1                  | 01/01/06          | 01/01/06         |                    |
| Nitrate/Nitrite-N                      | EPA 300.0      | 6A01004 | 0.072        | 0.26               | 4.9              | 1                  | 01/01/06          | 01/01/06         |                    |
| Oil & Grease                           | EPA 413.1      | 6A06048 | 0.91         | 4.9                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Sulfate                                | EPA 300.0      | 6A01004 | 0.45         | 0.50               | 9.3              | 1                  | 01/01/06          | 01/01/06         |                    |
| Total Dissolved Solids                 | SM2540C        | 6A03093 | 10           | 10                 | 210              | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Suspended Solids                 | EPA 160.2      | 6A05089 | 10           | 10                 | 220              | 1                  | 01/05/06          | 01/05/06         |                    |
| Sample ID: IPA0004-01 (Outfall 008 - V | Vater)         |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                  |                |         |              |                    |                  |                    |                   |                  |                    |
| Perchlorate                            | EPA 314.0      | 6A03076 | 0.80         | 4.0                | ND               | l                  | 01/03/06          | 01/03/06         |                    |





Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPA0004

Sampled: 01/01/06

Received: 01/01/06

#### SHORT HOLD TIME DETAIL REPORT

|   | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 008 (IPA0004-01) - Water | r                      |                      |                       |                        |                       |
| EPA 300.0                                   | 2                      | 01/01/2006 10:18     | 01/01/2006 15:25      | 01/01/2006 17:30       | 01/01/2006 18:56      |



Attention: Bronwyn Kelly

Project ID: Routine Outfall 008

Pasadena, CA 91101

300 North Lake Avenue, Suite 1200

Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

#### **METALS**

|   |            | Reporting |       |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|------------|-----------|-------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result     | Limit     | MDL   | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04080 Extracted: 01/04/06      |            |           |       |       |       |           |        |        |     |       |            |
|   |            |           |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04080-Bl  | LK1)       |           |       |       |       |           |        |        |     |       |            |
| Mercury                                 | ND         | 0.20      | 0.050 | ug/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/04/2006 (6A04080-BS1   | <b>)</b>   |           |       |       |       |           |        |        |     |       |            |
| Mercury                                 | 8.40       | 0.20      | 0.050 | ug/l  | 8.00  |           | 105    | 85-115 |     |       |            |
| •                                       |            |           |       |       |       |           |        |        |     |       |            |
| Matrix Spike Analyzed: 01/04/2006 (6A04 | ,          |           |       |       |       | rce: IPA6 |        |        |     |       |            |
| Mercury                                 | 8.03       | 0.20      | 0.050 | ug/l  | 8.00  | ND        | 100    | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/04/2006 ( | 6A04080-MS | D1)       |       |       | Soui  | rce: IPA0 | 079-01 |        |     |       |            |
| Mercury                                 | 8.17       | 0.20      | 0.050 | ug/l  | 8.00  | ND        | 102    | 70-130 | 2   | 20    |            |
| Batch: 6A04084 Extracted: 01/04/06      |            |           |       |       |       |           |        |        |     |       |            |
| Date 27 Size 100 1 Date access 010 0700 | •          |           |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-BI  | .K1)       |           |       |       |       |           |        |        |     |       |            |
| Antimony                                | 0.162      | 2.0       | 0.050 | ug/l  |       |           |        |        |     |       | J          |
| Cadmium                                 | ND         | 1.0       | 0.025 | ug/l  |       |           |        |        |     |       |            |
| Copper                                  | 0.321      | 2.0       | 0.25  | ug/l  |       |           |        |        |     |       | J          |
| Lead                                    | ND         | 1.0       | 0.040 | ug/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS1   | )          |           |       |       |       |           |        |        |     |       |            |
| Antimony                                | 78.5       | 2.0       | 0.050 | ug/l  | 80.0  |           | 98     | 85-115 |     |       |            |
| Cadmium                                 | 80.2       | 1.0       | 0.025 | ug/l  | 80.0  |           | 100    | 85-115 |     |       |            |
| Copper                                  | 80.8       | 2.0       | 0.25  | ug/l  | 80.0  |           | 101    | 85-115 |     |       |            |
| Lead                                    | 78.3       | 1.0       | 0.040 | ug/l  | 80.0  |           | 98     | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A04 | 084-MS1)   |           |       |       | Sour  | ce: IOL2  | 694-49 |        |     |       |            |
| Antimony                                | 78.2       | 2.0       | 0.050 | ug/l  | 80.0  | 0.26      | 97     | 70-130 |     |       |            |
| Cadmium                                 | 76.0       | 1.0       | 0.025 | ug/l  | 80.0  | ND        | 95     | 70-130 |     |       |            |
| Copper                                  | 102        | 2.0       | 0.25  | ug/l  | 80.0  | 23        | 99     | 70-130 |     |       |            |
| Lead                                    | 84.3       | 1.0       | 0.040 | ug/l  | 80.0  | 2.7       | 102    | 70-130 |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

# **METALS**

| Analyte                                | Result     | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result | %REC    | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|------------|--------------------|-------|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 6A04084 Extracted: 01/04/06     | _          |                    |       |       |                |                  |         |                |     |              |                    |
| Matrix Spike Analyzed: 01/05/2006 (6A0 | 4084-MS2)  |                    |       |       | Sou            | rce: IOL         | 2694-50 |                |     |              |                    |
| Antimony                               | 80.0       | 2.0                | 0.050 | ug/l  | 80.0           | 0.094            | 100     | 70-130         |     |              |                    |
| Cadmium                                | 76.2       | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95      | 70-130         |     |              |                    |
| Copper                                 | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 18               | 104     | 70-130         |     |              |                    |
| Lead                                   | 87.5       | 1.0                | 0.040 | ug/l  | 80.0           | 1.8              | 107     | 70-130         |     |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006  | (6A04084-M | SD1)               |       |       | Sou            | rce: IOL2        | 2694-49 |                |     |              |                    |
| Antimony                               | 76.7       | 2.0                | 0.050 | ug/l  | 80.0           | 0.26             | 96      | 70-130         | 2   | 20           |                    |
| Cadmium                                | 76.1       | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95      | 70-130         | 0   | 20           |                    |
| Copper                                 | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 23               | 98      | 70-130         | 1   | 20           |                    |
| Lead                                   | 83.9       | 1.0                | 0.040 | ug/l  | 80.0           | 2.7              | 102     | 70-130         | 1   | 20           |                    |



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

#### **INORGANICS**

| A a Broke                               | <b>73</b> 14 | Reporting   | 1.577.7 | ** *. | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|--------------|-------------|---------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result       | Limit       | MDL     | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A01004 Extracted: 01/01/06      | <b>=</b>     |             |         |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/01/2006 (6A01004-B   | LK1)         |             |         |       |       |           |        |        |     |       |            |
| Chloride                                | ND           | 0.50        | 0.15    | mg/l  |       |           |        |        |     |       |            |
| Nitrate/Nitrite-N                       | ND           | 0.15        | 0.080   | mg/l  |       |           |        |        |     |       |            |
| Sulfate                                 | ND           | 0.50        | 0.45    | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/01/2006 (6A01004-BS    | 1)           |             |         |       |       |           |        |        |     |       |            |
| Chloride                                | 4.88         | 0.50        | 0.15    | mg/l  | 5.00  |           | 98     | 90-110 |     |       | M-3        |
| Sulfate                                 | 9.56         | 0.50        | 0.45    | mg/l  | 10.0  |           | 96     | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/01/2006 (6A0  | 1004-MS1)    |             |         |       | Sou   | rce: IPA0 | 003-01 |        |     |       |            |
| Sulfate                                 | 14.4         | 0.50        | 0.45    | mg/l  | 10.0  | 5.1       | 93     | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/01/2006   | (6A01004-MS  | <b>D</b> 1) |         |       | Sou   | rce: IPA0 | 003-01 |        |     |       |            |
| Sulfate                                 | 14.8         | 0.50        | 0.45    | mg/l  | 10.0  | 5.1       | 97     | 80-120 | 3   | 20    |            |
| Batch: 6A03076 Extracted: 01/03/06      | •            |             |         |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03076-Bl  | LK1)         |             |         |       |       |           |        |        |     |       |            |
| Perchlorate                             | ND           | 4.0         | 0.80    | ug/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03076-BS1   | )            |             |         |       |       |           |        |        |     |       |            |
| Perchlorate                             | 49.4         | 4.0         | 0.80    | ug/l  | 50.0  |           | 99     | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03 | 076-MS1)     |             |         |       | Sour  | ce: IPA0  | 022-18 |        |     |       |            |
| Perchlorate                             | 50.5         | 4.0         | 0.80    | ug/l  | 50.0  | ND        | 101    | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006 ( | 6A03076-MSI  | <b>D</b> 1) |         |       | Sour  | ce: IPA0  | 022-18 |        |     |       |            |
| Perchlorate                             | 50.2         | 4.0         | 0.80    | ug/l  | 50.0  | ND        | 100    | 80-120 | 1   | 20    |            |

Project Manager



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

# METHOD BLANK/QC DATA

#### **INORGANICS**

| Analyte                                 | Result       | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC   | %REC   | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---|--------------|--------------------|------|-------|----------------|------------------|--------|--------|-----|--------------|--------------------|
| Batch: 6A03093 Extracted: 01/03/06      | <del>.</del> |                    |      |       |                |                  |        |        |     |              |                    |
| Blank Analyzed: 01/03/2006 (6A03093-B   | LK1)         |                    |      |       |                |                  |        |        |     |              |                    |
| Total Dissolved Solids                  | ND           | 10                 | 10   | mg/l  |                |                  |        |        |     |              |                    |
| LCS Analyzed: 01/03/2006 (6A03093-BS    | 1)           |                    |      |       |                |                  |        |        |     |              |                    |
| Total Dissolved Solids                  | 1000         | 10                 | 10   | mg/l  | 1000           |                  | 100    | 90-110 |     |              |                    |
| Duplicate Analyzed: 01/03/2006 (6A0309  | 3-DUP1)      |                    |      |       | Sour           | rce: IPA0        | 005-01 |        |     |              |                    |
| Total Dissolved Solids                  | 981          | 10                 | 10   | mg/l  |                | 980              |        |        | 0   | 10           |                    |
| Batch: 6A05089 Extracted: 01/05/06      | -            |                    |      |       |                |                  |        |        |     |              |                    |
| Blank Analyzed: 01/05/2006 (6A05089-B   | LK1)         |                    |      |       |                |                  |        |        |     |              |                    |
| Total Suspended Solids                  | ND           | 10                 | 10   | mg/l  |                |                  |        |        |     |              |                    |
| LCS Analyzed: 01/05/2006 (6A05089-BS)   | l)           |                    |      |       |                |                  |        |        |     |              |                    |
| Total Suspended Solids                  | 979          | 10                 | 10   | mg/l  | 1000           |                  | 98     | 85-115 |     |              |                    |
| Duplicate Analyzed: 01/05/2006 (6A0508) | 9-DUP1)      |                    |      |       | Sour           | ce: IPA0         | 012-01 |        |     |              |                    |
| Total Suspended Solids                  | 458          | 10                 | 10   | mg/l  |                | 350              |        |        | 27  | 10           | R-3                |
| Batch: 6A06048 Extracted: 01/06/06      | •            |                    |      |       |                |                  |        |        |     |              |                    |
| Blank Analyzed: 01/06/2006 (6A06048-Bl  | LKI)         |                    |      |       |                |                  |        |        |     |              |                    |
| Oil & Grease                            | ND           | 5.0                | 0.94 | mg/l  |                |                  |        |        |     |              |                    |
| LCS Analyzed: 01/06/2006 (6A06048-BS1   | )            |                    |      |       |                |                  |        |        |     |              | M-NR1              |
| Oil & Grease                            | 19.2         | 5.0                | 0.94 | mg/l  | 20.0           |                  | 96     | 65-120 |     |              |                    |

**Del Mar Analytical, Irvine** Amy Windham For Michele Chamberlin Project Manager





Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

## METHOD BLANK/QC DATA

#### **INORGANICS**

| Analyte  | Result                 | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC | %REC   | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|------------------------|--------------------|------|-------|----------------|------------------|------|--------|-----|--------------|--------------------|
| Batch: 6A06048 Extracted: 01/06/06                   | <u>i</u>               |                    |      |       |                |                  |      |        |     |              | -                  |
| LCS Dup Analyzed: 01/06/2006 (6A0604<br>Oil & Grease | <b>8-BSD1)</b><br>19.6 | 5.0                | 0.94 | mg/l  | 20.0           |                  | 98   | 65-120 | 2   | 20           |                    |



Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

## **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

| LabNumber  | Analysis             | Analyte                | Units | Result | MRL  | Compliance<br>Limit |
|------------|----------------------|------------------------|-------|--------|------|---------------------|
| IPA0004-01 | 413.1 Oil and Grease | Oil & Grease           | mg/l  | 0.78   | 4.9  | 15                  |
| IPA0004-01 | Chloride - 300.0     | Chloride               | mg/l  | 2.90   | 0.50 | 150                 |
| IPA0004-01 | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N      | mg/l  | 4.90   | 0.26 | 8.00                |
| IPA0004-01 | Perchlorate 314.0    | Perchlorate            | ug/l  | 0      | 4.0  | 6.00                |
| IPA0004-01 | Sulfate-300.0        | Sulfate                | mg/l  | 9.30   | 0.50 | 300                 |
| IPA0004-01 | TDS - SM 2540C       | Total Dissolved Solids | mg/l  | 210    | 10   | 950                 |





Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

# **DATA QUALIFIERS AND DEFINITIONS**

B Analyte was detected in the associated Method Blank.

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.

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

accepted based on acceptable recovery in the Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

R-3 The RPD exceeded the method control limit 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





Project ID: Routine Outfall 008

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0004

Sampled: 01/01/06 Received: 01/01/06

# **Certification Summary**

#### Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 314.0     | Water  | N/A   | X          |
| EPA 413.1     | Water  | X     | X          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0004-01

Analysis Performed: EDD + Level 4

Samples: IPA0004-01

4000 HAI CHAIN OF CUSTODY FORM

Page 1 of 1

Temp = 58 © Comments Field readings: S ~ #d Sample Integrity: (Check) Intect On loa 10 Days Turn around Time: (check) 24 Hours 5 Days Perchlorate Only 72 Hours Metals Only 72 Hours 72 Hours 48 Hours ANALYSIS REQUIRED G2G1 90/1/1 TCDD (snd all congeners) × × SST, SQT Perchlorate My A T. Date/Time: Date/Time: Date/Time: × CF' 804' NO3+NOS-N Oil & Grease (EPA 413.1) × Total Reoverable Metals: Sp, Cd, Cu, Pb, Hg × 6A, 6B 5A, 5B 4A, 4B 3A, 3B **\** 9 Preservative | Bottle Received By Received By Stormwater at Happy Valley HN03 HN03 None 8 None Boeing-SSFL NPDES Routine Outfall 008 걸 Phone Number. (626) 568-6691 Fax Number. (626) 568-6515  $\boldsymbol{\omega}$ Sampling Date/Time 000 Date/Time: 6 Del Mar Analytical version 02/17/05 Date/Time Project C # Project Manager: Bronwyn Kelly MWH-Pasadena 300 Noth Lake Avenue, Suite 1200 Pasadena, CA 91101 Sampler P BANACA Sample Container Matrix Type Glass-Amber Poly-500 ml Poly-500 ml Glass-Amber Poly-1L Poly-1L Client Name/Address 3 ₹ ₹ ≥ ₹ ₹ Relipqobyhed By Sample Description Ourfall 008 Outfall 008 Outfall 008 Outfall 008 Outfall 008 Outfall 008



January 17, 2006

Alta Project I.D.: 27136

Ms. Michele Chamberlin Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 04, 2006 under your Project Name "IPA0004". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely.

Martha M. Maier

Madles Marco

**Director of HRMS Services** 

alta Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. This report should not be reproduced except in full without the written approval of ALTA.

4

Section I: Sample Inventory Report

Date Received:

1/4/2006

Alta Lab. ID

Client Sample ID

27136-001

IPA0004-01

# **SECTION II**

| Aqueous         QC Batch No.:         7632         Lab Sample:         0-MB001           1.00 L         Date Extracted:         8-Jan-06         Date Annalyzed DB-5:         11-Jan-06           Conc. (ug/L)         DL. a EMPC b Qualifiers         Labeled Standard         13-12-3,7,8-TCDD           ND         0.000000560         13C-12,3,7,8-PcCDD         13C-12,3,7,8-PcCDD           ND         0.00000147         13C-12,3,7,8-PcCDD         13C-12,3,7,8-PcCDD           CDD         ND         0.00000146         13C-12,3,7,8-PcCDD           CDD         ND         0.00000146         13C-12,3,7,8-PcCDF           ND         0.000000346         13C-12,3,7,8-PcCDF           ND         0.000000346         13C-12,3,7,8-PcCDF           ND         0.000000346         13C-12,3,7,8-PcCDF           ND         0.00000031         13C-12,3,7,8-PcCDF           ND         0.00000031         13C-12,3,7,8-PcCDF           ND         0.00000031         13C-12,3,7,8-PcCDF           ND         0.000000031         13C-12,3,4,7,8-PcCDF           ND         0.000000032         13C-12,3,4,7,8-PcCDF           ND         0.000000046         13C-12,3,4,6,7,8-PcCDF           ND         0.0000000046         13C-12,3,4,7,8-PcCDF  | Method Blank  |       |            |          |   | EPA Method 1613                    |
|--|---------------|-------|------------|----------|---|------------------------------------|
| 1.00   Date Extracted: 8-Jan-06   Date Analyzed DB-5: 11-Jan-06  |               | (ACB) | atch No.:  | 7632     |   |                                    |
| Conc. (ug/L)         DL. a EMPC b Qualifiers         Qualifiers         Labeled Standard         %           ND 0.000000671         18 13C-2,3,7,8-TCDD         ND 0.000000560         13C-1,2,3,7,8-TCDD         13C-1,2,3,7,8-TCDD           ND 0.00000149         13C-1,2,3,4,7,8-HxCDD         13C-1,2,3,4,7,8-HxCDD         13C-1,2,3,4,7,8-HxCDD           ND 0.00000146         13C-1,2,3,4,6,7,8-HxCDD         13C-1,2,3,4,6,7,8-HxCDD         13C-0,2,3,4,8-HxCDF           ND 0.000000346         13C-1,2,3,7,8-TCDF         13C-2,3,7,8-TCDF         13C-1,2,3,7,8-HxCDF           ND 0.00000031         13C-1,2,3,7,8-HxCDF         13C-1,2,3,7,8-HxCDF         13C-1,2,3,7,8-HxCDF           ND 0.00000031         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF           ND 0.000000031         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF           ND 0.00000052         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF           ND 0.00000062         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF           ND 0.00000062         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF         13C-1,2,3,4,7,8-HxCDF           ND 0.00000060         1 CRS 37C1-2,3,7,8-TCDD         1 CRS 37C1-2,3,7,8-TCDD         1 CRS 37C1-2,3,7,8-TCDD |               | Date  | Extracted: | 8-Jan-06 |   | Date Analyzed DB-225: NA           |
| ND         0.000000671         IS         13C-2,3,7,8-PCDD           ND         0.000000560         13C-1,2,3,7,8-PcDD           ND         0.00000147         13C-1,2,3,4,7,8-PcDD           ND         0.00000145         13C-1,2,3,4,7,8-PcDD           ND         0.00000145         13C-1,2,3,4,7,8-PcDD           ND         0.00000353         13C-1,2,3,7,8-PcDF           ND         0.00000031         13C-2,3,7,8-PcDF           ND         0.00000012         13C-2,3,4,7,8-PcDF           ND         0.00000031         13C-1,2,3,4,7,8-PcDF           ND         0.00000031         13C-1,2,3,4,7,8-PcDF           ND         0.00000051         13C-1,2,3,4,7,8-PcDF           ND         0.000000675         13C-1,2,3,4,7,8-PcDF           ND         0.000000675         13C-1,2,3,4,7,8-PcDF           ND         0.000000676         13C-1,2,3,4,7,8-PcDF           ND         0.000000676         13C-1,2,3,4,7,8-PcDF           ND         0.00000067         13C-1,2,3,4,7,8-PcDF           ND         0.00000067         13C-1,2,3,4,7,8-PcDF           ND         0.00000067         13C-1,2,3,4,7,8-PcDF           ND         0.00000067         13C-1,2,3,4,7,8-PcDF           ND   |               |       | res.       |          | Labeled Standard                              | %R LCL-UCL <sup>d</sup> Oualifiers |
| ND         0.00000560         13C-1,2,3,7,8-PeCDD           ND         0.0000147         13C-1,2,3,7,8-PeCDD           ND         0.00000145         13C-1,2,3,4,7,8-HxCDD           ND         0.00000146         13C-1,2,3,4,7,8-PeCDD           ND         0.00000034         13C-1,2,3,4,8-PeCDF           ND         0.00000034         13C-1,2,3,7,8-PeCDF           ND         0.00000034         13C-1,2,3,7,8-PeCDF           ND         0.00000031         13C-1,2,3,7,8-PeCDF           ND         0.00000031         13C-1,2,3,7,8-PeCDF           ND         0.00000031         13C-1,2,3,7,8-PeCDF           ND         0.00000051         13C-1,2,3,7,8-PeCDF           ND         0.00000052         13C-1,2,3,4,8-PeCDF           ND         0.00000052         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000675         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000676         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000676         13C-1,2,3,4,7,8-PtCDF           ND         0.000000670         A Sample specific estimated detection limit.           ND         0.00000046         A Sample specific estimated detection limit.           ND         0.00000053         A Sample specific estimated dete  |               |       | 1/9000     |          |   | 84.0 25 - 164                      |
| ND         0.00000149         13C-1,2,3,4,7,8-HxCDD           ND         0.00000145         13C-1,2,3,4,7,8-HxCDD           ND         0.00000146         13C-1,2,3,4,6,7,8-HyCDD           ND         0.00000335         13C-2,3,7,8-HyCDF           ND         0.000000346         13C-1,2,3,7,8-PyCDF           ND         0.00000031         13C-1,2,3,4,7,8-PyCDF           ND         0.00000031         13C-1,2,3,4,7,8-PyCDF           ND         0.00000051         13C-1,2,3,4,7,8-PyCDF           ND         0.00000051         13C-1,2,3,4,5,7,8-PyCDF           ND         0.00000052         13C-1,2,3,4,5,7,8-PyCDF           ND         0.000000674         13C-1,2,3,4,6,7,8-PyCDF           ND         0.000000674         13C-1,2,3,4,6,7,8-PyCDF           ND         0.000000674         13C-1,2,3,7,8-TCDD           ND         0.000000674         13C-1,2,3,7,8-TCDD           ND         0.000000674         A Sample specific estimated detection limit.           ND         0.000000674         A Sample specific estimated detection limit.           ND         0.000000674         A Sample specific estimated detection limit.           ND         0.000000650         A Sample specific estimated detection limit.           ND  |               |       | 090000     |          | 13C-1,2,3,7,8-PeCDD                           | 78.7 25 - 181                      |
| ND   0.00000147   13C-1,2,3,6,7,8-HxCDD  |               |       | 00149      |          | 13C-1,2,3,4,7,8-HxCDD                         | 81.9 32 - 141                      |
| (CDD         ND         0.00000145         13C-1,2,3,4,6,7,8-HpCDD           4pCDD         ND         0.00000355         13C-2,3,7,8-TCDF           ND         0.000000346         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000012         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000051         13C-1,2,3,7,8-PeCDF           CCDF         ND         0.00000051         13C-1,2,3,4,7,8-PeCDF           ACDF         ND         0.00000051         13C-1,2,3,4,6,7,8-HxCDF           ACDF         ND         0.00000052         13C-1,2,3,4,6,7,8-HxCDF           ACDF         ND         0.00000052         13C-1,2,3,4,6,7,8-HyCDF           APCDF         ND         0.00000067         13C-1,2,3,4,7,8,9-HyCDF           APCDF         ND         0.00000067         13C-1,2,3,4,8,9-HyCDF           APCDF         ND         0.00000067         13C-1,2,3,4,8,9-HyCDF      <  |               |       | 00147      |          | 13C-1,2,3,6,7,8-HxCDD                         | 74.4 28 - 130                      |
| tpCDD         ND         0.00000146         13C-OCDD           ND         0.00000535         13C-2,3,7,8-TCDF           DF         ND         0.000000546         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000081         13C-1,2,3,4,7,8-PeCDF           CCDF         ND         0.00000051         13C-1,2,3,4,7,8-PeCDF           CCDF         ND         0.00000052         13C-1,2,3,4,7,8-PeCDF           CCDF         ND         0.00000052         13C-1,2,3,4,7,8-PeCDF           CCDF         ND         0.00000067         13C-1,2,3,4,7,8-PeCDF           CCDF         ND         0.00000067         13C-1,2,3,4,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-PeCDF           HPCDF         ND         0.00000067         13C-1,2,3,4,6,7,8-PeCDF <td< td=""><td></td><td></td><td>00145</td><td></td><td>13C-1,2,3,4,6,7,8-HpCDD</td><td>75.6 23 - 140</td></td<>   |               |       | 00145      |          | 13C-1,2,3,4,6,7,8-HpCDD                       | 75.6 23 - 140                      |
| ND   0.00000535   13C-2,3,7,8-TCDF   |               |       | 00146      |          | 13C-OCDD                                      | 40.1 17 - 157                      |
| DF         ND         0.000000546         13C-1,2,3,7,8-PeCDF           DF         ND         0.00000885         13C-1,2,3,4,7,8-PeCDF           DF         ND         0.000000511         13C-1,2,3,4,7,8-HxCDF           CDF         ND         0.000000522         13C-1,2,3,4,5,7,8-HxCDF           CDF         ND         0.00000052         13C-1,2,3,4,6,7,8-HxCDF           CDF         ND         0.000000764         13C-1,2,3,4,6,7,8-HxCDF           HpCDF         ND         0.000000764         13C-1,2,3,4,6,7,8-HxCDF           HpCDF         ND         0.000000764         13C-1,2,3,4,8,9-HpCDF           HpCDF         ND         0.00000062         CRS         37C1-2,3,7,8-TCDD           MD         0.00000056         a Sample specific estimated detection limit.           ND         0.000000560         a Sample specific estimated detection limit.           ND         0.000000560         a Sample specific control limit - upper control limit.           ND         0.000000546         a Sample specific control limit.           ND         0.000000533           ND         0.000000533           ND         0.000000632   |               |       | 00535      |          | 13C-2,3,7,8-TCDF                              | 82.6 24 - 169                      |
| ND         0.00000112         13C-2,3,4,7,8-PeCDF           ND         0.00000081         13C-1,2,3,4,7,8-HxCDF           ND         0.000000518         13C-1,2,3,6,7,8-HxCDF           ND         0.000000522         13C-1,2,3,4,7,8-HxCDF           ND         0.000000675         13C-1,2,3,4,7,8-HxCDF           ND         0.000000675         13C-1,2,3,4,7,8-HxCDF           ND         0.000000676         13C-1,2,3,4,7,8-HxCDF           ND         0.000000671         CRS           ND         0.000000671         a. Sample specific estimated detection limit.           ND         0.000000546         a. Sample specific estimated detection limit.           ND         0.000000546         a. Sample specific estimated maximum possible concentration.           ND         0.000000546         a. Listimated maximum possible concentration.           ND         0.000000546         a. Listimated maximum possible concentration.           ND         0.000000546         a. Lower control limit - upper control limit.           ND         0.000000553         a. Marchod detection limit.           ND         0.000000653         a. Marchod detection limit.   |               | ;     | 000546     | -        | 13C-1,2,3,7,8-PeCDF                           | 65.3 24 - 185                      |
| ND         0.000000885         13C-1,2,3,4,7,8-HxCDF           ND         0.000000518         13C-1,2,3,6,7,8-HxCDF           ND         0.000000522         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000675         13C-1,2,3,4,6,7,8-HxCDF           ND         0.000000676         13C-1,2,3,4,7,8,9-HxCDF           ND         0.000000622         CRS           ND         0.000000671         a Sample specific estimated detection limit.           ND         0.00000146         a Sample specific estimated detection limit.           ND         0.000000546         c. Method detection limit.           ND         0.000000546         c. Method detection limit.           ND         0.000000546         d. Lower control limit - upper control limit.           ND         0.000000553         c. Method detection limit.           ND         0.00000053         c. Method detection limit.           ND         0.000000550         c. Method detection limit.   | DF            |       | 00112      |          | 13C-2,3,4,7,8-PeCDF                           | 71.3 21 - 178                      |
| ND         0.000000511         13C-1,2,3,6,7,8-HxCDF           ND         0.000000528         13C-1,2,3,7,8,9-HxCDF           ND         0.000000675         13C-1,2,3,7,8,9-HxCDF           ND         0.000000622         CRS 37C-1,2,3,7,8-HxCDF           ND         0.000000671         Extinated maximum possible concentration.           ND         0.000000560         Extinated maximum possible concentration.           ND         0.000000546         Extinated maximum possible concentration.           ND         0.000000546         Extinated maximum possible concentration.           ND         0.000000546         A Lower control limit.  |               |       | 000885     |          |   | 73.7 26 - 152                      |
| ND         0.000000518         13C-2,3,4,6,7,8-HxCDF           ND         0.000000675         13C-1,2,3,7,8,9-HxCDF           ND         0.000000675         13C-1,2,3,4,7,8-HpCDF           ND         0.000000622         CRS           ND         0.000000671         a Sample specific estimated detection limit.           ND         0.000000671         b Estimated maximum possible concentration.           ND         0.000000146         c Method detection limit.           ND         0.000000369         c Method detection limit.  |               | 9.    | 000511     |          | agin Tg                                       | 70.0 26 - 123                      |
| ND         0.000006522         13C-1,2,3,7,8,9-HxCDF           ND         0.000000675         13C-1,2,3,4,6,7,8-HpCDF           ND         0.000000622         13C-1,2,3,4,7,8,9-HpCDF           ND         0.000000671         Example specific estimated detection limit.           ND         0.000000560         a. Sample specific estimated detection limit.           ND         0.000000146         a. Lower control limit - upper control limit.           ND         0.000000946         d. Lower control limit - upper control limit.           ND         0.000000563         a. Lower control limit - upper control limit.           ND         0.000000553         nD           ND         0.000000553         nD  |               |       | 000518     |          | 13C-2,3,4,6,7,8-HxCDF                         | 78.0 28 - 136                      |
| 5,9-HxCDF         ND         0.00000675         13C-1,2,3,4,7,8,9-HpCDF           7,3,8-HpCDF         ND         0.000000764         13C-1,2,3,4,7,8,9-HpCDF           7,8,9-HpCDF         ND         0.00000622         CRS         37C-1,2,3,4,7,8,9-HpCDF           7,8,9-HpCDF         ND         0.00000671         a Sample specific estimated detection limit.           CDD         ND         0.00000147         a Sample specific estimated detection limit.           CDD         ND         0.00000146         a Lower control limit - upper control limit.           CDF         ND         0.00000097         c. Method detection limit - upper control limit.           CDF         ND         0.000000546         a Lower control limit - upper control limit.           CDF         ND         0.000000533         a Lower control limit - upper control limit.           ACDF         ND         0.000000533         a Lower control limit - upper control limit.  |               |       | 000522     |          | 13C-1,2,3,7,8,9-HxCDF                         | 79.2 29 - 147                      |
| 5,7,8-HpCDF         ND         0.000000622         13C-1,2,3,4,7,8,9-HpCDF           7,8,9-HpCDF         ND         0.000000622         CRS         37C1-2,3,7,8-TCDD           7,8,9-HpCDF         ND         0.000000671         a Sample specific estimated detection limit.           CDD         ND         0.000000560         b Estimated maximum possible concentration.           CDD         ND         0.000000146         c Method detection limit.           CDF         ND         0.000000546         d Lower control limit - upper control limit.           CDF         ND         0.000000546         c Method detection limit.           CDF         ND         0.000000553         c Lower control limit - upper control limit.           ND         0.000000553         c Lower control limit - upper control limit.   |               |       | 000675     |          | 13C-1,2,3,4,6,7,8-HpCDF                       | 64.7 28 - 143                      |
| 7,8,9-HpCDF         ND         0.00000622         13C-OCDF           CRS         37Cl-2,3,7,8-TCDD           CDD         ND         0.00000671         a. Sample specific estimated detection limit.           CDD         ND         0.000000560         b. Estimated maximum possible concentration.           CDD         ND         0.00000146         c. Method detection limit.           CDF         ND         0.000000546         d. Lower control limit - upper control limit.           CDF         ND         0.000000546         c. Method detection limit.           CDF         ND         0.000000546         c. Method detection limit.           CDF         ND         0.000000553         c. Method detection limit.           CDF         ND         0.000000553         c. Method detection limit.   |               |       | 1000764    |          | 13C-1,2,3,4,7,8,9-HpCDF                       | 76.3 26-138                        |
| CDD         ND         0.000000560         Footnotes           CDD         ND         0.000000671         a. Sample specific estimated detection limit.           CDD         ND         0.000000560         b. Estimated traximum possible concentration.           CDD         ND         0.00000147         c. Method detection limit.           CDF         ND         0.000000546         d. Lower control limit - upper control limit.           CDF         ND         0.000000997         c. Method detection limit.           ACDF         ND         0.000000553         c. Method detection limit.           ACDF         ND         0.000000553         c. Method detection limit.   |               |       | 000622     |          | 13C-OCDF                                      |                                    |
| ND 0.00000671<br>ND 0.000000560<br>D ND 0.00000147<br>D ND 0.000000546<br>ND 0.000000546<br>F ND 0.000000553<br>F ND 0.000000553   |               |       | 09800      |          | CRS 37CI-2,3,7,8-TCDD                         |                                    |
| D ND 0.00000671 D ND 0.00000147 D ND 0.00000146 ND 0.00000146 ND 0.000000546 F ND 0.00000053   | Totals        |       |            |          | Footnotes                                     |                                    |
| ND 0.00000560  ND 0.00000147  ND 0.000000546  ND 0.000000553  ND 0.000000553  ND 0.000000553   |               |       | 1000671    |          | a. Sample specific estimated detection limit. |                                    |
| ND 0.00000146 ND 0.00000546 ND 0.00000097 ND 0.00000053  |               |       | 095000     |          | b. Estimated maximum possible concentration.  |                                    |
| ND 0.00000146<br>ND 0.000000546<br>ND 0.000000553<br>ND 0.00000652   |               |       | 00147      |          | c. Method detection limit.                    |                                    |
| <b>8 8</b>   |               |       | 900146     |          | d. Lower control limit - upper control limit. |                                    |
| ON<br>ON<br>ON   |               |       | 0000546    |          | -   |                                    |
| 2 2  |               |       | 7660000    | 100      |   |                                    |
| QX   |               |       | 0000553    |          | :   |                                    |
|  | Total HpCDF N |       | 269000     |          |   | **                                 |

Analyst: JMH

Approved By:

Martha M. Maier 17-Jan-2006 14:38

| OPR Results                         |                     |                                  |                  |   | EPA M                 | EPA Method 1613 |
|-------------------------------------|---------------------|----------------------------------|------------------|---|-----------------------|-----------------|
| Matrix: Aqueous Sample Size: 1.00 L |                     | QC Batch No.:<br>Date Extracted: | 7632<br>8-Jan-06 | Lab Sample: 0-OPR001<br>Date Analyzed DB-5: 11-Jan-06 | Date Analyzed DB-225: | DB-225: NA      |
| Analyte                             | Spike Conc. Conc. ( | Conc. (ng/mL)                    | OPR Limits       | Labeled Standard                                      | %R                    | TCL-UCL         |
| 2,1,7,8-TCDD                        | 10.0                | 8.44                             | 6.7 - 15.8       | IS 13C-2,3,7,8-TCDD                                   | 66.2                  | 25 - 164        |
| 1,2,3,7,8-PeCDD                     | 20.0                | 48.8                             | 35 - 71          | 13C-1,2,3,7,8-PeCDD                                   | 70.5                  | 25 - 181        |
| 1,2,3,4,7,8-HxCDD                   | 50.0                | 8.8                              | 35 - 82          | 13C-1,2,3,4,7,8-HxCDD                                 | 68.7                  | 32 - 141        |
| 1,2,3,6,7,8-HxCDD                   | 20.0                | 46.7                             | 38 - 67          | 13C-1,2,3,6,7,8-HxCDD                                 | 65.6                  | 28 - 130        |
| 1,2,3,7,8,9-HxCDD                   | 50.0                | 48.7                             | 32 - 81          | 13C-1,2,3,4,6,7,8-HpCDD                               | 70.6                  | 23 - 140        |
| 1,2,3,4,6,7,8-HpCDD                 | 20.0                | 47.2                             | 35 - 70          | 13C-OCDD  | 49.9                  | 17 - 157        |
| ОСДД                                | 001                 | 95.4                             | 78 - 144         | 13C-2,3,7,8-TCDF                                      | 62.9                  | 24 - 169        |
| 2,3,7,8-TCDF                        | 10.0                | 9.58                             | 7.5 - 15.8       | 13C-1,2,3,7,8-PeCDF                                   | 63.1                  | 24 - 185        |
| 1,2,3,7,8-PeCDF                     | 50.0                | 46.6                             | 40 - 67          | 13C-2,3,4,7,8-PeCDF                                   | 64.2                  | 21 - 178        |
| 2,3,4,7,8-PeCDF                     | 50.0                | 48.4                             | 34 - 80          | 13C-1,2,3,4,7,8-HxCDF                                 | 65.4                  | 26 - 152        |
| 1,2,3,4,7,8-HxCDF                   | 50.0                | 47.6                             | 36 - 67          | 13C-1,2,3,6,7,8-HxCDF                                 | 63.8                  | 26 - 123        |
| 1,2,3,6,7,8-HxCDF                   | 20.0                | 48.7                             | 42 - 65          | 13C-2,3,4,6,7,8-HxCDF                                 | 6.1.9                 | 28 - 136        |
| 2,3,4,6,7,8-HxCDF                   | 20.0                | 47.3                             | 35 - 78          | 13C-1,2,3,7,8,9-HxCDF                                 | 70.4                  | 29 - 147        |
| 1,2,3,7,8,9-HxCDF                   | 20.0                | 47.3                             | 39 - 65          | 13C-1,2,3,4,6,7,8-HpCDF                               | 63.1                  | 28 - 143        |
| 1,2,3,4,6,7,8-HpCDF                 | 20.0                | 48.5                             | 41-61            | 13C-1,2,3,4,7,8,9-HpCDF                               | 70.1                  | 26 - 138        |
| 1,2,3,4,7,8,9-HpCDF                 | 20.0                | 48.4                             | 39 - 69          | 13C-OCDF  | 56.4                  | 17 - 157        |
| OCDF                                | 100                 | 7.76                             | 63 - 170         | CRS 37CI-2,3,7,8-TCDD                                 | 81.7 s                | 35 - 197        |

Approved By: Martha M. Maier 17-Jan-2006 14:38

Analyst: JMH

| Sample 1D: IPA0004-01                     |                            |             |              |            |  |                        |                 | EPA N                  | EPA Method 1613 |
|---|----------------------------|-------------|--------------|------------|--|------------------------|-----------------|------------------------|-----------------|
| Client Data                               |                            |             | Sample Data  |            | Laboratory Data                              |                        |                 |                        |                 |
|   | Del Mar Analytical, Irvine |             | Matrix:      | Aqueous    | Lab Sample:                                  | 27136-001              | Date Received   | ived                   | 4-Jan-06        |
| Project: IPA0004 Date Collected: I-Jan-06 |                            |             | Sample Size: | 1.00.L     | QC Batch No.:                                | 7632                   | Date Extracted: | icted:                 | 8-Jan-06        |
|   |                            |             |              |            | Date Analyzed DB-5:                          | 12-Jan-06              | Date Anal       | Date Analyzed DI3-225: | VA              |
| Analyte Conc. (                           | (ug/L)                     | DL a        | EMPCb        | Qualifiers | Labeled Standard                             | dard                   | %R I            | rcr-ncr <sub>q</sub>   | Oualifiers      |
| 2.3.7.8-TCDD                              | N CK                       | 0.000000804 | 804          |            | IS 13C-2,3,7,8-TCDD                          | OQ;                    | 73.4            | 25 - 164               |                 |
| 1.2.3.7.8-PeCDD                           | QN<br>ON                   | 0.00000000  | 606          |            | 13C-1,2,3,7,8-PeCDD                          | PeCDD                  | 77.2            | 25 - 181               | -               |
| 1,2,3,4,7,8-HxCDD                         | QN<br>QN                   | 0.00000121  | 21           |            | 13C-1,2,3,4,7,8-HxCDD                        | -HxCDD                 | 78.2            | 32 - 141               |                 |
| 1,2,3,6,7,8-HxCDD                         | QN                         | 0.00000130  | 30           |            | 13C-1,2,3,6,7,8-HxCDD                        | -HxCDD                 | 73.0            | 28 - 130               |                 |
| 1,2,3,7,8,9-HxCDD                         | Q.                         | 0.00000123  | 23           |            | 13C-1,2,3,4,6,7,8-HpCDD                      | ',8-HpCDD              | 76.3            | 23 - 140               |                 |
| 1.2,3,4,6,7,8-HpCDD                       | 0.00000598                 |             |              | -          | 13C-OCDD                                     |                        | 51.4            | 17 - 157               |                 |
| OCDD                                      | 0.0000327                  |             |              | <b></b>    | 13C-2,3,7,8-TCDF                             | JOF .                  | 74.9            | 24 - 169               |                 |
| 2,3,7,8-TCDF                              | QN                         | 0.00000156  | 56           |            | 13C-1,2,3,7,8-PeCDF                          | PeCDF                  | 78.4            | 24 - 185               | .:              |
| 1,2,3,7,8-PeCDF                           | Q                          | 0.00000161  | 61           |            | 13C-2,3,4,7,8-PeCDF                          | PeCDF                  | 79.0            | 21 - 178               |                 |
| 2,3,4,7,8-PeCDF                           | R                          | 0.00000136  | 36           |            | 13C-1,2,3,4,7,8-HxCDF                        | 3-HxCDF                | 74.7            | 26 - 152               |                 |
| 1,2,3,4,7,8-HxCDF                         | 0.00000117                 | <br>:<br>:  |              | ,          | 13C-1,2,3,6,7,8-HxCDF                        | 3-HxCDF                | 75.8            | 26 - 123               |                 |
| 1,2,3,6,7,8-HxCDF                         | 0.000000815                |             |              | ьщ         | 13C-2,3,4,6,7,8-HxCDF                        | 8-HxCDF                | 78.1            | 28 - 136               |                 |
| 2,3,4,6,7,8-HxCDF                         | Q                          | 0.00000000  | 606          |            | 13C-1,2,3,7,8,9-HxCDF                        | 9-HxCDF                | 78.2            | 29 - 147               |                 |
| 1,2,3,7,8,9-HxCDF                         | Ð                          | 0.00000135  | 35           |            | 13C-1,2,3,4,6,7,8-HpCDF                      | 7,8-HpCDF              | 6.79            | 28 - 143               |                 |
| 1,2,3,4,6,7,8-HpCDF                       | 0.00000463                 |             |              |            | 13C-1,2,3,4,7,8,9-HpCDF                      | 8,9-HpCDF              | 9.77            | 26 - 138               |                 |
| 1,2,3,4,7,8,9-HpCDF                       | Q.                         | 0.00000179  |              |            | 13C-0CDF                                     | :                      | 59.9            | 17 - 157               |                 |
|   | 0.0000103                  |             |              |            | CRS 37Cl-2,3,7,8-TCDD                        | CDD                    | 77.5            | 35 - 197               |                 |
| Totals                                    |                            |             |              |            | Footnotes                                    |                        |                 |                        |                 |
| Total TCDD                                | Q                          | 0.000000804 | 9804         |            | a. Sample specific estimated detection limit | nted detection limit.  | A<br>A<br>B     |                        |                 |
|   | 2                          | 0.000000000 | 606          |            | b. Estimated maximum possible concentration. | ossible concentration. |                 |                        |                 |
| Total HxCDD                               | ND<br>0.0000134            |             | 0.00000310   | 3.0        | c. Method detection limit.                   | iner control limit     | 41.<br>         |                        |                 |
| Iodal ripCUD                              |                            | 00000       |              |            | A ANTINE COMMENT ANTINE                      | the course with        |                 |                        |                 |
| Total PeCDF                               | 2 8                        | 0.00000158  | 148          |            | 7  |                        |                 |                        |                 |
| Total HxCDF                               | 0.00000472                 |             |              | -          |  |                        |                 |                        |                 |
| Total HpCDF                               | 0.00000463                 |             |              |            | avawa.a.                                     |                        |                 |                        |                 |
| Analyst: JMH                              |                            |             |              |            | Approved By:                                 | Martha M. Maier        |                 | 17-Jan-2006 14:38      | <b>&amp;</b>    |

# APPENDIX

### **DATA QUALIFIERS & ABBREVIATIONS**

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

Chemical interference

The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

# **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number     |
|---|------------------------|
| State of Alaska, DEC                        | CA413-02               |
| State of Arizona                            | AZ0639                 |
| State of Arkansas, DEQ                      | 05-013-0               |
| State of Arkansas, DOH                      | Reciprocity through CA |
| State of California – NELAP Primary AA      | 02102CA                |
| State of Colorado                           |                        |
| State of Connecticut                        | PH-0182                |
| State of Florida, DEP                       | E87777                 |
| Commonwealth of Kentucky                    | 90063                  |
| State of Louisiana, Health and Hospitals    | LA050001               |
| State of Louisiana, DEQ                     | 01977                  |
| State of Maine                              | CA0413                 |
| State of Michigan                           | 81178087               |
| State of Mississippi                        | Reciprocity through CA |
| Naval Facilities Engineering Service Center |                        |
| State of Nevada                             | CA413                  |
| State of New Jersey                         | CA003                  |
| State of New Mexico                         | Reciprocity through CA |
| State of New York, DOH                      | 11411                  |
| State of North Carolina                     | 06700                  |
| State of North Dakota, DOH                  | R-078                  |
| State of Oklahoma                           | D9919                  |
| State of Oregon                             | CA200001-002           |
| State of Pennsylvania                       | 68-00490               |
| State of South Carolina                     | 87002001               |
| State of Tennessee                          | 02996                  |
| State of Texas                              | TX247-2005A            |
| U.S. Army Corps of Engineers                |                        |
| State of Utah                               | 9169330940             |
| Commonwealth of Virginia                    | 00013                  |
| State of Washington                         | C1285                  |
| State of Wisconsin                          | 998036160              |
| State of Wyoming                            | 8TMS-Q                 |



17461 Derian Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A, Colton, CA 92324

9484 Chesapeake Drive, Suite 805, San Diego, CA 92123 9830 South 51st Street, Suite 8-120, Phoenix, AZ 85044

Ph (909) 370-4667 Fax (909) 370-1046
Ph (619) 505-6596 Fax (619) 505-9889
Ph (480) 785-0043 Fax (480) 785-0851

2520 E. Sureet Rd., Suite #3, Las Vegas, NV 89120

ike #3, Las Vegas, NV 89120 Ph (702) 799-3620 Fax (702) 798-3621

# **SUBCONTRACT ORDER - PROJECT # IPA0004**

| SENDING LABORATORY:   | RECEIVING LABORATORY:  |
|---|--|
| Del Mar Analytical, Irvine<br>17461 Derian Avenue. Suite 100<br>Irvine, CA 92614<br>Phone: (949) 261-1022<br>Fax: (949) 261-1228<br>Project Manager: Michele Chamberlin | Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 |
| Standard TAT is requested unless specific due date is re  | equested => Due Date: Initials:  |

| Standard TAT is requ  | ested unless specific due date is reques | ted => Due Date: Initials:                         |
|-----------------------|--|--|
| Analysis              | Expiration                               | Comments   |
| Sample ID: IPA0004-01 | Water Sampled: 01/01/06 10:18            | Instant Nofication                                 |
| 1613-Dioxin-HR-Alta   | 01/08/06 10:18                           | J flags, 17 congeners, no TEQ, ug/L, sub=Alta      |
| EDD + Level 4         | 01/29/06 10:18                           | Excel EDD email to pm, Include Std logs for Lvl IV |

|                                | ·               |                   |                             |                 |
|--------------------------------|-----------------|-------------------|-----------------------------|-----------------|
|                                |                 | SAMPLE INTEGRITY: | ·                           |                 |
| All containers intact:  Yes No | Sample labels/0 | COC agree: Yes No | Samples Received On Ice::   | ☐ Yes ☐ No      |
| Custody Seals Present Yes No   | Samples Preserv | ed Properly:      | Samples Received at (temp): |                 |
| ( Justil 1/3/06                |                 | Settina S.        | Benedial 1/4/06             | 0935            |
| Released By                    | Date Time       | Received By       | Date                        | Time            |
| Released By                    | Date Time       | Received By       | Date                        | Time            |
| Project 27136                  |                 |                   |                             | Page 40 to £279 |

# SAMPLE LOG-IN CHECKLIST

| Alta Project #:  | 21104     |         |           |                   |
|------------------|-----------|---------|-----------|-------------------|
| Samples Arrival: | Date/Time | 0935    | Initials: | Location:<br>WR-2 |
| Logged in:       | Date/Time | 106 OH7 | Initials: | Location: R-2     |

27136

Hand Other UPS DHL Cal Delivered By: Delivered Dry Ice None Blue Ice Preservation: Ice 0945 Thermometer ID: DT-20 0.72 Time: Temp °C

|   |           |            |              |    | YES            | NO       | NA          |
|---|-----------|------------|--------------|----|----------------|----------|-------------|
| Adequate Sample Volume Received                                       | ?         | •          |              |    | V              |          |             |
| Holding Time Acceptable?  | -         |            |              |    | V              |          |             |
| Shipping Container(s) Intact?   |           |            |              | •  | /              |          |             |
| Shipping Custody Seals Intact?  |           |            |              |    |                |          |             |
| Shipping Documentation Present?                                       |           |            |              |    | V              | <u> </u> |             |
| Airbill Trk# 79   | 2479      | 03419      | 3            |    | V              |          |             |
| Sample Container Intact?  |           |            |              |    |                |          | ļ.,         |
| Sample Custody Seals Intact?  |           |            |              |    |                |          | V_          |
| Chain of Custody / Sample Documentation Present?                      |           |            |              |    |                |          | 4           |
| COC Anomaly/Sample Acceptance Form completed?                         |           |            |              |    |                |          | <del></del> |
| If Chlorinated or Drinking Water Sa                                   | mples. Ac | ceptable P | reservation? |    |                | <u> </u> | K           |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented |           |            | coc          | t  | nple<br>tainer | (No      | one)        |
| Shipping Container  | Alta      | Client     | Retain       | Re | turn           | Dis      | oose        |

Comments:

# **APPENDIX G**

# **Section 28**

Outfall 008, January 01, 2006 AMEC Data Validation Reports

|  | JANCE SCREENING FORM FOR HARDCOPY DATA                               |
|--|--|
| MECX, LLC                                      | Package ID BYMT13  |
| 12260 East Vassar Drive                        | Task Order 1261,0010.01  |
| Suite 500                                      | SDG No. 1PACO4   |
| Lakewood, CO 80226                             | No. of Analyses  |
| Laboratory De Mar                              | Analytical Date: February 17, 2006                                   |
| Reviewer P. Marks                              | Reviewer's Signature   |
| Analysis/Method Metas                          | P. Muss  |
| 1.   |  |
| ACTION ITEMS*                                  |  |
| . Case Narrative                               |  |
| Deficiencies                                   |  |
|  |  |
| 2. Out of Scope                                |  |
| Analyses                                       |  |
| •  |  |
|  |  |
| 3. Analyses Not Conducted                      |  |
| •  |  |
|  |  |
| 4. Missing Hardeopy                            |  |
| Deliverables                                   |  |
| A W 2  |  |
|  |  |
| 5. Incorrect Hardcopy                          |  |
| Deliverables                                   |  |
| Denverables                                    |  |
|  |  |
|  | 3.50   |
| 6. Deviations from Analysis                    | Qualifications were assigned for the following:                      |
| Protocol, e.g.,                                | (1) Blank detect   |
| Holding Times                                  | @ Detect below the reporting limit                                   |
| GC/MS Tune/Inst. Performance                   |  |
| Calibration                                    |  |
| Method blanks                                  |  |
| Surrogates                                     |  |
| Matrix Spike/Dup LCS                           |  |
| Field QC                                       |  |
| Internal Standard Performance                  |  |
| Compound Identification                        |  |
| Quantitation                                   |  |
| System Performance                             |  |
| COMMENTS <sup>b</sup>                          |  |
|  |  |
|  |  |
| 2004-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0       |  |
| * Subcontracted analytical laboratory is not n | neeting contract and/or method requirements.                         |
| · ·  | by the laboratory but, no action against the laboratory is required. |



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 008

ANALYSIS: METALS

**SAMPLE DELIVERY GROUP IPA0004** 

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project:

**NPDES** IPA0004

SDG: Analysis:

Metals

## 1. INTRODUCTION

Task Order Title:

**NPDES Sampling** 

MEC<sup>X</sup> Project Number:

1261.001D.01

Sample Delivery Group:

**IPA0004** 

Project Manager:

Matrix:

P. Costa Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

DATA VALIDATION REPORT

P. Meeks

Reviewer: Date of Review:

February 17, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Revision 0 **B4MT13** 1

Project: NPDES SDG: IPA0004 Analysis: Metals

DATA VALIDATION REPORT

**Table 1. Sample Identification** 

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 008 | IPA0004-01    | Water  | 200.8, 245.1 |

Project: NPDES SDG: IPA0004 Analysis: Metals

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

#### 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method-specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

#### 2.4 BLANKS

Antimony was detected in method blank 6A04084-BLK1 at 0.162 µg/L; therefore, antimony detected in Outfall 008 was qualified as an estimated nondetect, "UJ." The remaining method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No further qualifications were required.

B4MT13 3 Revision 0

Project: SDG: Analysis: NPDES IPA0004 Metals

DATA VALIDATION REPORT

### 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Antimony and lead, which are not present in the ICSA or ICSAB, were detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for antimony or lead, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

#### 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

Revision 0

Project: NPDES SDG: IPA0004 Analysis: Metals

DATA VALIDATION REPORT

#### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Cadmium detected below the reporting limit was qualified as estimated, "J," and denoted with "DNQ," in accordance with the NPDES permit. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

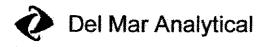
#### 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

#### 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.

B4MT13 5 Revision 0



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Routine Outfall 008

Report Number: IPA0004

Sampled: 01/01/06

Received: 01/01/06

#### **METALS**

|            | -   |  |   |  |   |  |  |   |   |
|------------|---|--|---|--|---|--|--|---|---|
| Method     | Batch   | MDL<br>Limit   | Reporting<br>Limit  | Sample<br>Result   | Dilution<br>Factor  | Date<br>Extracted  | Date<br>Analyzed   | Data<br>Qualifier   | 2   |
| 8 - Water) |   |  |   |  |   |  |  | (Rew<br>(Reson)   | Qual<br>Code  |
| EPA 200.8  | 6A04084   | 0.050  | 2.0   | 0.77   | 1   | 01/04/06   | 01/05/06   | UT B, J   | В   |
| EPA 200.8  | 6A04084   | 0.025  | 1.0   | 0.14   | 1   | 01/04/06   | 01/05/06   | J   | DNG   |
| EPA 200.8  | 6A04084   | 0.25   | 2.0   | 12   | 1   | 01/04/06   | 01/05/06   |   |   |
| EPA 200.8  | 6A04084   | 0.040  | 1.0   | 20   | 1   | 01/04/06   | 01/05/06   |   |   |
| EPA 245.1  | 6A04080   | 0.050  | 0.20  | ND   | 1.  | 01/04/06   | 01/04/06   | U   |   |
|            | EPA 200.8<br>EPA 200.8<br>EPA 200.8<br>EPA 200.8<br>EPA 200.8 | EPA 200.8 6A04084<br>EPA 200.8 6A04084<br>EPA 200.8 6A04084<br>EPA 200.8 6A04084 | Method Batch Limit 8 - Water)  EPA 200.8 6A04084 0.050 EPA 200.8 6A04084 0.025 EPA 200.8 6A04084 0.25 EPA 200.8 6A04084 0.040 | Method Batch Limit Limit  8 - Water)  EPA 200.8 6A04084 0.050 2.0 EPA 200.8 6A04084 0.025 1.0 EPA 200.8 6A04084 0.25 2.0 EPA 200.8 6A04084 0.040 1.0 | Method         Batch         Limit         Limit         Result           8 - Water)           EPA 200.8         6A04084         0.050         2.0         0.77           EPA 200.8         6A04084         0.025         1.0         0.14           EPA 200.8         6A04084         0.25         2.0         12           EPA 200.8         6A04084         0.040         1.0         20 | Method         Batch         Limit         Limit         Result         Factor           8 - Water)           EPA 200.8         6A04084         0.050         2.0         8.77         1           EPA 200.8         6A04084         0.025         1.0         6.14         1           EPA 200.8         6A04084         0.25         2.0         12         1           EPA 200.8         6A04084         0.040         1.0         20         1 | Method         Batch         Limit         Limit         Result         Factor         Extracted           8 - Water)           EPA 200.8         6A04084         0.050         2.0         0.77         1         01/04/06           EPA 200.8         6A04084         0.025         1.0         0.14         1         01/04/06           EPA 200.8         6A04084         0.25         2.0         12         1         01/04/06           EPA 200.8         6A04084         0.040         1.0         20         1         01/04/06 | Method         Batch         Limit         Limit         Result         Factor         Extracted         Analyzed           8 - Water)           EPA 200.8         6A04084         0.050         2.0         0.77         1         01/04/06         01/05/06           EPA 200.8         6A04084         0.025         1.0         0.14         1         01/04/06         01/05/06           EPA 200.8         6A04084         0.25         2.0         12         1         01/04/06         01/05/06           EPA 200.8         6A04084         0.040         1.0         20         1         01/04/06         01/05/06 | Method   Batch   Limit   Limit   Result   Factor   Extracted   Analyzed   Qualifier   Result   Factor   Factor |

LEVEL IV

Del Mar Analytical, Irvine Amy Windham For Michele Chamberlin Project Manager

# **APPENDIX G**

# **Section 29**

Outfall 009, January 01, 2006 Del Mar Analytical Laboratory Report



## LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 01/01/06 Received: 01/01/06

Issued: 01/16/06 14:26

Project: Routine Outfall 009

#### 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, I 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 3°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: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID CLIENT ID MATRIX
IPA0006-01 Outfall 009 Water

Reviewed By:

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

any Windham

Project Manager



MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0006

Sampled: 01/01/06

Received: 01/01/06

**METALS** 

| Analyte                                  | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result |   | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |  |
|--|-----------|---------|--------------|--------------------|------------------|---|-------------------|------------------|--------------------|--|
| Sample ID: IPA0006-01 (Outfall 009 - Was | ter)      |         |              |                    |                  |   |                   |                  |                    |  |
| Reporting Units: ug/l                    |           |         |              |                    |                  |   |                   |                  |                    |  |
| Antimony                                 | EPA 200.8 | 6A04084 | 0.050        | 2.0                | 0.86             | 1 | 01/04/06          | 01/05/06         | B, J               |  |
| Cadmium                                  | EPA 200.8 | 6A04084 | 0.025        | 1.0                | 0.043            | 1 | 01/04/06          | 01/05/06         | J                  |  |
| Copper                                   | EPA 200.8 | 6A04084 | 0.25         | 2.0                | 3.0              | 1 | 01/04/06          | 01/05/06         | В                  |  |
| Lead                                     | EPA 200.8 | 6A04084 | 0.040        | 1.0                | 0.78             | 1 | 01/04/06          | 01/05/06         | J                  |  |
| Mercury                                  | EPA 245.1 | 6A03072 | 0.050        | 0.20               | ND               | 1 | 01/03/06          | 01/03/06         |                    |  |
|  |           |         |              |                    |                  |   |                   |                  |                    |  |



Sampled: 01/01/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0006 Received: 01/01/06

Attention: Bronwyn Kelly

#### **INORGANICS**

| Analyte                            | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|------------------------------------|------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0006-01 (Outfall 009 | - Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l              |                  |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                           | EPA 300.0        | 6A01004 | 0.15         | 0.50               | 27               | 1                  | 01/01/06          | 01/01/06         |                    |
| Nitrate/Nitrite-N                  | EPA 300.0        | 6A01004 | 0.080        | 0.15               | 2.0              | 1                  | 01/01/06          | 01/01/06         |                    |
| Oil & Grease                       | EPA 413.1        | 6A06048 | 0.90         | 4.8                | 2.7              | 1                  | 01/06/06          | 01/06/06         | J                  |
| Sulfate                            | EPA 300.0        | 6A01004 | 0.90         | 1.0                | 72               | 2                  | 01/01/06          | 01/01/06         |                    |
| Total Dissolved Solids             | SM2540C          | 6A03093 | 10           | 10                 | 340              | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Suspended Solids             | EPA 160.2        | 6A05089 | 10           | 10                 | ND               | 1                  | 01/05/06          | 01/05/06         |                    |



MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Nu

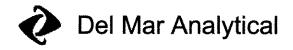
Report Number: IPA0006

Sampled: 01/01/06 Received: 01/01/06

Attention: Bronwyn Kelly

### SHORT HOLD TIME DETAIL REPORT

|  | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|--|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 009 (IPA0006-01) - Wate | r                      |                      |                       |                        |                       |
| EPA 300.0                                  | 2                      | 01/01/2006 10:41     | 01/01/2006 15:25      | 01/01/2006 17:30       | 01/01/2006 19:24      |



MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0006

Sampled: 01/01/06 Received: 01/01/06

## METHOD BLANK/QC DATA

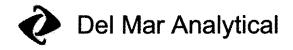
#### **METALS**

|   | <b>.</b>    | Reporting |       | <b></b> | Spike | Source    |         | %REC   |     | RPD   | Data       |
|---|-------------|-----------|-------|---------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit     | MDL   | Units   | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03072 Extracted: 01/03/06      |             |           |       |         |       |           |         |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03072-Bl  | LK1)        |           |       |         |       |           |         |        |     |       |            |
| Mercury                                 | ND          | 0.20      | 0.063 | ug/l    |       |           |         |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03072-BS)   | 1)          |           |       |         |       |           |         |        |     |       |            |
| Mercury                                 | 7.95        | 0.20      | 0.063 | ug/l    | 8.00  |           | 99      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03 | 3072-MS1)   |           |       |         | Sou   | rce: IOL2 | 2617-01 |        |     |       |            |
| Mercury                                 | 7.95        | 0.20      | 0.063 | ug/l    | 8.00  | ND        | 99      | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006   | (6A03072-MS | 5D1)      |       |         | Sour  | rce: IOL2 | 2617-01 |        |     |       |            |
| Mercury                                 | 8.00        | 0.20      | 0.063 | ug/l    | 8.00  | ND        | 100     | 70-130 | 1   | 20    |            |
| Batch: 6A04084 Extracted: 01/04/06      | •           |           |       |         |       |           |         |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-BI  | LK1)        |           |       |         |       |           |         |        |     |       |            |
| Antimony                                | 0.162       | 2.0       | 0.050 | ug/l    |       |           |         |        |     |       | J          |
| Cadmium                                 | ND          | 1.0       | 0.025 | ug/l    |       |           |         |        |     |       |            |
| Copper                                  | 0.321       | 2.0       | 0.25  | ug/l    |       |           |         |        |     |       | J          |
| Lead                                    | ND          | 1.0       | 0.040 | ug/l    |       |           |         |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS1   | )           |           |       |         |       |           |         |        |     |       |            |
| Antimony                                | 78.5        | 2.0       | 0.050 | ug/l    | 80.0  |           | 98      | 85-115 |     |       |            |
| Cadmium                                 | 80.2        | 1.0       | 0.025 | ug/l    | 80.0  |           | 100     | 85-115 |     |       |            |
| Copper                                  | 80.8        | 2.0       | 0.25  | ug/l    | 80.0  |           | 101     | 85-115 |     |       |            |
| Lead                                    | 78.3        | 1.0       | 0.040 | ug/l    | 80.0  |           | 98      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A04 | (084-MS1)   |           |       |         | Sour  | ce: IOL2  | 694-49  |        |     |       |            |
| Antimony                                | 78.2        | 2.0       | 0.050 | ug/l    | 80.0  | 0.26      | 97      | 70-130 |     |       |            |
| Cadmium                                 | 76.0        | 1.0       | 0.025 | ug/l    | 80.0  | ND        | 95      | 70-130 |     |       |            |
| Copper                                  | 102         | 2.0       | 0.25  | ug/l    | 80.0  | 23        | 99      | 70-130 |     |       |            |
| Lead                                    | 84.3        | 1.0       | 0.040 | ug/l    | 0.08  | 2.7       | 102     | 70-130 |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPA0006

Sampled: 01/01/06

Attention: Bronwyn Kelly

Received: 01/01/06

# METHOD BLANK/QC DATA

#### **METALS**

| Analyte                               | Result     | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result | %REC    | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---------------------------------------|------------|--------------------|-------|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 6A04084 Extracted: 01/04/06    | <u>5</u>   |                    |       |       |                |                  |         |                |     |              |                    |
| Matrix Spike Analyzed: 01/05/2006 (6A | )4084-MS2) |                    |       |       | Sou            | rce: IOL         | 2694-50 |                |     |              |                    |
| Antimony                              | 80.0       | 2.0                | 0.050 | ug/l  | 80.0           | 0.094            | 100     | 70-130         |     |              |                    |
| Cadmium                               | 76.2       | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95      | 70-130         |     |              |                    |
| Copper                                | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 18               | 104     | 70-130         |     |              |                    |
| Lead                                  | 87.5       | 1.0                | 0.040 | ug/l  | 80.0           | 1.8              | 107     | 70-130         |     |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006 | (6A04084-M | ISD1)              |       |       | Sou            | rce: IOL         | 2694-49 |                |     |              |                    |
| Antimony                              | 76.7       | 2.0                | 0.050 | ug/l  | 80.0           | 0.26             | 96      | 70-130         | 2   | 20           |                    |
| Cadmium                               | 76.1       | 1.0                | 0.025 | ug/l  | 80.0           | ND               | 95      | 70-130         | 0   | 20           |                    |
| Copper                                | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 23               | 98      | 70-130         | 1   | 20           |                    |
| Lead                                  | 83.9       | 1.0                | 0.040 | ug/l  | 80.0           | 2.7              | 102     | 70-130         | 1   | 20           |                    |



MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

| Sampled: 01/01/06 | Report Number: IPA0006 | Received: 01/01/06

Attention: Bronwyn Kelly

### METHOD BLANK/QC DATA

#### **INORGANICS**

|   |            | Reporting |       |       | Spike | Source    |        | %REC        |     | RPD   | Data       |
|---|------------|-----------|-------|-------|-------|-----------|--------|-------------|-----|-------|------------|
| Analyte                                 | Result     | Limit     | MDL   | Units | Level | Result    | %REC   | Limits      | RPD | Limit | Qualifiers |
| Batch: 6A01004 Extracted: 01/01/06      | -          |           |       |       |       |           |        |             |     |       |            |
| Blank Analyzed: 01/01/2006 (6A01004-Bl  | LK1)       |           |       |       |       |           |        |             |     |       |            |
| Chloride                                | ND         | 0.50      | 0.15  | mg/l  |       |           |        |             |     |       |            |
| Nitrate/Nitrite-N                       | ND         | 0.15      | 0.080 | mg/l  |       |           |        |             |     |       |            |
| Sulfate                                 | ND         | 0.50      | 0.45  | mg/l  |       |           |        |             |     |       |            |
| LCS Analyzed: 01/01/2006 (6A01004-BS1   | 1)         |           |       |       |       |           |        |             |     |       |            |
| Chloride                                | 4.88       | 0.50      | 0.15  | mg/l  | 5.00  |           | 98     | 90-110      |     |       | M-3        |
| Sulfate                                 | 9.56       | 0.50      | 0.45  | mg/l  | 10.0  |           | 96     | 90-110      |     |       |            |
| Matrix Spike Analyzed: 01/01/2006 (6A0) | (004-MS1)  |           |       |       | Sou   | rce: IPA( | 003-01 |             |     |       |            |
| Sulfate                                 | 14.4       | 0.50      | 0.45  | mg/l  | 10.0  | 5.1       | 93     | 80-120      |     |       |            |
| Matrix Spike Dup Analyzed: 01/01/2006 ( | (6A01004-M | SD1)      |       |       | Sou   | rce: IPA0 | 003-01 |             |     |       |            |
| Sulfate                                 | 14.8       | 0.50      | 0.45  | mg/l  | 10.0  | 5.1       | 97     | 80-120      | 3   | 20    |            |
| Batch: 6A03093 Extracted: 01/03/06      |            |           |       |       |       |           |        |             |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03093-BI  | JKD        |           |       |       |       |           |        |             |     |       |            |
| Total Dissolved Solids                  | ND         | 10        | 10    | mg/l  |       |           |        |             |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03093-BS1   | `          |           |       |       |       |           |        |             |     |       |            |
| Total Dissolved Solids                  | 1000       | 10        | 10    | mg/l  | 1000  |           | 100    | 90-110      |     |       |            |
|   |            |           |       |       |       | ***       |        | , , , , , , |     |       |            |
| Duplicate Analyzed: 01/03/2006 (6A03093 |            |           |       |       | Sour  | rce: IPA0 | 005-01 |             |     |       |            |
| Total Dissolved Solids                  | 981        | 10        | 10    | mg/l  |       | 980       |        |             | 0   | 10    |            |
| Batch: 6A05089 Extracted: 01/05/06      |            |           |       |       |       |           |        |             |     |       |            |
| Blank Analyzed: 01/05/2006 (6A05089-BI  | .K1)       |           |       |       |       |           |        |             |     |       |            |
| Total Suspended Solids                  | ND         | 10        | 10    | mg/l  |       |           |        |             |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Pasadena, CA 91101

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPA0006

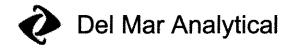
Sampled: 01/01/06

Received: 01/01/06

# METHOD BLANK/QC DATA

#### **INORGANICS**

|  |          | Reporting |      |       | Spike | Source    |        | %REC   |     | RPÐ   | Data       |
|--|----------|-----------|------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                | Result   | Limit     | MDL  | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05089 Extracted: 01/05/06     | <u>.</u> |           |      |       |       |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A05089-BS   | 1)       |           |      |       |       |           |        |        |     |       |            |
| Total Suspended Solids                 | 979      | 10        | 10   | mg/l  | 1000  |           | 98     | 85-115 |     |       |            |
| Duplicate Analyzed: 01/05/2006 (6A0508 | 9-DUP1)  |           |      |       | Sou   | rce: IPA0 | 012-01 |        |     |       |            |
| Total Suspended Solids                 | 458      | 10        | 10   | mg/l  |       | 350       |        |        | 27  | 10    | R-3        |
| Batch: 6A06048 Extracted: 01/06/06     | •        |           |      |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06048-B  | LK1)     |           |      |       |       |           |        |        |     |       |            |
| Oil & Grease                           | ND       | 5.0       | 0.94 | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06048-BS)  | 1)       |           |      |       |       |           |        |        |     |       | M-NR1      |
| Oil & Grease                           | 19.2     | 5.0       | 0.94 | mg/l  | 20.0  |           | 96     | 65-120 |     |       |            |
| LCS Dup Analyzed: 01/06/2006 (6A06048  | 3-BSD1)  |           |      |       |       |           |        |        |     |       |            |
| Oil & Grease                           | 19.6     | 5.0       | 0.94 | mg/l  | 20.0  |           | 98     | 65-120 | 2   | 20    |            |



MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06 Pasadena, CA 91101 Report Number: IPA0006 Received: 01/01/06

Attention: Bronwyn Kelly

## **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

|  |   |  |                      |                  |                     | Compliance          |
|--|---|--|----------------------|------------------|---------------------|---------------------|
| LabNumber                              | Analysis  | Analyte                                  | Units                | Result           | MRL                 | Limit               |
| IPA0006-01                             | 413.1 Oil and Grease                                      | Oil & Grease                             | mg/l                 | 2.70             | 4.8                 | 15                  |
| IPA0006-01                             | Chloride - 300.0  | Chloride                                 | mg/l                 | 27               | 0.50                | 150                 |
| IPA0006-01                             | Nitrogen, NO3+NO2 -N                                      | Nitrate/Nitrite-N                        | mg/l                 | 2.00             | 0.15                | 10.00               |
| IPA0006-01                             | Sulfate-300.0   | Sulfate                                  | mg/l                 | 72               | 1.0                 | 250                 |
| IPA0006-01                             | TDS - SM 2540C  | Total Dissolved Solids                   | mg/l                 | 340              | 10                  | 850                 |
| IPA0006-01<br>IPA0006-01<br>IPA0006-01 | Chloride - 300.0<br>Nitrogen, NO3+NO2 -N<br>Sulfate-300.0 | Chloride<br>Nitrate/Nitrite-N<br>Sulfate | mg/l<br>mg/l<br>mg/l | 27<br>2.00<br>72 | 0.50<br>0.15<br>1.0 | 150<br>10.00<br>250 |



MWH-Pasadena/Boeing Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06 Pasadena, CA 91101 Report Number: IPA0006 Received: 01/01/06

Attention: Bronwyn Kelly

## **DATA QUALIFIERS AND DEFINITIONS**

| В | 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.
- M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was accepted based on acceptable recovery in the Blank Spike (LCS).
- M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- R-3 The RPD exceeded the method control limit 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



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 01/01/06 Pasadena, CA 91101 Report Number: IPA0006 Received: 01/01/06

Attention: Bronwyn Kelly

#### **Certification Summary**

#### Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | X          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0006-01

Analysis Performed: EDD + Level 4

Samples: IPA0006-01

| Project:  Routine Outfall 009 Stormwater at WS-13 Stormwater at WS | ANALYSIS REQUIRED           | Cioly readions.                                |
|--|-----------------------------|--|
| otal Recoverable Metals:  CDD (and all congeners)  CDD (and all congeners)  CDD (and all congeners)  |                             |  |
| otal Recoverable Metal<br>otal Recoverable Metal<br>5b, Cd, Cu, Pb, Hg<br>CDD (and all congener<br>On & Grease (EPA 413.   |                             | _  |
| otal Recoverable  CDD (and all concepts & Grease (EPA)   |                             | Temp = 5 /                                     |
| otal Recovers  CDD (and all  CDD (and all  |                             | pt= 7.36                                       |
| otal Rec<br>CDD (a<br>CDD (a<br>CDD (a   |                             |  |
| 10. 10. 10. 10. 10. 10. 10. 10. 10. 10.  | ST ,8                       | Comments                                       |
| D D T ST **  | :OL                         |  |
| HN03 1A X  |                             |  |
| HNO3 18 X  |                             |  |
| None 2A, 2B X  |                             |  |
| HCi 3A, 3B X   |                             |  |
| None 4A,4B X   |                             |  |
| None 5A, 58  | ×                           |  |
|  |                             |  |
|  |                             |  |
|  |                             |  |
|  |                             |  |
|  |                             |  |
|  |                             |  |
|  |                             |  |
|  |                             |  |
| Date/Time:   |                             | Turn around Time: (check) 24 Hours 5 Days      |
| Date-Time:   |                             | 10 Days  |
|  | 4 7010 4                    |  |
|  | Perchlorate                 | Perchlorate Only 72 Hours                      |
|  |                             | Metals Only 72 Hours Semple Integrity: (Check) |
|  |                             |  |
| Received By Received By  | DateTime: DateTime:  (11 00 | 21/1/62 13/I                                   |



January 16, 2006

Alta Project I.D.: 27138

Ms. Michele Chamberlin Del Mar Analytical, Irvine 17461 Derian Avenue, Suite 100 Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 04, 2006 under your Project Name "IPA0006". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier

Director of HRMS Services



Alta Analytical Laboratory vertifies that the export herein meets all the requirements set forth by NELAC for those applicable test methods. This report should not be reproduced except in full without the written approval of ALTA.



Section I: Sample Inventory Report
Date Received: 1/4/2006

Alta Lab. ID

Client Sample ID

27138-001

IPA0006

## **SECTION II**

Page 3 of 275

Martha M. Maier 16-Jan-2006 11:56

Approved By:

| Method Blank        | A A SERVICA VERY AND THE MEMORY AND ASSESSMENT OF THE PROPERTY AND ASSESSMENT OF THE PROPERTY OF THE PROPERTY ASSESSMENT OF THE PROPERTY OF THE PROPERTY ASSESSMENT OF THE PROPERTY ASSESSMENT OF THE PROPERTY ASSESSMENT OF THE PROPERTY ASSESSMENT OF THE PROPERTY OF | - <del>М</del> ейний-гу Афений-гу гиймий Маний Manud Manu |                          | ***        |  |             | *************************************** | EPA Met               | EPA Method 1613                         |
|---------------------|---|---|--------------------------|------------|--|-------------|---|-----------------------|---|
| Matrix: Aqueous     | sno   | QC Batch No.:   | 7632                     | 7          | Lab Sample: 0-M                              | 0-MB001     |   |                       |   |
| Sample Size: 1.00 L | 0 L   | Date Extracted;   |                          | 8-Jan-06   | Date Analyzed DB-5: 11-1                     | 11-Jan-06   | Date Am                                 | Date Analyzed DB-225: | Ϋ́<br>V                                 |
| Analyte             | Conc. (ug/L)  | DL a  | EMPC b                   | Qualifiers | Labeled Standard                             |             | %R                                      | rcracr <sub>q</sub> ( | Oualifiers                              |
| 2,3,7,8-TCDD        | S   | 0.000000671   |                          |            | LS 13C-2,3,7,8-TCDD                          |             | 84.6                                    | 25 - 164              |   |
| 1,2,3,7,8-PeCDD     | Q   | 0.000000560   |                          |            | 13C-1,2,3,7,8-PeCDD                          |             | 78.7                                    | 25 - 181              |   |
| 1,2,3,4,7,8-HxCDD   | æ   | 0.00000149  |                          |            | 13C-1,2,3,4,7,8-HxCDD                        | 0           | 81,9                                    | 32 - 141              |   |
| 12,3,6,7.8-HxCDD    | S   | 0.00000147  |                          |            | 13C-1,2,3,6,7,8-HxCDD                        | Ö           | 74.4                                    | 28 - 130              |   |
| 1,2,3,7,8,9-HxCDD   | 2   | 0.00000145  | 150<br>150<br>150<br>150 |            | 13C-1,2,3,4,6,7,8-HpCDD                      | , QQ        | 75.6                                    | 23 - 140              |   |
| 1,2,3,4,6,7,8-HpCDD | QN  | 0.00000146  |                          |            | 13C-OCDD                                     |             | 40.1                                    | 17 - 157              |   |
| OCDD                | 2   | 0.00000535  |                          |            | 13C-2,3,7,8-TCDF                             |             | 82.6                                    | 24 - 169              |   |
| 2,3,7,8-TCDF        | Q.  | 0.000000546   |                          |            | 13C-1,2,3,7,8-PeCDF                          |             | 65.3                                    | 24 - 185              |   |
| 1,2,3,7,8-PeCDF     | Q.  | 0.00000112  |                          |            | 13C-2,3,4,7,8-PeCDF                          |             | -71.3                                   | 21 - 178              |   |
| 2,3,4,7,8-PeCDF     | 2   | 0.000000885   |                          |            | 13C-1,2,3,4,7,8-HxCDF                        | <u>.</u>    | 73.7                                    | 26 - 152              |   |
| 1,2,3,4,7,8-HxCDF   | £   | 0.000000511   |                          |            | 13C-1,2,3,6,7,8-HxCDF                        |             | 70.0                                    | 26 - 123              |   |
| 1,2,3,6,7,8-HxCDF   | 2   | 0.000000518   |                          |            | 13C-2,3,4,6,7,8-HxCDF                        | Ŧ           | 78.0                                    | 28 - 136              | ;                                       |
| 2,3,4,6,7,8-HxCDF   | æ   | 0.000000522   |                          |            | 13C-1,2,3,7,8,9-HxCDF                        |             | 79.2                                    | 29 - 147              |   |
| 1,2,3,7,8,9-HxCDF   | Q.  | 0.000000675   |                          |            | 13C-1,2,3,4,6,7,8-HpCDF                      | 'DF         | 64.7                                    | 28 - 143              | 3                                       |
| 1,2,3,4,6,7,8-HpCDF | 2   | 0.000000764   |                          |            | 13C-1,2,3,4,7,8,9-HpCDF                      | :DF         | 76.3                                    | 26 - 138              |   |
| 1,2,3,4,7,8,9-HpCDF | S   | 0.000000622   |                          | :          | 13C-OCDF                                     | -           | 49.6                                    | 17 - 157              |   |
| OCDF                | QN  | 0.00000360  |                          |            | CRS 37CI-2,3,7,8-TCDD                        |             | 88.7                                    | 35-197                | 2                                       |
| Totals              |   |   |                          |            | Footnotes                                    |             |   |                       |   |
| Total TCDD          | QX  |   | :                        |            | a. Sample specific estimated detection limit | n lunit.    | ,<br>,                                  |                       |   |
| Total PeCDD         | <b>Q</b>  | 0.000000560   | 44<br>41.                |            | b. Estimated maximum possible concentration. | centration. |   |                       |   |
| Total HxCDD         | 2   | Ā   |                          | *          | c. Method detection limit.                   |             | :                                       |                       |   |
| Total HpCDD         | 2   | i.  |                          |            | d Lower control limit - upper control limit  | l imit      |   |                       |   |
| Total TCDF          | 2   | 0.000000546   | 4                        |            |  |             |   |                       |   |
| Total PeCDF         | 2   | 0.00000097  |                          | 4.         |  |             |   |                       | ٠                                       |
| Total HxCDF         | 2:  | 0.000000553   |                          | y<br>Y     |  |             | -                                       | ٠                     |   |
| Total HpCDF         | QN  | 0.000000692   |                          |            |  |             |   |                       | *************************************** |

Project 27138

Analyst: JMH

| Matrix Aqueous Q                        |                                  |                  |  |                       |          |
|---|----------------------------------|------------------|--|-----------------------|----------|
|   | QC Batch No.:<br>Date Extracted: | 7632<br>8-Jan-06 | Lab Sample: 0-OPR001 Date Analyzed DB-5: 11-Jan-06 | Date Analyzed DB-225: | 225: NA  |
| Analyte Spike Conc. Conc. (ng/mL)       | Jone. (ng/mL)                    | OPR Limits       | Labeled Standard                                   | %R LC                 | LCL-UCL  |
| 2,3,7,8-TCDD 10.0                       | 8.44                             | 6.7 - 15.8       | 1S 13C-2,3,7,8-1CDD                                | 66.2 25               | 25 - 164 |
|   | 48.8                             | 35-71            | 13C-1,2,3,7,8-PeCDD                                | 70.5 25               | 25 - 181 |
| 1,2,3,4,7,8-HxCDD 50.0                  | 48.8                             | 35 - 82          | 13C-1,2,3,4,7,8-HxCDD                              | 68.7 32               | 32 - 141 |
| 12,3,6,7,8-HxCDD 50.0                   | 46.7                             | 38 - 67          | 13C-1,2,3,6,7,8-HxCDD                              |                       | 28 - 130 |
| 1,2,3,7,8,9-HxCDD 50.0                  | 48.7                             | 32 - 81          | 13C-1,2,3,4,6,7,8-HpCDD                            | 70.6                  | 23 - 140 |
| 1.2,3,4,6,7,8-HpCDD 50.0                | 47.2                             | 35 - 70          | 13C-0CDD   | 49.9                  | 17-157   |
| 100 100 100 100 100 100 100 100 100 100 | 95.4                             | 78 - 144         | 13C-2,3,7,8-TCDF                                   | 62.9                  | 24 - 169 |
| 2,3,7,8-TCDF 10.0                       | 9.58                             | 7.5 - 15.8       | 13C-1,2,3,7,8-PeCDF                                | 63.1 24               | 24 - 185 |
| 1,2,3,7,8-PeCDF 50.0                    | 46.6                             | 40 - 67          | 13C-2,3,4,7,8-PeCDF                                | 64.2 21               | 21 - 178 |
|   | 48.4                             | 34 - 80          | 13C-1,2,3,4,7,8-HxCDF                              | 65.4 26               | 26 - 152 |
| 1.2,3,4,7,8-HxCDF                       | 47.6                             | 36 - 67          | 13C-1,2,3,6,7,8-HxCDF                              | 63.8 26               | 26-123   |
| 1,2,3,6,7,8-HxCDF 50.0                  | 48.7                             | 42 - 65          | 13C-2,3,4,6,7,8-HxCDF                              | 67.9 28               | 28 - 136 |
| 2,3,4,6,7,8-HxCDF 50.0                  | 47.3                             | 35 - 78          | 13C-1,2,3,7,8,9-HxCDF                              | 70.4 29               | 29 - 147 |
|   | 47.3                             | 39 - 65          | 13C-1,2,3,4,6,7,8-HpCDF                            | 63.1 28               | 28 - 143 |
| 1,2,3,4,6,7,8-HpCDF                     | 48.5                             | 41-61            | 13C-1,2,3,4,7,8,9-HpCDF                            | 70.1                  | 26 - 138 |
| IpCDF                                   | 48.4                             | 39 - 69          | 13C-OCDF   | 56.4 17               | 17 - 157 |
| OCDF                                    | 276                              | 63 - 170         | CRS 37Cl-2,3,7,8-TCDD                              | 81.7                  | 35-197   |

Approved By:

Analyst: JMH

Martha M. Maier 16-Jan-2006 11:56

| Sample ID: IPA0006                          |   |             |   |  |  |  |                                      | EPA N                                    | EPA Method 1613 |
|---|---|-------------|---|--|--|--|--------------------------------------|--|-----------------|
| ( Data                                      | A THE RESIDENCE OF THE PROPERTY OF THE PROPERT          |             | Sample Data   |  | Laboratory Data                              | - 11 - 11 - 11 - 11 - 11 - 11 - 11 - 1 |                                      | ***************************************  |                 |
|   | Del Mar Analytical, Irvine  |             | Matrix  | Aqueous  | Lab Sample                                   | 27138-001                              | Date Received                        | ived                                     | 4-Jan-06        |
| Date Collected 1-Jan-06 Time Collected 1041 |   |             | Sample Size.  | 0.917 L  | QC Batch No.<br>Date Analyzed DB-5           | 7632<br>12-Jan-06                      | Date Extracted Date Analyzed         | Date Extracted:<br>Date Analyzed DB-225: | 8-Jan-06<br>NA  |
| Analyte Conc. (                             | (ng/L)  | DL a        | EMPCb   | Qualifiers   | Labeled Standard                             | lard                                   | %R 1                                 | ICL-UCL <sup>d</sup>                     | Qualifiers      |
| 2,3,7,8-TCDD                                | NO<br>QX  | 0.000000598 | 86  |  | IS 13C-2,3,7,8-TCDD                          | DD                                     | 74.6                                 | 25 - 164                                 |                 |
| 1,2,3,7,8-PeCDD                             | ON  | 0.000000847 | 47  |  | 13C-1,2,3,7,8-PeCDD                          | eCDD                                   | 76.1                                 | 25 - 181                                 |                 |
| 1,2,3,4,7,8-HxCDD                           | Q   | 0.00000183  |   | :: -   | 13C-1,2,3,4,7,8-HxCDD                        | HxCDD                                  | 78.1                                 | 32 - 141                                 |                 |
| 1,2,3,6,7,8-HxCDD                           | QN  | 0.00000187  | 7   | •  | 13C-1,2,3,6,7,8-HxCDD                        | -HxCDD                                 | 74.3                                 | 28 - 130                                 |                 |
| 1,2,3,7,8,9-HxCDD                           | NO<br>O   | 0.00000181  |   | -  | 13C-1,2,3,4,6,7,8-HpCDD                      | 8-HpCDD                                | 76.2                                 | 23 - 140                                 |                 |
| 1,2,3,4,6,7,8-HpCDD                         | 0.00000800  |             |   | <u></u>  | 13C-0CDD                                     |  | 52.3                                 | 17 - 157                                 |                 |
| OCDD  | 0.0000577   |             |   | -4.4   | 13C-2,3,7,8-TCDF                             | DF                                     | 73.9                                 | 24 - 169                                 |                 |
|   | 2   | 0.000000576 | 76  |  | 13C-1,2,3,7,8-PeCDF                          | eCDF                                   | 77.5                                 | 24 - 185                                 |                 |
|   | ND  | 0.00000018  | 18  |  | 13C-2,3,4,7,8-PeCDF                          | eCDF                                   | 79.8                                 | 21 - 178                                 |                 |
|   | S   | 0.000000788 | 88  |  | 13C-1,2,3,4,7,8-HxCDF                        | -HxCDF                                 | 74.9                                 | 26 - 152                                 |                 |
| 1,2,3,4,7,8-HxCDF                           | Q   | 0.000000888 | 88  |  | 13C-1,2,3,6,7,8-HxCDF                        | HXCDF                                  | 72.7                                 | 26 - 123                                 |                 |
|   | S   | 0.000000867 | 29  |  | 13C-2,3,4,6,7,8-HxCDF                        | -HxCDF                                 | 76.7                                 | 28 - 136                                 |                 |
| 2,3,4,6,7,8-HxCDF                           | Q   | 0.000000000 | 8   | - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1  | 13C-1,2,3,7,8,9-HxCDF                        | HXCDF                                  | 77.6                                 | 29 - 147                                 |                 |
|   | Q.  | 0.00000124  | 4   |  | 13C-1,2,3,4,6,7,8-HpCDF                      | ,8-HpCDF                               | 68.1                                 | 28 - 143                                 |                 |
| 1,2,3,4,6,7,8-HpCDF                         | 0.00000270  |             |   |  | 13C-1,2,3,4,7,8,9-HpCDF                      | 9-HpCDF                                | 77.4                                 | 26 - 138                                 |                 |
| 1,2,3,4,7,8,9-HpCDF                         | 2   | 0.00000123  |   |  | 13C-OCDF                                     |  | 59.9                                 | 17 - 157                                 |                 |
| OCDI  | 0.0000138   |             |   |  | CRS 37CI-2,3,7,8-TCDD                        | SDD 🐇                                  | 81.6                                 | 35 - 197                                 |                 |
| Totals                                      |   |             |   |  | Footnotes                                    |  |                                      |  |                 |
| Total TCDD                                  |   | 0.000000598 |   | :<br>::  | a Sample specific estimated detection limit  | ed detection limit.                    | \$ 10 mm                             |  |                 |
| Total Lecture                               | 2 2   | 0.000000847 | <b>+</b>  |  | b. Estimated maximum possible concentration. | ssible concentration.                  | V<br>4<br>8<br>8<br>8<br>8<br>8<br>8 |  |                 |
|   | 0.0000174   |             | - <sup>2</sup> -1-2<br>1-2<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1-1<br>1<br>1<br>1-1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1<br>1 |  | d. Lower control limit - upper control limit | per control limit                      | <i>F</i> ;                           |  |                 |
| ē.  |   | 0.000000576 | 76  |  |  |  | :                                    |  | -               |
| Total PeCDF                                 | Q   | 0.000000851 | 51  |  |  |  |                                      |  |                 |
| Total HxCDF                                 | 0.00000731  | 0.000000965 | <b>65</b>   | ¥  |  |  |                                      |  |                 |
| Analyst: JMH                                | <del>venture</del> constant framework to the constant management and the constant of th |             | And the second s  | MAAA A WAXAA A | Approved By:                                 | Martha M. Maier                        | 1                                    | 16-Jan-2006 11:56                        |                 |
|   |   |             |   |  |  |  |                                      |  |                 |

### **APPENDIX**

Page 7 of 275

#### **DATA QUALIFIERS & ABBREVIATIONS**

| В | This compound was also detected in the method blank. |
|---|--|
|---|--|

D The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

\* See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit – concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

## **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number     |
|---|------------------------|
| State of Alaska, DEC                        | CA413-02               |
| State of Arizona                            | AZ0639                 |
| State of Arkansas, DEQ                      | 05-013-0               |
| State of Arkansas, DOH                      | Reciprocity through CA |
| State of California – NELAP Primary AA      | 02102CA                |
| State of Colorado                           |                        |
| State of Connecticut                        | PH-0182                |
| State of Florida, DEP                       | E87777                 |
| Commonwealth of Kentucky                    | 90063                  |
| State of Louisiana, Health and Hospitals    | LA050001               |
| State of Louisiana, DEQ                     | 01977                  |
| State of Maine                              | CA0413                 |
| State of Michigan                           | 81178087               |
| State of Mississippi                        | Reciprocity through CA |
| Naval Facilities Engineering Service Center |                        |
| State of Nevada                             | CA413                  |
| State of New Jersey                         | CA003                  |
| State of New Mexico                         | Reciprocity through CA |
| State of New York, DOH                      | 11411                  |
| State of North Carolina                     | 06700                  |
| State of North Dakota, DOH                  | R-078                  |
| State of Oklahoma                           | D9919                  |
| State of Oregon                             | CA200001-002           |
| State of Pennsylvania                       | 68-00490               |
| State of South Carolina                     | 87002001               |
| State of Tennessee                          | 02996                  |
| State of Texas                              | TX247-2005A            |
| U.S. Army Corps of Engineers                |                        |
| State of Utah                               | 9169330940             |
| Commonwealth of Virginia                    | 00013                  |
| State of Washington                         | C1285                  |
| State of Wisconsin                          | 998036160              |
| State of Wyoming                            | 8TMS-Q                 |



Project 27138

17461 Derian Ave. Suite 100, Irvine, CA 92614 Ph (949) 251-1022 Fex (949) 251-1226
1014 E. Cooley Dr., Suite A, Colton, CA 92324 Ph (909) 370-4667 Fex (909) 370-1046
9464 Chessepoeke Drive, Suite 805, Sen Diego, CA 92123 Ph (619) 505-9896 Pix (619) 505-9889
9830 Scuth 51st Street, Suite 8-129, Phoenix, AZ 85044 Ph (480) 785-0043 Fex (480) 785-0651
2520 E. Sunest Rd., Suite 83, Lee Vegas, NV 89120 Ph (702) 798-3620 Fex (702) 798-3621

## SUBCONTRACT ORDER - PROJECT # IPA0006

| omi   | DEVOTABODATOR                                     | 7-   |  | ENTOYO F A BOOK A TRONS                             |
|---|---|--|--|---|
| Del Mar Analytical, Irvi                                      | DING LABORATORY                                   | <b>E</b> :   | Alta Analytical - SUB  | EIVING LABORATORY:                                  |
| 17461 Derian Avenue. S  |   | •  | 1104 Windfield Way   | 27138<br>0.7°C                                      |
| Irvine, CA 92614  | ,410 100  |  | El Dorado Hills, CA 95   | 762   |
| Phone: (949) 261-1022   |   |  | Phone :(916) 933-1640  | <b>1 → 1 </b> • · · · · · · · · · · · · · · · · · · |
| Fax: (949) 261-1228   |   |  | Fax: (916) 673-0106  | 0.10  |
| Project Manager: Michel                                       | e Chamberlin                                      |  |  |   |
|   |   |  |  |   |
| Standard TAT is reque   | sted unless specific d                            | lue date is request  | ed => Due Date:  | Initials:   |
| Analysis  | Expiration  |  | Comments   |   |
| Sample ID: IPA0006-01<br>1613-Dioxin-HR-Alta<br>EDD + Level 4 | Water Samples<br>01/08/06 10:41<br>01/29/06 10:41 | l: 01/01/06 10:41  | Instant Nofication J flags, 17 congeners, no TEQ, Excel EDD email to pm, Inclu |   |
| Containers Supplied: 1 L Amber (IPA0006-010                   |   |  |  |   |
| 1 L Amber (IPA0006-01I  | D) .  | **************************************   |  |   |
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|   | ***************************************           | 24 2 3 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4   | * ** *********************************   |   |
| puming .  |   |  | E INTEGRITY:   |   |
|   |   | Sample labels/COC agree:<br>Samples Preserved Propert  |  | mples Received On Ice::                             |
|   | 7   | The state of the s | ., a   |   |
| - Omitil  | 1/3/06  |  | Bettera J. Sone  |   |
| Released By   | //Date  | Time   | Received By  | Date Time   |
| Released By   | Date  | Time   | Received By  | Date Time   |

Pagge010f£75

## SAMPLE LOG-IN CHECKLIST

| Alta Project #: | 27/38     |          |          |           |       |                  |          |
|-----------------|-----------|----------|----------|-----------|-------|------------------|----------|
| Samples Arrival | Date/Time | 0935     | Initials | JB        | Locat | ion:<br>ピーター     |          |
| Logged In:      | Date/Time | 0734     | Initials | Initials: |       | Location: WR-7   |          |
| Delivered By:   | EedEx     | UPS      | Cal      | DHL       | (     | Hand<br>elivered | Other    |
| Preservation:   | lce       | Blu      | e Ice    | Dry I     | ce    | No               | one      |
| Temp °C €.      | 7         | Time: 0° | 145      |           | Thern | nometer ID       | ): DT-20 |

|  |  |            |  |             | YEŞ.          | NO         | NA     |
|--|--|------------|--|-------------|---------------|------------|--------|
| Adequate Sample Volume Received?                                       | ,                                      |            |  |             | <b>/</b> /    |            |        |
| Holding Time Acceptable?   |  |            |  |             | V             |            |        |
| Shipping Container(s) Intact?  |  |            |  |             | /             |            |        |
| Shipping Custody Seals Intact?   |  |            |  |             | V             |            |        |
| Shipping Documentation Present?  |  |            |  |             | V/            |            |        |
| Airbill Trk # 792  | 4790                                   | 03419      | 8 <u>3                                    </u> |             | V             |            |        |
| Sample Container Intact?   |  |            |  |             | V             |            |        |
| Sample Custody Seals Intact?   | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |            |  |             |               | /_         | V      |
| Chain of Custody / Sample Documen                                      | tation Pr                              | esent?     |  |             | , ,           | /          |        |
| COC Anomaly/Sample Acceptance F  | orm com                                | pleted?    |  |             |               | \ <u> </u> |        |
| If Chlorinated or Drinking Water Sam                                   | ples, Acc                              | ceptable P | reservation?                                   |             |               |            | $\leq$ |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? |  |            | coc  | San<br>Cont | nple<br>ainer | No         | ne     |
| Shipping Container   | Alta                                   | Client     | Retain   | Re          | turn          | Disp       | ose    |
| Comments:  |  |            |  |             |               |            |        |

# **APPENDIX G**

# **Section 30**

Outfall 009, January 01, 2006 AMEC Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| ME  | C^   |                                 |       | Package ID             |                              |
|-----|--|---------------------------------|-------|------------------------|------------------------------|
| 122 | 269 East Vassar Drive                        |                                 |       | Task Order             |                              |
| Au  | rora, CO 80014                               |                                 |       | SDG No.                | IPA0006                      |
|     | •  | !                               | No.   | of Analyses            | 1                            |
|     | Laboratory Alta                              |                                 |       | Date: Febr             | uary 10, 2006                |
|     | Reviewer K. Shadowli                         | ght                             |       | Reviewer's             | • k                          |
|     | Analysis/Method Dioxin/Fura                  |                                 |       | 1 K. Shad              | lonkato                      |
|     |  |                                 |       |                        |                              |
| AC  | TION ITEMS <sup>a</sup>                      |                                 |       |                        |                              |
|     | Case Narrative                               |                                 |       |                        |                              |
| •   | Deficiencies                                 |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
| 2.  | Out of Scope Analyses                        |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
| 3.  | Analyses Not Conducted                       |                                 |       |                        |                              |
|     | •  |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
| 4.  | Missing Hardcopy                             |                                 |       |                        |                              |
|     | Deliverables                                 |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
| 5.  | Incorrect Hardcopy                           |                                 |       |                        |                              |
|     | Deliverables                                 |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
| 6.  | Deviations from Analysis                     | Detects below the lat           | ore   | itory lower callb      | oration level were qualified |
|     | Protocol, e.g.,                              | as estimated.                   |       |                        |                              |
|     | Holding Times                                |                                 |       |                        |                              |
|     | GC/MS Tune/Inst. Performance                 |                                 |       |                        |                              |
|     | Calibration                                  |                                 |       |                        |                              |
|     | Method blanks                                |                                 |       |                        |                              |
|     | Surrogates                                   |                                 |       |                        |                              |
|     | Matrix Spike/Dup LCS                         |                                 |       |                        |                              |
|     | Field QC                                     |                                 |       |                        |                              |
|     | Internal Standard Performance                |                                 |       |                        |                              |
|     | Compound Identification                      |                                 |       |                        |                              |
|     | Quantitation                                 |                                 |       |                        |                              |
|     | System Performance                           | <u> </u>                        |       |                        |                              |
| CO  | MMENTS                                       |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
|     |  |                                 |       |                        |                              |
|     | Subcontracted analytical laboratory is not r |                                 |       |                        | in zametirad                 |
| ° E | Differences in protocol have been adopted    | by the laboratory but no action | N1 80 | all ist the laboratory | is required.                 |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 009

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA0006

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG: Analysis:

**NPDES** IPA0006 D/F

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title: **NPDES** Contract Task Order: 1261.001.01 Sample Delivery Group: IPA0006 Project Manager: P. Costa

Matrix: Water

Dioxins/Furans Analysis:

QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions:

Reviewer: K. Shadowlight February 10, 2006 Date of Review:

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Revision 0 B4DF5

Project: SDG: Analysis:

NPDES IPA0006 D/F

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID<br>(Del Mar) | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 009 | IPA0006-01                 | 27138-001               | Water  | 1613       |

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however no sample custody seals were present. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

#### 2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

#### 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2.3.7.8-TCDD reported as less than 25%. No qualifications were required.

#### 2.2.2 Mass Spectrometer Performance

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Project: **NPDES** SDG: Analysis:

**IPA0006** D/F

#### DATA VALIDATION REPORT

The mass spectrometer performance was acceptable with the static resolving power greater than 10.000. No qualifications were required.

#### 2.3 **CALIBRATION**

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 12/30/2005 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

### 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of The VERs were acceptable with the concentrations within the each analytical sequence. acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

#### 2.4 **BLANKS**

One method blank (0-7632-MB001) was extracted and analyzed with the sample in this SDG. No compounds were reported in the method blank associated with the site sample. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

#### 2.5 **BLANK SPIKES AND LABORATORY CONTROL SAMPLES**

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on

**B4DF5** 4 Revision 0

Project: SDG: Analysis: NPDES IPA0006 D/F

#### DATA VALIDATION REPORT

the OPR results. No qualifications were required.

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

#### 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

### 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No qualifications were required.

|  |                                  | III A WIND CATHA                       | 15 15      | _                                       |  |                                  |  |                                   |   | EPAM                   | EPA Method 1613 |
|--|----------------------------------|--|------------|---|--|----------------------------------|--|-----------------------------------|---|------------------------|-----------------|
|  | Clicat Data<br>Name.<br>Project: | Del Mar Analytical, Irvine<br>IPA0006  | il, fruinc |   | Sample Data<br>Matrix:<br>Sample Size. | Aqueous                          | Laborators Data<br>Lab Sample<br>(IC Datch No. | 27138-001                         | Date Received                           | ed ed.                 | 4-Jan-06        |
|  | Time Collected                   | 1041                                   |            |   |  |                                  | Date Analyzed DB-5                             | 12-Jan-06                         | Date Amilyzed DB-225                    | ed DH-225              | NA              |
| Z = 25 = 25 = 25 = 25 = 25 = 25 = 25 = 2   | Analyte                          | Conc. (ug/L)                           |            | , JO                                    | EMPC                                   | Qualifiers                       | Labeled Standard                               | ard                               | %R LC                                   | רכור-חכור <sub>ק</sub> | Qualifiers      |
|  | 2,3,7,8-TCDD                     | <b>Z</b>                               | ON         | 0.000000598                             | . 86                                   |                                  | 15 13C-2,3,7,8-TCDD                            | ac                                | 74.6 2                                  | 25 - 164               |                 |
|  | 1,2,3,7,8-PeCDD                  |  | 오          | 0.000000847                             | 4)                                     |                                  | 13C-1,2,3,7,8-PeCDD                            | CDD                               | 76.1                                    | 25 - 181               |                 |
|  | 1,2,3,4,7,8-HxCDD                |  | 2          | 0.00000183                              |  |                                  | 13C-1,2,3,4,7,8-HxCDD                          | HxCDD                             | 78.1                                    | 32 - 141               |                 |
| ***************************************  | 1,2,3.6.7,8-HxCDD                |  | 웊          | 0.00000187                              | _                                      |                                  | 13C-1,2,3,6,7,8-HxCDD                          | HxCDD                             | 74.3 2                                  | 28 - 130               |                 |
| ······································   | 1,2,3,7,8,9-11xCDD               | QQ QQ                                  |            | 0.00000181                              |  |                                  | 13C-1,2,3,4,6,7,8-HpCDD                        | 8-HpCDD                           | 76.2                                    | 23 - 140               |                 |
| SA SA  | 1,2,3,4,6,7,8-HpCDD              | _                                      | 0.00000000 |   |  |                                  | 13C-0CDD                                       |                                   | 52.3                                    | 17-157                 |                 |
| o.oumusaha   | aggo                             | 1 m                                    | 0.0000577  | **************************************  | ÷                                      |                                  | 13C-2,3,7,8-TCDF                               | 24                                | 73.9                                    | 24 - 169               |                 |
| Securios de proprio de   | 2,3,7,8-TCDF                     |  | CN         | 0.000000576                             | 92                                     |                                  | 13C-1,2,3,7,8-PeCDF                            | SCDF                              | 77.5                                    | 24 - 185               |                 |
| i <b>tte</b> Sawaidire (d  | 1,2,3,7,8-PeCDF                  |  | QN A       | 0.000000018                             | <b>82</b>                              |                                  | 13C-2,3,4,7,8-PeCDF                            | CDF                               | 79.8                                    | 21 - 178               |                 |
| ∧meneuv e é  | 2,3,4,7,8-PeCDF                  |  | ND<br>ON   | 0.000000788                             | 88                                     |                                  | 13C-1,2,3,4,7,8-11xCDF                         | HXCDF                             | 74.9                                    | 26 - 152               |                 |
| erestrive wise   | 1,2,3,4,7,8-HxCDF                |  | ND         | 0.000000888                             | 90<br>90                               |                                  | 13C-1,2,3,6,7,8-HxCDF                          | HxCDF                             | 72.7                                    | 26 - 123               |                 |
|  | 1,2,3,6,7,8-HxCDF                |  |            | 0.000000867                             |  |                                  | 13C-2,3,4,6,7,8-11xCDF                         | HxCDF                             | 76.7                                    | 28 - 136               |                 |
| ochemievoues.  | 2,3,4,6,7,8-HxCDP                | ***                                    | NO         | <b>0.000000000</b>                      | 8                                      | 1. 18<br>1. 18<br>1. 18<br>1. 18 | 13C-1,2,3,7,8,9-HxCDF                          | HxCDF                             | 3.60                                    | 29 - 147               |                 |
| Million of a mail of the parties   | 1,2,3,7,8,9-11xCDF               |  |            | 0.00000124                              | ·                                      |                                  | 13C-1,2,3,4,6,7,8-HpCDF                        |                                   |   | 28 - 143               |                 |
| 9  | 1,2,3,4,6,7,8-HpCDF              | in the second                          | 0.00000270 |   |  |                                  | 13C-1,2,3,4,7,8,9 HpCDF                        | J                                 | 77.4                                    | 26 - 138               |                 |
|  | 1,2,3,4,7,8,9-HpCDF              |  | Q.         | 0.00000123                              |  |                                  | 13C OCDF                                       |                                   | 29.9                                    | 17 - 157               |                 |
| <b>ダ</b>   | , dCOO                           |  | 0,0000138  |   |  |                                  | CRS 37Cl-2,3,7,8-TCDD 58                       | oo.                               | 81.6                                    | 35 - 197               |                 |
| ***************************************  | I S I S                          |  |            |   |  |                                  | Footnotes                                      |                                   |   |                        |                 |
| NA   | Total TCDD                       |  | ŀ          | 0.000000598                             | 98                                     |                                  | a. Sample specific estimated detection limit.  | ed detection limit.               |   |                        |                 |
| elle latinate qui qu   | Total PeCDD                      | 10000000000000000000000000000000000000 | 2.0        | 0.000000847                             | 47                                     | A Company                        | b. Estimated maximum possible concentration.   | sable concentration               |   |                        |                 |
| ***************************************  | Total HxCDD                      |  | ND         | 0.00000184                              | 7                                      |                                  | c. Method detection limit.                     | ٠                                 |   |                        |                 |
| of the State of th | Total HpCDD                      | . 1921<br>. Takit<br>. ()              | 0.0000174  | in a                                    |  |                                  | d Lower control limit - upper control limit.   | per control limit                 |   | 100                    |                 |
|  | Total TCDF                       | -                                      | Q.         | 0.000000576                             | 9/                                     |                                  |  | :                                 |   |                        |                 |
| milder (an initial in the  | Total PeCDF                      |  | Q          | 0.000000851                             |  |                                  |  |                                   |   |                        |                 |
| forettissis de strata  | Total HxCDF                      |  | ND         | 0.000000965                             |  |                                  |  | -                                 |   |                        |                 |
|  | Total MpCDF                      | 2                                      | 0.00000731 | *************************************** |  |                                  | **************************************         |                                   | , | W                      |                 |
|  | Analysi: JMH                     |  |            |   |  |                                  | Approved By:                                   | Martha M. Maier 16-Jan-2006 11:56 | lier 16-Jan-                            | -2006 11:56            |                 |
|  |                                  |  |            |   |  | 6                                | 777 00   |                                   |   |                        |                 |
| Pro  | Project 27138                    |  |            |   |  | 3                                | 7  |                                   |   |                        | Page 6 o        |

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA Package ID B4MT6

|            |  |   | I OCKORU III                          | ENTITE I U                             |
|------------|--|---|---------------------------------------|--|
| ME         | $\mathbf{C}^{\mathbf{x}}$                  |   | _                                     | 1261.001 <b>D</b> .01                  |
| 122        | 69 East Vassar Drive                       |   | SDG No.                               | IPA0006                                |
| Aur        | rora, CO 80014                             | No  | of Analyses                           | 1                                      |
|            | Laboratory Del Mar A                       | nalytical                                 | Date: Februa                          | ary 3, 2006                            |
|            | Reviewer P. Meeks                          |   | Rexiewer's S                          |  |
|            | Analysis/Method Metals                     |   | P. ALE                                | `                                      |
|            |  |   |                                       |  |
| AC'        | FION ITEMS*                                |   | <del></del>                           |  |
|            | Case Narrative                             |   |                                       |  |
|            | Deficiencies                               |   |                                       |  |
|            |  |   |                                       |  |
| 2.         | Out of Scope                               |   |                                       |  |
|            | Analyses                                   |   |                                       |  |
|            | •  |   |                                       |  |
|            |  |   |                                       |  |
| 3.         | Analyses Not Conducted                     | ······································    |                                       |  |
|            |  |   |                                       | , , , , , , , , , , , , , , , , , , ,  |
|            |  |   |                                       |  |
| 4.         | Missing Hardcopy                           |   |                                       |  |
|            | Deliverables                               |   |                                       |  |
|            |  |   |                                       |  |
|            |  |   |                                       | ······································ |
| <b>5</b> . | Incorrect Hardcopy                         |   |                                       |  |
|            | Deliverables                               |   | ···········                           |  |
|            |  |   |                                       |  |
| -          |  |   | · · · · · · · · · · · · · · · · · · · |  |
| 6.         | Deviations from Analysis                   | A 1. A A. A A. A. A. A. A. A A            | 1::                                   |  |
|            | Protocol, e.g.,                            | Analytes detected below the re            | porting timit we                      | re quanned as estimated.               |
|            | Holding Times GC/MS Tune/Inst. Performance | <del></del>                               |                                       |  |
|            | Calibration                                |   |                                       |  |
|            | Method blanks                              |   |                                       | ·                                      |
|            | Surrogates                                 |   | <u> </u>                              |  |
|            | Matrix Spike/Dup LCS                       |   |                                       |  |
|            | Field QC                                   |   |                                       | ···                                    |
|            | Internal Standard Performance              |   |                                       |  |
|            | Compound Identification                    |   |                                       |  |
|            | Quantitation                               |   |                                       |  |
|            | System Performance                         |   |                                       |  |
| CON        | MENTS <sup>b</sup>                         |   |                                       |  |
| ······     |  | ·   |                                       |  |
|            |  |   |                                       |  |
|            |  |   |                                       |  |
| * Su       | bcontracted analytical laboratory is not m | eeting contract and/or method requirement | is.                                   |  |

<sup>b</sup> Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 009

**ANALYSIS: METALS** 

SAMPLE DELIVERY GROUP IPA0006

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG: NPDES

DATA VALIDATION REPORT

SDG: IPA0006 Analysis: Metals

#### 1. INTRODUCTION

Task Order Title: NPDES Sampling MEC<sup>x</sup> Project Number: 1261.001D.01

Sample Delivery Group: IPA0006

Project Manager: P. Costa

Matrix: Water
Analysis: Metals
QC Level: Level IV

No. of Samples: 1
No. of Reanalyses/Dilutions: 0

ses/Dilutions: 0

Reviewer: P. Meeks

Date of Review: February 3, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the  $MEC^X$  Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

B4MT6 1 Revision 0

Project:

NPDES IPA0006

SDG: Analysis:

Metals

Table 1. Sample Identification

DATA VALIDATION REPORT

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 009 | IPA0006-01    | Water  | 200.8, 245.1 |

Project: SDG: Analysis: NPDES IPA0006 Metals

DATA VALIDATION REPORT

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

2.2 ICP-MS TUNING

The method specified tune criteria were met and no qualifications were required.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

2.4 BLANKS

The method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No qualifications were required.

B4MT6 3 Revision 0

Project: SDG: NPDES

DATA VALIDATION REPORT

SDG: IPA0006 Analysis: Metals

#### 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Antimony and lead, which are not present in the ICSA or ICSAB, were detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for lead or antimony, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

#### 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No

B4MT6 4 Revision 0

**NPDES** Project: SDG: IPA0006

Metals

DATA VALIDATION REPORT Analysis:

transcription errors or calculation errors were noted. Antimony, cadmium, and, lead detected below the reporting limit were qualified as estimated, "J," and annotated with "DNQ," in accordance with the requirements of the NPDES permit. No further qualifications were required.

#### 2.12 **FIELD QC SAMPLES**

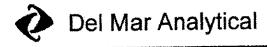
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

#### 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

### 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0006

Sampled: 01/01/06

Received: 01/01/06

METALS

| Analyte                           | Method      | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data Qualifiers Per | الإدما             |
|-----------------------------------|-------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|---------------------|--------------------|
| Sample ID: IPA0006-01 (Outfall 00 | 19 - Water) |         |              |                    |                  |                    |                   |                  | Qual                | (od                |
| Reporting Units: ug/l             |             |         |              |                    | ***              |                    | 03.504.604        | 01/05/06         | 丁 B.J               | DNO                |
| Antimony                          | EPA 200.8   | 6A04084 | 0.050        | 2.0                | 0.86             | 1                  | 01/04/06          |                  |                     | DNG                |
| Cadmium                           | EPA 200.8   | 6A04084 | 0.025        | 1.0                | 0.043            | 1                  | 01/04/06          | 01/05/06         | J                   | DW4                |
| Copper                            | EPA 200.8   | 6A04084 | 0.25         | 2.0                | 3.0              | 1                  | 01/04/06          | 01/05/06         | B                   | DNG                |
| Lead                              | EPA 200.8   | 6A04084 | 0.040        | 1.0                | 0.78             | 1                  | 01/04/06          | 01/05/06         | 丁」                  | 17104              |
| Mercury                           | EPA 245.1   | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | 01/03/06         | Û                   |                    |
|                                   | EPA 245.1   | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | (                | 01/03/ <b>06</b>    | 31/03/ <b>06</b> ∪ |

LEVEL IV

**Del Mar Analytical, Irvine**Amy Windham For Michele Chamberlin
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

IPA0006 < Page 2 of 11>

# **APPENDIX G**

# **Section 31**

Outfall 009, January 14, 2006 Del Mar Analytical Laboratory Report



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### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 01/14/06 Received: 01/15/06 Issued: 02/04/06 16:48

Project: Routine Outfall 009

#### 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, I page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

#### SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID CLIENT ID MATRIX
IPA1191-01 Outfall 009 Water

Reviewed By:

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

Michile Chamberdin



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Sampled: 01/14/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA1191 Received: 01/15/06

Attention: Bronwyn Kelly

#### **METALS**

| Analyte                                | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA1191-01 (Outfall 009 - ' | Water)    |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                  |           |         |              |                    |                  |                    |                   |                  |                    |
| Antimony                               | EPA 200.8 | 6A16092 | 0.050        | 2.0                | 0.54             | 1                  | 01/16/06          | 01/17/06         | J                  |
| Cadmium                                | EPA 200.8 | 6A16092 | 0.025        | 1.0                | 0.048            | 1                  | 01/16/06          | 01/17/06         | J                  |
| Copper                                 | EPA 200.8 | 6A16092 | 0.25         | 2.0                | 3.1              | 1                  | 01/16/06          | 01/17/06         |                    |
| Lead                                   | EPA 200.8 | 6A16092 | 0.040        | 1.0                | 0.50             | 1                  | 01/16/06          | 01/17/06         | J                  |
| Mercury                                | EPA 245.1 | 6A17070 | 0.050        | 0.20               | ND               | 1                  | 01/17/06          | 01/17/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

Attention: Bronwyn Kelly

### **INORGANICS**

| Analyte                           | Method             | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|-----------------------------------|--------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA1191-01 (Outfall 00 | 9 - Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l             |                    |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                          | EPA 300.0          | 6A15017 | 1.5          | 5.0                | 46               | 10                 | 01/15/06          | 01/15/06         | M-3                |
| Nitrate/Nitrite-N                 | EPA 300.0          | 6A15017 | 0.080        | 0.10               | 0.13             | 1                  | 01/15/06          | 01/15/06         |                    |
| Oil & Grease                      | EPA 413.1          | 6A17048 | 0.90         | 4.8                | ND               | 1                  | 01/17/06          | 01/17/06         |                    |
| Sulfate                           | EPA 300.0          | 6A15017 | 4.5          | 5.0                | 130              | 10                 | 01/15/06          | 01/15/06         | M-3                |
| Total Dissolved Solids            | SM2540C            | 6A19093 | 10           | 10                 | 570              | 1                  | 01/19/06          | 01/19/06         |                    |
| Total Suspended Solids            | EPA 160.2          | 6A17118 | 10           | 10                 | ND               | 1                  | 01/17/06          | 01/17/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

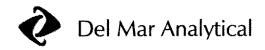
Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

Attention: Bronwyn Kelly

### SHORT HOLD TIME DETAIL REPORT

|   | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 009 (IPA1191-01) - Water | r                      |                      |                       |                        |                       |
| EPA 300.0                                   | 2                      | 01/14/2006 10:15     | 01/15/2006 16:00      | 01/15/2006 17:00       | 01/15/2006 18:50      |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

### METHOD BLANK/QC DATA

#### **METALS**

| A malinto                               | Result    | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source    | %REC   | %REC    | RPD | RPĐ<br>Limit | Data<br>Qualifiers |
|---|-----------|--------------------|-------|-------|----------------|-----------|--------|---------|-----|--------------|--------------------|
| Analyte                                 | Resun     | Limit              | MIDE  | UHRS  | Level          | Result    | /OKEC  | LAMINES | KID | Lilling      | Quamicia           |
| Batch: 6A16092 Extracted: 01/16/06      | •         |                    |       |       |                |           |        |         |     |              |                    |
| Blank Analyzed: 01/17/2006 (6A16092-Bl  | LK1)      |                    |       |       |                |           |        |         |     |              |                    |
| 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  |                |           |        |         |     |              |                    |
| LCS Analyzed: 01/17/2006 (6A16092-BS1   | .)        |                    |       |       |                |           |        |         |     |              |                    |
| Antimony                                | 79.1      | 2.0                | 0.050 | ug/l  | 80.0           |           | 99     | 85-115  |     |              |                    |
| Cadmium                                 | 80.9      | 1.0                | 0.025 | ug/l  | 80.0           |           | 101    | 85-115  |     |              |                    |
| Copper                                  | 79.1      | 2.0                | 0.25  | ug/l  | 80.0           |           | 99     | 85-115  |     |              |                    |
| Lead                                    | 79.0      | 1.0                | 0.040 | ug/l  | 80.0           |           | 99     | 85-115  |     |              |                    |
| Matrix Spike Analyzed: 01/17/2006 (6A16 | 6092-MS1) |                    |       |       | Sou            | rce: IPA( | 831-01 |         |     |              |                    |
| Antimony                                | 81.3      | 2.0                | 0.050 | ug/l  | 80.0           | 0.51      | 101    | 70-130  |     |              |                    |
| Cadmium                                 | 77.1      | 1.0                | 0.025 | ug/l  | 80.0           | 0.084     | 96     | 70-130  |     |              |                    |
| Copper                                  | 78.4      | 2.0                | 0.25  | ug/l  | 80.0           | 4.4       | 92     | 70-130  |     |              |                    |
| Lead                                    | 78.4      | 1.0                | 0.040 | ug/l  | 80.0           | 0.75      | 97     | 70-130  |     |              |                    |
| Matrix Spike Analyzed: 01/17/2006 (6A10 | 5092-MS2) |                    |       |       | Sou            | rce: IPA1 | 191-01 |         |     |              |                    |
| Antimony                                | 83.2      | 2.0                | 0.050 | ug/l  | 80.0           | 0.54      | 103    | 70-130  |     |              |                    |
| Cadmium                                 | 79.0      | 1.0                | 0.025 | ug/l  | 80.0           | 0.048     | 99     | 70-130  |     |              |                    |
| Copper                                  | 76.9      | 2.0                | 0.25  | ug/l  | 80.0           | 3.1       | 92     | 70-130  |     |              |                    |
| Lead                                    | 77.3      | 1.0                | 0.040 | ug/l  | 80.0           | 0.50      | 96     | 70-130  |     |              |                    |
| Matrix Spike Dup Analyzed: 01/17/2006 ( | 6A16092-M | SD1)               |       |       | Sou            | rce: IPA0 | 831-01 |         |     |              |                    |
| Antimony                                | 82.8      | 2.0                | 0.050 | ug/l  | 80.0           | 0.51      | 103    | 70-130  | 2   | 20           |                    |
| Cadmium                                 | 78.2      | 1.0                | 0.025 | ug/l  | 80.0           | 0.084     | 98     | 70-130  | 1   | 20           |                    |
| Copper                                  | 78.8      | 2.0                | 0.25  | ug/l  | 80.0           | 4.4       | 93     | 70-130  | 1   | 20           |                    |
| Lead                                    | 78.7      | 1.0                | 0.040 | ug/l  | 80.0           | 0.75      | 97     | 70-130  | 0   | 20           |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

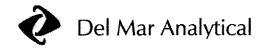
Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

# METHOD BLANK/QC DATA

#### **METALS**

| Analyte                                | Result     | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result | %REC   | %REC<br>Limits | RPD | RPĐ<br>Limit | Data<br>Qualifiers |
|--|------------|--------------------|-------|-------|----------------|------------------|--------|----------------|-----|--------------|--------------------|
| Batch: 6A17070 Extracted: 01/17/06     |            |                    |       |       |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/17/2006 (6A17070-B  | LK1)       |                    |       |       |                |                  |        |                |     |              |                    |
| Mercury                                | ND         | 0.20               | 0.050 | ug/l  |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/17/2006 (6A17070-BS   | 1)         |                    |       |       |                |                  |        |                |     |              |                    |
| Mercury                                | 8.14       | 0.20               | 0.050 | ug/l  | 8.00           |                  | 102    | 85-115         |     |              |                    |
| Matrix Spike Analyzed: 01/17/2006 (6A1 | 7070-MS1)  |                    |       |       | Sou            | rce: IPA1        | 162-01 |                |     |              |                    |
| Mercury                                | 8.07       | 0.20               | 0.050 | ug/l  | 8.00           | ND               | 101    | 70-130         |     |              |                    |
| Matrix Spike Dup Analyzed: 01/17/2006  | (6A17070-M | SD1)               |       |       | Sou            | rce: IPA1        | 162-01 |                |     |              |                    |
| Mercury                                | 8.12       | 0.20               | 0.050 | ug/l  | 8.00           | ND               | 102    | 70-130         | 1   | 20           |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

Attention: Bronwyn Kelly

#### METHOD BLANK/QC DATA

## **INORGANICS**

|   |          | Reporting    |               |              | Spike | Source |      | %REC   |     | RPD   | Data       |
|---|----------|--------------|---------------|--------------|-------|--------|------|--------|-----|-------|------------|
| Analyte                                     | Result   | Limit        | MDL           | Units        | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A15017 Extracted: 01/15/06          |          |              |               |              |       |        |      |        |     |       |            |
| Disease Assessment 01/15/2006 (6 A 15017 D) | r 821\   |              |               |              |       |        |      |        |     |       |            |
| Blank Analyzed: 01/15/2006 (6A15017-B)      |          | 0.50         | 0.15          |              |       |        |      |        |     |       |            |
| Chloride                                    | ND       | 0.50<br>0.10 | 0.15<br>0.080 | mg/l         |       |        |      |        |     |       |            |
| Nitrate/Nitrite-N<br>Sulfate                | ND<br>ND | 0.10         | 0.080         | mg/l<br>mg/l |       |        |      |        |     |       |            |
| Surface                                     | ND       | 0.50         | 0.43          | ing/i        |       |        |      |        |     |       |            |
| LCS Analyzed: 01/15/2006 (6A15017-BS)       | l)       |              |               |              |       |        |      |        |     |       |            |
| Chloride                                    | 4.95     | 0.50         | 0.15          | mg/l         | 5.00  |        | 99   | 90-110 |     |       | M-3        |
| Sulfate                                     | 9.80     | 0.50         | 0.45          | mg/l         | 10.0  |        | 98   | 90-110 |     |       | M-3        |
| Batch: 6A17048 Extracted: 01/17/06          | -        |              |               |              |       |        |      |        |     |       |            |
| Blank Analyzed: 01/17/2006 (6A17048-Bl      | LK1)     |              |               |              |       |        |      |        |     |       |            |
| Oil & Grease                                | ND       | 5.0          | 0.94          | mg/l         |       |        |      |        |     |       |            |
| LCS Analyzed: 01/17/2006 (6A17048-BS1       | )        |              |               |              |       |        |      |        |     |       | M-NRI      |
| Oil & Grease                                | 16.0     | 5.0          | 0.94          | mg/l         | 20.0  |        | 80   | 65-120 |     |       |            |
| LCS Dup Analyzed: 01/17/2006 (6A17048       | B-BSD1)  |              |               |              |       |        |      |        |     |       |            |
| Oil & Grease                                | 17.0     | 5.0          | 0.94          | mg/l         | 20.0  |        | 85   | 65-120 | 6   | 20    |            |
| Batch: 6A17118 Extracted: 01/17/06          |          |              |               |              |       |        |      |        |     |       |            |
| Blank Analyzed: 01/17/2006 (6A17118-BI      | LK1)     |              |               |              |       |        |      |        |     |       |            |
| Total Suspended Solids                      | ND       | 10           | 10            | mg/l         |       |        |      |        |     |       |            |
| LCS Analyzed: 01/17/2006 (6A17118-BS1       | )        |              |               |              |       |        |      |        |     |       |            |
| Total Suspended Solids                      | 950      | 10           | 10            | mg/l         | 1000  |        | 95   | 85-115 |     |       |            |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

## METHOD BLANK/QC DATA

#### **INORGANICS**

| Analyte                               | Result    | Reporting<br>Limit | MDL | Units | Spike<br>Level | Source<br>Result | %REC    | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---------------------------------------|-----------|--------------------|-----|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 6A17118 Extracted: 01/17/0     | <u>)6</u> |                    |     |       |                |                  |         |                |     |              |                    |
| Duplicate Analyzed: 01/17/2006 (6A17) | 118-DUP1) |                    |     |       | Sou            | rce: IPA         | 1313-01 |                |     |              |                    |
| Total Suspended Solids                | ND        | 10                 | 10  | mg/l  |                | ND               |         |                |     | 10           |                    |
| Batch: 6A19093 Extracted: 01/19/0     | <u>)6</u> |                    |     |       |                |                  |         |                |     |              |                    |
| Blank Analyzed: 01/19/2006 (6A19093-  | BLK1)     |                    |     |       |                |                  |         |                |     |              |                    |
| Total Dissolved Solids                | ND        | 10                 | 10  | mg/l  |                |                  |         |                |     |              |                    |
| LCS Analyzed: 01/19/2006 (6A19093-B   | S1)       |                    |     |       |                |                  |         |                |     |              |                    |
| Total Dissolved Solids                | 1050      | 10                 | 10  | mg/l  | 1000           |                  | 105     | 90-110         |     |              |                    |
| Duplicate Analyzed: 01/19/2006 (6A190 | 93-DUP1)  |                    |     |       | Sou            | rce: IPA1        | 473-01  |                |     |              |                    |
| Total Dissolved Solids                | 660       | 10                 | 10  | mg/l  |                | 650              |         |                | 2   | 10           |                    |



17461 Derian Ave., Suite 100, Invine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colkon, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-859 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0031 FAX (480) 785-0851 2520 E. Sunser Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 01/14/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA1191 Received: 01/15/06

Attention: Bronwyn Kelly

## **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

|            |                      |                        |       |        |      | Comphance |
|------------|----------------------|------------------------|-------|--------|------|-----------|
| LabNumber  | Analysis             | Analyte                | Units | Result | MRL  | Limit     |
| IPA1191-01 | 413.1 Oil and Grease | Oil & Grease           | mg/l  | 0.86   | 4.8  | 15        |
| IPA1191-01 | Chloride - 300.0     | Chloride               | mg/l  | 46     | 5.0  | 150       |
| IPA1191-01 | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N      | mg/l  | 0.13   | 0.10 | 10.00     |
| IPA1191-01 | Sulfate-300.0        | Sulfate                | mg/l  | 130    | 5.0  | 250       |
| IPA1191-01 | TDS - SM 2540C       | Total Dissolved Solids | mg/l  | 570    | 10   | 850       |



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Sampled: 01/14/06 Report Number: IPA1191 Pasadena, CA 91101 Received: 01/15/06

Attention: Bronwyn Kelly

M-3

# DATA QUALIFIERS AND DEFINITIONS

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.

Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

accepted based on acceptable recovery in the Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified. ND

RPD Relative Percent Difference



17461 Derian Ave., Suite 100, Invine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-856 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunser Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3620

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA1191

Sampled: 01/14/06 Received: 01/15/06

Attention: Bronwyn Kelly

## **Certification Summary**

#### Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | X          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA1191-01

Analysis Performed: EDD + Level 4

Samples: IPA1191-01

| Client Name/Address:   | ress:  |               | Client Name/Address: Project:                                    |   |  |          |                |                                 |            | ANA    | <b>ANALYSIS REQUIRED</b>   | CUIRED                                  |  | **************************************   |
|--|--|---------------|--|---|--|----------|----------------|---------------------------------|------------|--------|--|---|--|--|
|  |  |               | Boeing-SSFL NPDES  | SSFL N                                  | PDES   |          | :s             | <u></u>                         |            |        |  |   | Field  | Field readings:  |
| IMVVIT-Frasaueria<br>300 North Lake Avenue, Suite 1200<br>Pasadena, CA 91101 | anue, Suite 1.<br>O1   |               | Stormw   | ater at V                               | VS-13  |          | e Metai        |                                 |            |        |  |   | Temp   | Temp = 53, 4   |
| Project Manager. Bronwyn Kelly<br>Sampler: <i>K. Extras</i> o<br>Z. MAYS     | Bronwyn k  | (elly         | Phone Number:<br>(626) 568-6691<br>Fax Number:<br>(626) 568-6515 | Number:<br>18-6691<br>Inber:<br>18-6515 |  |          | al Recoverable | ioo ils bns) GC<br>(역크) esser & | N+60N ,403 | SST ,S |  |   | #  | 7, 2.  |
| Sample Sample Co   | Container<br>Type  | 70 ti<br>₩ 00 | Sampling<br>Date/Time  | ding<br>Fine                            | Preservative   | Bottle * | Tct<br>,48     |                                 |            | SCIT.  |  |   |  |  |
| 1  | Poly-1L  | -             | 1-14-10  | 01-14-46-/ACE HNO3                      | HNO3   | 14       | ×              |                                 |            |        |  |   |  |  |
| Outfall 009- W   | Poly-1   | -             |  |   | HNO3   | 48       | ×              |                                 |            |        |  |   |  |  |
| Outfall 009 W  | Glass-<br>Amber  | 73            |  |   | None   | 2A, 2B   |                | ×                               |            |        |  |   |  |  |
| Outfall 009 W  | Glass-<br>Amber  | 8             |  |   | HQ.  | 3A, 3B   |                | ×                               |            |        |  |   |  |  |
| Outfall 009 W  | Poly-500   | 2             |  |   | None   | 4,48     |                |                                 | ×          |        |  |   |  |  |
| Outfall 009 W  | Poly-500<br>mi   | 7             | 4  | 31:01                                   | None   | 5A, 5B   |                |                                 |            | ×      |  | *************************************** |  |  |
| ***************************************                                      |  |               |  |   |  |          |                |                                 |            |        |  |   |  | And shift in the state of the |
|  |  |               |  |   |  |          |                |                                 |            |        |  |   |  |  |
|  |  |               |  |   |  |          |                |                                 |            |        |  |   |  |  |
|  |  |               |  |   | A CONTRACTOR OF THE PROPERTY O |          |                |                                 |            |        |  |   |  |  |
|  | Personal de la companya de la compan |               |  |   |  |          |                | _                               |            |        |  |   |  |  |
|  |  |               |  |   |  |          |                |                                 |            |        |  |   |  |  |
|  |  |               |  |   |  |          |                |                                 |            |        |  |   |  |  |
| Relinquished By  |  | - at          | Date Time: "   | 30.34                                   | Received By  | 1        |                | Date/Time:                      | \$///>     | Se Se  |  |   | Turn around Time: (check)<br>24 Hours 5 Days   | eck)<br>5 Days   |
| / Star Kra   |  |               | 635  | •                                       | A  | 9        | eer 2          | 10:3                            | .35        |        |  |   | AR House                                       | 40 Dave  |
| B. Suilshed By   | 2  | ā\\           | Date/Time:<br>//S/00 /   |   | Received By  | 9        | ٠.             | Date/Tim                        | <br>       |        |  | -                                       | ***************************************        | Normal   |
| Relinquished By  |  | ō             | Date/Time:   |   | Received By  | (        |                | Date/Time                       |            |        | and the same designation of the same and the | 4                                       | Perchiorate Only 72 Hours                      | ours   |
|  |  |               |  |   |  | A.       | 90 01          | 9                               | 1600       | ^      |  | <u> </u>                                | Metals Only 72 Hours Sample Integrity: (Check) | 200  |



26, 2006

ject I.D.: 27210

hele Chamberlin
Analytical, Irvine
lerian Avenue, Suite 100
2A 92614

#### i. Chamberlin,

d are the results for the one aqueous sample received at Alta Analytical Laboratory on January 5 under your Project Name "IPA1191". This sample was extracted and analyzed using EPA 1613 for tetra-octa chlorinated dioxins and furans. A standard turnaround time was provided work.

owing report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the ix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current tions, and copies of the raw data (if requested).

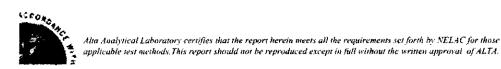
alytical Laboratory is committed to serving you effectively. If you require additional tion, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for g Alta as part of your analytical support team.

у,

M. Maier

of HRMS Services

ue mos





Section I: Sample Inventory Report

Date Received: 1/17/2006

Alta Lab. ID Client Sample ID

27210-001 IPA1191-01

# **SECTION II**

Project 27210 Pa**NPDES**29**724** 

| Method Blank        |              |                 |                   |   | EPA Method 1613                    |
|---------------------|--------------|-----------------|-------------------|---|------------------------------------|
| Matrix: Aqueous     |              | QC Batch No.:   | 7686              | Lab Sample: 0-MB001                           |                                    |
| Sample Size: 1.00 L |              | Date Extracted: | 22-Jan-06         | Date Analyzed DB-5: 24-Jan-06                 | Date Analyzed DB-225: NA           |
| Analyte Cor         | Conc. (ug/L) | DF a            | EMPC b Qualifiers | Labeled Standard                              | %R LCL-UCL <sup>d</sup> Oualifiers |
| 2,3,7,8-TCDD        | Ş            | 0.00000125      |                   | IS 13C-2,3,7,8-TCDD                           | 64.8 25-164                        |
| 1,2,3,7,8-PeCDD     | 2            | 0.00000167      |                   |   | 64.5 25 - 181                      |
| 1,2,3,4,7,8-HxCDD   | QN           | 0.00000336      |                   | 13C-1,2,3,4,7,8-HxCDD                         | 59.5 32 - 141                      |
| 1,2,3,6,7,8-HxCDD   | S            | 0.00000330      |                   | 13C-1,2,3,6,7,8-HxCDD                         | 61.9 28 - 130                      |
| 1,2,3,7,8,9-HxCDD   | Ą            | 0.00000322      |                   | 13C-1,2,3,4,6,7,8-HpCDD                       | 58.2                               |
| 1,2,3,4,6,7,8-HpCDD | 0.00000569   | )569            | <b></b> 3         | 13C-OCDD                                      | 33.9 17 - 157                      |
|                     | 0.0000472    | 8               |                   | 13C-2,3,7,8-TCDF                              | 66.4 24 - 169                      |
| 2,3,7,8-TCDF        | Q            | 0.00000106      |                   | 13C-1,2,3,7,8-PeCDF                           | 70.3 24 - 185                      |
| 1,2,3,7,8-PeCDF     | ş            | 0.00000139      |                   | 13C-2,3,4,7,8-PeCDF                           | 73.0 21 - 178                      |
| 2,3,4,7,8-PeCDF     | 2            | 0.00000121      |                   | 13C-1,2,3,4,7,8-HxCDF                         |                                    |
| 1,2,3,4,7,8-HxCDF   | 9            | 0.00000123      |                   | 13C-1,2,3,6,7,8-HxCDF                         | 57.8 26-123                        |
| 1,2,3,6,7,8-HxCDF   | 2            | 0.00000114      |                   | 13C-2,3,4,6,7,8-HxCDF                         | 61.4 28 - 136                      |
| 2,3,4,6,7,8-HxCDF   | 2            | 0.00000120      |                   | 13C-1,2,3,7,8,9-HxCDF                         | 62.2 29 - 147                      |
| 1,2,3,7,8,9-HxCDF   | 2            | 0.00000176      |                   | 13C-1,2,3,4,6,7,8-HpCDF                       | 53.4 28 - 143                      |
| 1,2,3,4,6,7,8-HpCDF | Ą            | 0.00000230      |                   | 13C-1,2,3,4,7,8,9-HpCDF                       | 57.4 26-138                        |
| 1,2,3,4,7,8,9-HpCDF | 2            | 0.00000246      |                   | 13C-OCDF                                      | 38.9 17 - 157                      |
| 16000               | Q            | 0.00000535      |                   | CRS 37CI-2,3,7,8-TCDD                         | 83.3 35 - 197                      |
| Totals              |              |                 |                   | Footnotes                                     |                                    |
| Total TCDD          | QN           | 0.00000125      |                   | a. Sample specific estimated detection limit. |                                    |
| Total PeCDD         | 9            | 0.00000167      |                   | b. Estimated maximum possible concentration.  |                                    |
| Total HxCDD         | N            | 0.00000329      |                   | c. Method detection limit,                    |                                    |
| Total HpCDD         | 695000000    | 6950            |                   | d. Lower control limit - upper control limit. |                                    |
| Total TCDF          | S            | 0.00000106      |                   |   |                                    |
| Total PeCDF         | Q            | 0.00000130      |                   |   |                                    |
| Total HxCDF         | 2            | 0.00000132      |                   |   |                                    |
| Total HpCDF         |              | 0.00000238      |                   |   |                                    |
| Analyst: DMS        |              |                 |                   | Approved By: Martha M. Maier                  | laier 26-Jan-2006 08:20            |

| OPR Results         |                         |                 |            |                               | EPA Method 1613                         |
|---------------------|-------------------------|-----------------|------------|-------------------------------|---|
| Matrix: Aqueous     |                         | QC Batch No.:   | 7686       | Lab Sample: 0-OPR001          |   |
| Sample Size: 1.00 L |                         | Date Extracted: | 22-Jan-06  | Date Analyzed DB-5: 24-Jan-06 | Date Analyzed DB-225: NA                |
| Analyte             | Spike Conc. Conc. (ng/m | Conc. (ng/mL)   | OPR Limits | Labeled Standard              | %R LCL-UCL                              |
| 2,3,7,8-TCDD        | 0.01                    | 10.4            | 6.7 - 15.8 | 18C-2,3,7,8-TCDD              | 64.1 25 - 164                           |
| 1,2,3,7,8-PeCDD     | 50.0                    | 56.0            | 35 - 71    | 13C-1,2,3,7,8-PeCDD           | 66.4 25 - 181                           |
| 1,2,3,4,7,8-HxCDD   | 200                     | \$4.5           | 35-82      | 13C-1,2,3,4,7,8-HxCDD         | 7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - |
| 1,2,3,6,7,8-HxCDD   | 50.0                    | 52.7            | 38 - 67    | 13C-1,2,3,6,7,8-HxCDD         | :<br>:                                  |
| 1,2,3,7,8,9-HxCDD   | 20.0                    | 53.6            | 32 - 81    | 13C-1,2,3,4,6,7,8-HpCDD       | 57.3 23 - 140                           |
| 1,2,3,4,6,7,8-HpCDD | 50.0                    | 53.5            | 35 - 70    | 13C-OCDD                      | 36.7 17-157                             |
| QQDO                | 100                     | 100             | 78 - 144   | 13C-2,3,7,8-TCDF              | 66.8 24 - 169                           |
| 2,3,7,8-TCDF        | 10.0                    | 10.8            | 7.5 - 15.8 | 13C-1,2,3,7,8-PeCDF           | :                                       |
| 1,2,3,7,8-PeCDF     | 0.08                    | 520             | 40-67      | 13C-2,3,4,7,8-PeCDF           | 74.6 21 - 178                           |
| 2,3,4,7,8-PeCDF     | 50.0                    | 52.8            | 34 - 80    | 13C-1,2,3,4,7,8-HxCDF         |   |
| 1,2,3,4,7,8-HxCDF   | 50.0                    | 53.5            | 29-98      | 13C-1,2,3,6,7,8-HxCDF         | 60.4 26 - 123                           |
| 1,2,3,6,7,8-HxCDF   | 50.0                    | 52.4            | 42 - 65    | 13C-2,3,4,6,7,8-HxCDF         | 64.7 28 - 136                           |
| 2,3,4,6,7,8-HxCDF   | 50.0                    | 52.4            | 35 - 78    | 13C-1,2,3,7,8,9-HxCDF         | 62.5 29 - 147                           |
| 1,2,3,7,8,9-HxCDF   | 50.0                    | 52.8            | 39 - 65    | 13C-1,2,3,4,6,7,8-HpCDF       | 54.0 28 - 143                           |
| 1.2,3,4,6,7,8-HpCDF | 0008                    | 51.9            | 77-17      | 13C-1,2,3,4,7,8,9-HpCDF       | 58.8 26 - 138                           |
| 1,2,3,4,7,8,9-HpCDF | 50.0                    | 51.9            | 39 - 69    | 13C-OCDF                      | 41.9 17 - 157                           |
| OCDF                | 100                     | 0.66            | 63 - 170   | CRS 37Cl-2,3,7,8-TCDD         | 81.2 35 - 197                           |

Martha M. Maier 26-Jan-2006 08:20 Approved By:

Analyst: DMS

| Sample ID: IPA1191-01 | 3                                       |             |              |            |   |  |   | EPA N  | EPA Method 1613 |
|-----------------------|---|-------------|--------------|------------|---|--|---|--|-----------------|
| Data                  |   |             | Sample Data  |            | Laboratory Data                               | A STATE OF THE STA |   |  |                 |
| Name: Del Mar A       | Del Mar Analytical, Irvine<br>IPA I 191 |             | Matrix:      | Aqueous    | Lab Sample:                                   | 27210-001  | Date Received:                          | ved:   | 17-Jan-06       |
| llected:              |   |             | Sample Size: | 1.01 L     | QC Batch No.:<br>Date Analyzed DB-5:          | 7686<br>24-Jan-06  | Date Extracted:<br>Date Analyzed I      | Date Extracted:<br>Date Analyzed DB-225:   | 22-Jan-06<br>NA |
| Analyte Conc.         | (ug/L)                                  | DL a        | EMPC         | Qualifiers | Labeled Standard                              | ard  | %R LO                                   | rcr-ncr <sub>d</sub>   | Oualifiers      |
| 2,3,7,8-TCDD          | GZ                                      | 0.00000109  | 6(           |            | <u>IS</u> 13C-2,3,7,8-TCDD                    | 00   | 71.3                                    | 25 - 164   |                 |
| 1,2,3,7,8-PeCDD       | S                                       | 0.0000013   | [3]          |            | 13C-1,2,3,7,8-PeCDD                           | CDD  |   | 25 - 181   |                 |
| 1,2,3,4,7,8-HxCDD     | Q                                       | 0.00000198  | 38           |            | 13C-1,2,3,4,7,8-HxCDD                         | HXCDD  | 72.2                                    | 32 - 141   |                 |
| 1,2,3,6,7,8-HxCDD     | 2                                       | 0.00000211  |              | -          | 13C-1,2,3,6,7,8-HxCDD                         | HxCDD  |   | 28 - 130   |                 |
| 1,2,3,7,8,9-HxCDD     | Q                                       | 0.0000015   | 99           |            | 13C-1,2,3,4,6,7,8-HpCDD                       | %HpCDD   | 72.4                                    | 23 - 140   |                 |
| 1,2,3,4,6,7,8-HpCDD   | 0.00000793                              |             |              | J,B        | 13C-OCDD                                      |  | 43.7                                    | 17 - 157   |                 |
| <b>aco</b>            | 0.0000896                               |             |              | М          | 13C-2,3,7,8-TCDF                              | *  | 72.4                                    | 24 - 169   |                 |
| 2,3,7,8-TCDF          | S                                       | 0.000000933 | 73.3         |            | 13C-1,2,3,7,8-PeCDF                           | CDF  |   | 24 - 185   | -               |
| 1,2,3,7,8-PeCDF       | QN.                                     | 0.000014    | 42           |            | 13C-2,3,4,7,8-PeCDF                           | ä  |   | 21 - 178   |                 |
| 2,3,4,7,8-PeCDF       | <del>S</del>                            | 0.00000132  | 32           |            | 13C-1,2,3,4,7,8-HxCDF                         | HxCDF  |   | 26 - 152   |                 |
| 1,2,3,4,7,8-HxCDF     | g                                       | 0.000000795 | 202          |            | 13C-1,2,3,6,7,8-HxCDF                         | HYCON.   |   | 26 - 123   |                 |
| 1,2,3,6,7,8-HxCDF     | S                                       | 0.000000762 | 762          |            | 13C-2,3,4,6,7,8-HxCDF                         | HxCDF  |   | 28 - 136   |                 |
| 2,3,4,6,7,8-HxCDF     | 2                                       | 0.000000827 | 27           |            | 13C-1,2,3,7,8,9-HxCDF                         | HXCDF  | 73.5                                    | 29 - 147   |                 |
| 1,2,3,7,8,9-HxCDF     | 2                                       | 0.00000114  | 14           |            | 13C-1,2,3,4,6,7,8-HpCDF                       | 3-HpCDF  |   | 28 - 143   |                 |
| 1,2,3,4,6,7,8-HpCDF   | Z                                       | 0.0000015   | 6            |            | 13C-1,2,3,4,7,8,9-HpCDF                       | AHPCDF   | 73.5                                    | 26 - 138   |                 |
| 1,2,3,4,7,8,9-HpCDF   | 2                                       | 0.0000018   | 81           |            | 13C-OCDF                                      |  | 50.8                                    | 17-157   |                 |
|                       | 0.00000508                              |             |              | J          | CRS 37CI-2,3,7,8-TCDD                         | QQ   | 9.06                                    | 35 - 197   |                 |
| Totals                |   |             |              |            | Footnotes                                     |  |   |  |                 |
| Total TCDD            | QN                                      | 0.00000109  | )6           |            | a. Sample specific estimated detection limit  | 1 detection limit.   | *************************************** | this contract the second secon |                 |
| Total PeCDD           | Q                                       | 0.00000131  |              |            | b. Estimated maximum possible concentration.  | sible concentration.   |   |  |                 |
| Total HxCDD           | 2                                       | 0.00000203  | )3           |            | c. Method detection limit.                    |  |   |  |                 |
| Total HpCDD           | 0.0000186                               |             |              | В          | d. Lower control limit - upper control limit. | er control limit.  |   |  |                 |
| Total TCDF            | Q.                                      | 0.000000933 | 933          |            |   |  |   |  |                 |
| Total PeCDF           | <b>Q</b>                                | 0.00000137  | **           |            |   |  |   |  |                 |
| Total HxCDF           | 2                                       | 0.000000871 | 371          |            |   |  |   | :  |                 |
| Total HpCDF           | QN                                      | 0.0000018   | 98           |            |   |  |   |  |                 |
| Analysis Dake         |   |             | -            |            |   | ***************************************  |   |  |                 |

Analyst: DMS

Approved By:

Martha M. Maier 26-Jan-2006 08:20

# **APPENDIX**

Project 27210 Pa**NPOFS**29**728** 

#### **DATA QUALIFIERS & ABBREVIATIONS**

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

\* See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit – concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Project 27210 Pa**NPDES**29**729** 

# **CERTIFICATIONS**

| Accrediting Authority  | Certificate Number     |
|--|------------------------|
| State of Alaska, DEC   | CA413-02               |
| State of Arizona   | AZ0639                 |
| State of Arkansas, DEQ   | 05-013-0               |
| State of Arkansas, DOH   | Reciprocity through CA |
| State of California – NELAP Primary AA   | 02102CA                |
| State of Colorado  |                        |
| State of Connecticut   | PH-0182                |
| State of Florida, DEP  | E87777                 |
| Commonwealth of Kentucky   | 90063                  |
| State of Louisiana, Health and Hospitals   | LA050001               |
| State of Louisiana, DEQ  | 01977                  |
| State of Maine   | CA0413                 |
| State of Michigan  | 81178087               |
| State of Mississippi   | Reciprocity through CA |
| Naval Facilities Engineering Service Center  |                        |
| State of Nevada  | CA413                  |
| State of New Jersey  | CA003                  |
| State of New Mexico  | Reciprocity through CA |
| State of New York, DOH   | 11411                  |
| State of North Carolina  | 06700                  |
| State of North Dakota, DOH   | R-078                  |
| State of Oklahoma  | D9919                  |
| State of Oregon  | CA200001-002           |
| State of Pennsylvania  | 68-00490               |
| State of South Carolina  | 87002001               |
| State of Tennessee   | 02996                  |
| State of Texas   | TX247-2005A            |
| U.S. Army Corps of Engineers   |                        |
| State of Utah  | 9169330940             |
| Commonwealth of Virginia   | 00013                  |
| State of Washington  | C1285                  |
| State of Wisconsin   | 998036160              |
| State of Wyoming   | 8TMS-Q                 |
| is commence and the comment of the c |                        |

Project 27210 PaNPOFF 329730



17461 Derian Ave. Suite 100, Invine, CA 92614 1014 E. Cooley Dr., Suite A, Coiton, CA 92324 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123

Ph (909) 370-4667 Ph (619) 505-9596 Ph (480) 785-0043

Fax (909) 370-1046 Fax (619) 505-9689

9830 South 51st Street, Suite B-120, Phoenix, AZ 85044 Ph (480) 785-0043 2520 E. Sunset Rd., Suite #3, Las Vegas, NV 89120 Ph (702) 798-3620

Fax (480) 785-0851

# SUBCONTRACT ORDER - PROJECT # IPA1191

|  | SENDING LABORATORY:               | RECEIVING LABORATORY:  |
|--|-----------------------------------|--|
| Del Mar Analytica<br>17461 Derian Aver<br>Irvine, CA 92614<br>Phone: (949) 261-122<br>Project Manager: M | nue. Suite 100<br>022<br>8        | Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 |
| Standard TAT is 1  | equested unless specific due date | e is requested => Due Date: Initials:  |

| Analysis   | Expiration  | Comments  |
|--|---|---|
| Sample ID: IPA1191-01<br>1613-Dioxin-HR-Alta<br>EDD + Level 4      | Water Sampled: 01/14/06 10:15<br>01/21/06 10:15<br>02/11/06 10:15 | Instant Nofication J flags, 17 congeners, no TEQ, ug/L, sub=Alta Excel EDD email to pm, Include Std logs for Lvl IV |
| Containers Supplied: 1 L Amber (IPA1191-010 1 L Amber (IPA1191-011 |   |   |

| ·  | SA                                       | MPLE INTEGRITY: |   |          |
|--|--|-----------------|---|----------|
| All containers intact:  Yes No Custody Seals Present No No | Sample labels/COC<br>Samples Preserved P |                 | Samples Received On Ice:: Samples Received at (temp): | Yes 🗆 No |
|  | 6/6/ 1700                                | Bettmart.       | Benedict 1/17/66                                      | 0840     |
| Released By  | Date Time                                | Received By     | Date  | Time     |
| teleased By  | Date Time                                | Received By     | Date  | Time     |

# SAMPLE LOG-IN CHECKLIST

| Alta Project #: | 27210 |
|-----------------|-------|
|-----------------|-------|

| Samples Arrival: | Date/Time | . 0840 | Initials: | 5              | Location:<br>WK-2 |       |
|------------------|-----------|--------|-----------|----------------|-------------------|-------|
| Logged In:       | Date/Time | 1420   | initials: | <i>b</i>       | Location: W R     | -2    |
| Delivered By:    | PedEx     | UPS    | Cal       | DHL            | Hand<br>Delivered | Other |
| Preservation:    | (Ice      | Blue   | e Ice     | Dry lo         | ce N              | one   |
| Temp °C          | Time: 06  | 100    |           | Thermometer II | D: DT-20          |       |

|  |                                  |        |        |             | YES,          | NO       | NA       |
|--|----------------------------------|--------|--------|-------------|---------------|----------|----------|
| Adequate Sample Volume Received?                                       | Adequate Sample Volume Received? |        |        |             |               |          |          |
| Holding Time Acceptable?   |                                  |        |        |             | V             |          |          |
| Shipping Container(s) Intact?  |                                  |        |        |             | 1/            |          |          |
| Shipping Custody Seals Intact?   |                                  |        |        |             |               |          |          |
| Shipping Documentation Present?  |                                  |        |        |             |               |          |          |
| Airbill Trk# 7924 8983 9854  |                                  |        |        |             |               |          |          |
| Sample Container Intact?   |                                  |        |        |             |               | ļ        |          |
| Sample Custody Seals Intact?   |                                  |        |        |             |               |          | V        |
| Chain of Custody / Sample Documentation Present?                       |                                  |        |        |             |               | <u> </u> |          |
| COC Anomaly/Sample Acceptance Form completed?                          |                                  |        |        |             |               | V        | <u> </u> |
| If Chlorinated or Drinking Water Samples, Acceptable Preservation?     |                                  |        |        |             |               |          | V        |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? |                                  |        |        | San<br>Cont | nple<br>ainer | No       | one      |
| Shipping Container   | Alta                             | Client | Retain | Ref         | turn          | Dis      | ose      |

Comments:

# SAMPLE LOG-IN CHECKLIST

Alta Project #: 27 210

| Samples Arrival: | Date/Time | . 0840   | Initials: | b     | Locat                 | ion:<br>WK-J     | -     |
|------------------|-----------|----------|-----------|-------|-----------------------|------------------|-------|
| Logged In:       | Date/Time | 1420     | Initials  | В     | Locat                 | ion:<br>WR-      | -2-   |
| Delivered By:    | PedEx     | UPS      | Cal       | DHL   | 1                     | Hand<br>elivered | Other |
| Preservation:    | (Ice      | Blue     | e Ice     | Dry I | ce None               |                  | one   |
| Temp °C 0.9%     |           | Time: 06 | 100       | 4     | Thermometer ID: DT-20 |                  |       |

|  |      |        |        |     | YES | NO   | NA  |
|--|------|--------|--------|-----|-----|------|---|
| Adequate Sample Volume Received  | V.   |        |        |     |     |      |   |
| Holding Time Acceptable?   |      |        |        |     | V   |      |   |
| Shipping Container(s) Intact?  |      |        |        |     | 1   |      |   |
| Shipping Custody Seals Intact?   |      |        |        |     |     |      |   |
| Shipping Documentation Present?  |      |        |        |     |     |      |   |
| Airbill Trk # 7924 8983 9854   |      |        |        |     |     |      |   |
| Sample Container Intact?   |      |        |        |     |     |      |   |
| Sample Custody Seals Intact?   |      |        |        |     |     |      | V   |
| Chain of Custody / Sample Documentation Present?                               |      |        |        |     |     |      |   |
| COC Anomaly/Sample Acceptance Form completed?                                  |      |        |        |     |     | 1    | <u> -                                    </u> |
| If Chlorinated or Drinking Water Sam   |      |        | V      |     |     |      |   |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? COC Sam |      |        |        |     | • . | No   | ne  |
| Shipping Container   | Alta | Client | Retain | Ret | urn | Disp | ose   |

Comments:

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| MECX   | Package ID B4DF27  |
|--|--|
| 12269 East Vassar Drive  | Task Order 1261.001D.01  |
| Aurora, CO 80014   | SDG No. IPA1191  |
| • • •  | No. of Analyses 1  |
| Laboratory Alta  | Date: February 25, 2006  |
| Reviewer K. Shado  | TO THE PARTY OF TH |
| Analysis/Method Dioxin/Fi  | <u> </u>   |
|  |  |
| ACTION ITEMS*  |  |
| . Case Narrative   |  |
| Deficiencies   |  |
|  |  |
| 2. Out of Scope Analyses   |  |
|  |  |
|  |  |
| 3. Analyses Not Conducted  |  |
|  |  |
|  |  |
| 4. Missing Hardcopy  |  |
| Deliverables   |  |
|  |  |
| 5. Incorrect Hardcopy  |  |
| Deliverables   |  |
|  |  |
| 6. Deviations from Analysis  |  |
| Protocol, e.g.,  | Detects below the laboratory lower calibration level were qualified  |
| Holding Times  | as estimated.  |
| GC/MS Tune/Inst, Performan   |  |
| Calibration  |  |
| Method blanks  |  |
| Surrogates   |  |
| Matrix Spike/Dup LCS<br>Field QC   |  |
| internal Standard Performanc   |  |
| Compound Identification  |  |
| Quantitation   |  |
| System Performance   |  |
| COMMENTS   |  |
| en e   |  |
| terpetri Philippin construit i la signi sun qua ango sun qua sun sun anno anno anno anno anno anno anno an   |  |
| and distribution of the state o |  |
|  |  |
| * Subcontracted analytical laboratory is   | not meeting contract and/or method requirements.   |
|  | oted by the laboratory but no action against the laboratory is required:   |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 009

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA1191

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG: Analysis:

**NPDES** IPA1191 D/F

DATA VALIDATION REPORT

### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPA1191

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

0 K. Shadowlight

Reviewer: Date of Review:

February 25, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: Analysis:

NPDES IPA1191 D/F ......

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID<br>(Del Mar) | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 009 | IPA1191-01                 | 27210-001               | Water  | 1613       |

D/F

Analysis:

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 1°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however no sample custody seals were present. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

#### 2.1.3 Holding Times

The samples were extracted and analyzed within one year of collection. No qualifications were required.

#### 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

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Project: NPDES SDG: IPA1191 Analysis: D/F

DATA VALIDATION REPORT

#### 2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

#### 2.3 CALIBRATION

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 01/12/2006 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

#### 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

#### 2.4 BLANKS

One method blank (0-7686-MB001) was extracted and analyzed with the sample in this SDG. Target compounds 1,2,3,4,6,7,8-HpCDD and OCDD were reported at concentrations below the laboratory lower calibration level in the method blank. Target compounds 1,2,3,4,6,7,8-HpCDD and OCDD were also reported in the site sample; therefore, the detects for HpCDD and OCDD were qualified as estimated nondetects, "UJ," at the levels of contamination in the site sample. As a portion of total HpCDD was qualified for method blank contamination the result for total HpCDD was qualified as estimated, "J," in the site sample. A review of the method blank raw data and chromatograms indicated no false negatives or false positives. No further qualifications were required.

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review

840F27 4 Revision 0

| Project:  | NPDES  |
|-----------|--------|
| SDG:      | IPA119 |
| Analysis: | D/F    |

DATA VALIDATION REPORT

of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

### 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

#### 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

## 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

| Nume: De Project: IP, Date Collected: 14 Time Collected: 101 Analyte 2,3,7,8-TCDD 1,2,3,7,8-HcCDD 1,2,3,4,7,8-HcCDD 1,2,3,4,7,8-HpCDI 0,2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF 2,3,7,8-TCDF | el Mar Analyt<br>A1191<br>-Jan-06<br>15<br>Conc. (ug |  | Aqueous 1.01 L Qualifiers 1,B B.   | Lab Sample: 27210-001 QC Batch No.: 7686 Date Analyzed DB-5: 24-Jan-06  Labeled Standard  Labeled Standard  13C-1,2,3,7,8-PeCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD 13C-0CDD 13C-0CDD 13C-2,3,7,8-PeCDF  | Date Extracted: Date Extracted: Date Analyzed DB-225: %R L.CLU.C.L.d 71.3 25-164 74.1 25-181 72.2 32-141 74.0 28-130 | 17-Jan-06<br>22-Jan-06<br>NA |
|---|--|--|--|--|--|------------------------------|
| Analyte Analyte 23,7,8-TCDD 12,3,7,8-EKC 12,3,6,7,8-EKC 12,3,6,7,8-Hp 0CDD 23,7,8-PCDF 12,3,4,6,7,8-Hp 0CDD 23,7,8-PCDF 23,7,8-PCDF 23,7,8-PCDF   | -Jan-06 15 Conc. (ug)                                | DL a<br>0.0000010<br>0.0000019<br>0.0000019<br>0.0000014<br>0.0000013  | 5  | C Batch No.:  Labeled Standard  Labeled Standard  13C-2,37,8-TCDD  13C-1,23,7,8-PeCT  13C-1,23,47,8-Hxt  13C-1,23,4,5,8-Hxt  13C-1,23,4,6,7,8-Hxt  13C-2,23,4,6,7,8-PeCT  13C-2,3,7,8-PeCT   | l  | 22-Jan-06<br>NA              |
| Analyte 23.7,8-TCDD 12,3,7,8-PeCDI 12,3,4,8-HxC 12,3,6,7,8-HxC 12,3,4,6,7,8-Hx 0CDD 23,7,8-TCDF 12,3,4,6,7,8-PeCDI 23,7,8-PeCDI 23,7,8-PeCDI  | Conc. (ug  | 0.00000131<br>0.00000131<br>0.00000198<br>0.00000198<br>0.00000132<br>0.00000132   |  | Labeled Standard 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCI 13C-1,2,3,6,7,8-Hx 13C-1,2,3,6,7,8-H 13C-0,2,3,7,8-TCDF 13C-2,3,7,8-PeCI  | LCL-UCL <sup>d</sup> 25-164 1 25-181 25-181 2 32-141   |                              |
| 13,7,8-TCDD<br>1,2,3,4,7,8-PeCDI<br>1,2,3,4,7,8-HxC<br>1,2,3,4,5,8-PxC<br>1,2,3,4,8,9-HxC<br>1,2,3,7,8-TCDF<br>1,2,3,7,8-PeCDI<br>2,3,4,7,8-PeCDI   |  |  |  |  |  | Oualiffers                   |
| 1,2,3,4,7,8-PeCDI<br>1,2,3,4,7,8-HxC<br>1,2,3,4,5,7,8-Hx<br>1,2,3,4,6,7,8-Hp<br>0,CDD<br>0,CDD<br>2,3,7,8-PeCDI<br>2,3,7,8-PeCDI  | <b>C</b>   |  | J.B<br>B   | 13C-1,2,3,7,8-PeCDD<br>13C-1,2,3,4,7,8-HxCDD<br>13C-1,2,3,4,6,7,8-HpCDD<br>13C-0,2,3,4,6,7,8-HpCDD<br>13C-0CDD<br>13C-2,7,8-TCDF   |  |                              |
| 12,3,47,8-HxC<br>12,3,67,8-HxC<br>12,3,4,67,8-Hp<br>0CDD<br>2,3,7,8-TCDF<br>1,2,3,7,8-PeCDI<br>2,3,4,7,8-PeCDI  |  |  | J.B  | 13C-1,2,3,4,7,8-HxCDD<br>13C-1,2,3,6,7,8-HxCDD<br>13C-1,2,3,4,6,7,8-HpCDD<br>13C-OCDD<br>13C-2,7,8-TCDF<br>13C-2,3,7,8-PcCDF   |  |                              |
| 1,23,67,8-HxC<br>1,23,46,7,8-HxG<br>1,23,46,7,8-Hx<br>DCDD<br>2,3,7,8-TCDF<br>1,2,3,7,8-PeCDI<br>2,3,4,7,8-PeCDI  | 0  |  | J,B  | 13C-1,23,6,7,8-HxCDD<br>13C-1,23,4,6,7,8-HpCDD<br>13C-OCDD<br>13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PcCDF  |  |                              |
| 12,3,4,8,9-HxC<br>1,2,3,4,6,7,8-Hp<br>0,CDD<br>2,3,7,8-TCDF<br>1,2,3,7,8-PeCDI<br>2,3,4,7,8-PeCDI   | 6  |  | J.B  | 13C-1,2,3,4,6,7,8-HpCDD<br>13C-OCDD<br>13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PcCDF   |  |                              |
| 1,2,3,4,6,7,8-Hp<br>OCDD<br>2,3,7,8-TCDF<br>1,2,3,7,8-PeCDI<br>2,3,4,7,8-PeCDI  | 0  |  | J.B  | 13C-2,3,7,8-TCDE<br>13C-2,3,7,8-TCDE   | 72.4 23 - 140  |                              |
| 23,7,8-TCDF<br>12,3,7,8-PeCDI<br>2,3,4,7,8-PeCDI  |  |  | <b>B</b>   | 13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PeCDF  | 43.7 17-157  |                              |
| 1,3,7,8-TCDF<br>1,2,3,7,8-PeCDJ<br>2,3,4,7,8-PeCDJ  |  | 0.00000933<br>0.00000142<br>0.00000132   |  | 13C-1,2,3,7,8-PeCDF  | 72.4 24-169  |                              |
| (,2,3,7,8-PeCD)<br>2,3,4,7,8-PeCD)  |  | 0.0000132  |  | the same of the sa | 79.3 24-185  |                              |
| 2,3,4,7,8-PeCDI   |  | 0.00000132   |  | 13C-2,3,4,7,8-PeCDF  | 79.9 21 - 178  |                              |
|   |  | 100 Per 100 Pe |  | 13C-1,2,3,4,7,8-HxCDF  | 74.2 26 - 152  |                              |
| (,2,3,4,7,8-HxC   | DF ND  | 0.000000795  |  | 13C-1,2,3,6,7,8-HxCDF  | 71.8 26-123  |                              |
| 1,2,3,6,7,8-HxCDF   |  | 0,000000762  | A Committee of the Comm | 13C-2,3,4,6,7,8-HxCDF  | 74.1 28 - 136  |                              |
| 2,3,4,6,7,8-HxCDF   | DF   | 0.000000827  |  | 13C-1,2,3,7,8,9-HxCDF  | 73.5 29 - 147  |                              |
| 1,2,3,7,8,9-HxCDF   | R A  | C. CONT. LANG. AND CONT. |  | 13C-1,2,3,4,6,7,8-HpCDF  | 66.9 28 - 143  | -                            |
| 1,2,3,4,6,7,8-HpCDF   | PCDF   | 0.00000191   |  | 13C-1,2,3,4,7,8,9-HpCDF  | 73.5 26-138  |                              |
| 1,2,3,4,7,8,9-HpCDF   | PCDF<br>ND   | 0.0000181  | The second secon | 13C-OCDF   | 50,8 17 - 157  |                              |
| OCDF  | 0.00000508   | 508  | <u> </u>   | CRS 37Cl-2,3,7,8-TCDD  | 90,6 35 - 197  |                              |
| Totals  |  |  |  | Footnotes  |  |                              |
| Total TCDD  | Q  | 0.00000.0  | -  | a. Sample specific estimated detection limit.  |  |                              |
| Total PeCDD   | 2  | 0.00000131   |  | b. Betimated maximum possible concentration.   |  |                              |
| Total HxCDD   | 2  | 0.00000203   | 7  | c. Method detection limit.   |  |                              |
| Total HpCDD   | 0.0000186  |  | В  | d. Lower counted limit - upper control limit.  |  |                              |
| Total TCDF  | 2  | 0.000000933  |  |  |  |                              |
| OBLFCLF   |  | U.MODULS?  |  |  |  |                              |
| Total HoCDF   | <b>2 2</b>   | 0.0000008/1  |  |  |  |                              |

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

|      |   | Package ID B4MT30   |
|------|---|---|
| MEG  | OX.                                       | Task Order 1261.001D.01   |
| 1226 | 59 East Vassar Drive                      | SDG No. IPA1191   |
| Auro | ora, CO 80014                             | No. of Analyses I   |
|      | Laboratory Del Mar A                      | nalytical Date: February 27, 2006   |
|      | Reviewer P. Meeks                         | Reviewer's Signature  |
|      | Analysis/Method Metals                    | P.Mes   |
|      | ***************************************   | kkk   |
| ACT  | TON ITEMS'                                |   |
| •    | Case Narrative                            |   |
|      | Deficiencies                              |   |
|      |   |   |
| 2.   | Out of Scope                              |   |
|      | Analyses                                  |   |
|      |   |   |
|      |   |   |
| 3.   | Analyses Not Conducted                    |   |
|      |   |   |
|      |   |   |
| 4.   | Missing Hardcopy                          |   |
|      | Deliverables                              |   |
|      |   |   |
|      |   |   |
| 5.   | Incorrect Hardcopy                        |   |
|      | Deliverables                              |   |
|      |   |   |
|      | **************************************    |   |
| 6.   | Deviations from Analysis                  |   |
|      | Protocol, e.g.,                           | Qualifications applied for detects below the reporting limit and blank detects. |
|      | Holding Times                             |   |
|      | GC/MS Tune/Inst. Performance              |   |
|      | Calibration                               |   |
|      | Method blanks                             |   |
|      | Surrogates Matrix Spike/Dup LCS           |   |
|      | Field QC                                  |   |
|      | Internal Standard Performance             |   |
|      | Compound Identification                   |   |
|      | Quantitation                              |   |
|      | System Performance                        |   |
| CON  | MMENTS <sup>6</sup>                       |   |
|      |   |   |
|      |   |   |
|      |   |   |
|      |   | neeting contract and/or method requirements.                                    |
| b Di | fferences in protocol have been adopted I | by the laboratory but no action against the laboratory is required.             |



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 009

**ANALYSIS: METALS** 

**SAMPLE DELIVERY GROUP IPA1191** 

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

Analysis:

**NPDES** IPA1191 Metals

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title:

Topanga Fire Surface Samples

MEC<sup>X</sup> Project Number:

1261.001D.01

Sample Delivery Group:

IPA1191 P. Costa

Project Manager:

Sediment

Matrix:

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

P. Meeks

Reviewer: Date of Review:

February 27, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for ICP and ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

**B4MT30** 

Revision 0

Project:

**NPDES** 

SDG: Analysis:

IPA1191 Metals

DATA VALIDATION REPORT

**Table 1. Sample Identification** 

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 009 | IPA1191-01    | Water  | 200.8, 245.1 |

Project:

NPDES

DATA VALIDATION REPORT

SDG: Analysis:

Metals

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

#### 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28 days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method-specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120%. The laboratory analyzed reporting limit check standards in association with the sample in this SDG. No qualifications were required.

#### 2.4 BLANKS

Cadmium was reported in method blank 6A16092-BLK1 at -0.028 µg/L; therefore, cadmium detected Outfall 009 was qualified as estimated, "J." No further qualifications were required.

**B4MT30** 

3

Revision 0

Project: NPDES SDG: IPA1191 Analysis: Metals

#### DATA VALIDATION REPORT

## 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

No ICSA and ICSAB analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

#### 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.8 MATRIX SPIKES

Matrix spike analyses were performed on Outfall 009 for the ICP-MS analytes only. All recoveries were within the laboratory-established control limits of 70-130%. No mercury matrix spike analyses were performed association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Mercury method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target analytes analyzed by ICP-MS, the internal standards were within the methodspecified control limits of 60-125%. No qualifications were required.

#### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Analytes detected below the reporting limit

B4MT30 4 Revision 0

Project: NPDES SDG: IPA1191 Analysis: Metals

DATA VALIDATION REPORT

were qualified as estimated, "J," and denoted with "DNQ," in accordance with the NPDES permit. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

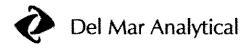
#### 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

# 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.

B4MT30 5 Revision 0



17461 Derian Ave., Soile 100, Invine, CA 92614 (949) 261-1022 FAX (949) 260-1297 1014 E. Cooley Dr., Suile A. Colton, CA 92324 (999) 370-4667 FAX (999) 370-1046 9464 Chesapeake Dr., Suite 805, San Diego, CA 92123 (658) 505-696 FAX (658) 505-6969 9830 South 51st St., Suite 8-120, Phoenix, AZ 65044 (480) 785-0043 FAX (480) 785-0651 2520 E. Sanset 8d. #3, Las Vogas, NV 89120 (702) 790-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 009

300 North Lake Avenue, Suite 1200

Report Number: IPA1191

Sampled: 01/14/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Received: 01/15/06

#### **METALS**

| Analyte                           | Method      | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers | į.                  |
|-----------------------------------|-------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|---------------------|
| Sample ID: IPA1191-01 (Outfall 00 | 99 - Water) |         |              |                    |                  |                    |                   |                  | Rev                | Que!                |
| Reporting Units: ug/l             |             |         |              |                    |                  |                    |                   |                  | Qual               | Code                |
| Antimony                          | EPA 200.8   | 6A16092 | 0.050        | 2.0                | 0.54             | 1                  | 01/16/06          | 01/17/06         | I j                | BOND                |
| Cadmium                           | EPA 200.8   | 6A16092 | 0.025        | 1.0                | 0.048            | 1                  | 01/16/06          | 01/17/06         | <b>↓</b> j         | 13,4                |
| Copper                            | EPA 200.8   | 6A16092 | 0.25         | 2.0                | 3.1              | 1                  | 01/16/06          | 01/17/06         |                    | and the second      |
| Lead                              | EPA 200.8   | 6A16092 | 0.040        | 1.0                | 0.50             | 1                  | 01/16/06          | 01/17/06         | JJ                 | DNG                 |
| Mercury                           | EPA 245.1   | 6A17070 | 0.050        | 0.20               | ND               | 1                  | 01/17/06          | 01/17/06         | V                  |                     |
|                                   |             |         |              |                    |                  |                    | Pr                | n 2/27           | 1/06               | n-97, n-m-paddddidd |

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

Lever IV

# **APPENDIX G**

# **Section 32**

Outfall 009, January 14, 2006

AMEC Data Validation Reports

# **APPENDIX G**

# **Section 33**

Outfall 009, January 03, 2006 Del Mar Analytical Laboratory Report



#### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: LARWQCB Sample Splits

Outfall 009

Sampled: 01/03/06 Received: 01/03/06 Issued: 01/31/06 10:36

#### 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:

Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL

INFORMATION:

The analysis of EPA 413.1 was not performed due to insufficient sample volume.

LABORATORY ID

CLIENT ID

**MATRIX** 

IPA0102-01

009 Split

Water

Reviewed By:

Del Mar Analytical, Irvine

Michile Chemberein

Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

# CORRECTIVE ACTION REPORT

Department: Extractions

Date: 01/16/2006

Method: EPA 625

Matrix: Water

QC Batch: 6A08028

Identification and Definition of Problem:

The result for Dibenz(a,h)anthracene in the Method Blank for the batch was above the laboratory reporting limit.

Determination of the Cause of the Problem:

A definitive cause for the QC failure has not been determined.

Corrective Action Taken:

All positive results for Dibenz(a,h)anthracene are potentially biased high and can be considered estimates only.

Quality Assurance Approval;

Dave Dawes

Date: 01/19/2006 11:41 AM



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Pasadena, CA 91101

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

### **PURGEABLES BY GC/MS (EPA 624)**

|   |         |         | MDL   | Reporting | -      | Dilution | Date      | Date     | Data       |
|---|---------|---------|-------|-----------|--------|----------|-----------|----------|------------|
| Analyte                                   | Method  | Batch   | Limit | Limit     | Result | Factor   | Extracted | Analyzed | Qualifiers |
| Sample ID: IPA0102-01 (009 Split - Water) |         |         |       |           |        |          |           |          |            |
| Reporting Units: ug/l                     |         |         |       |           |        |          |           |          |            |
| Benzene                                   | EPA 624 | 6A03022 | 0.28  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Bromodichloromethane                      | EPA 624 | 6A03022 | 0.30  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Bromoform                                 | EPA 624 | 6A03022 | 0.32  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Bromomethane                              | EPA 624 | 6A03022 | 0.42  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Trichlorotrifluoroethane (Freon 113)      | EPA 624 | 6A03022 | 1.2   | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Carbon tetrachloride                      | EPA 624 | 6A03022 | 0.28  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Chlorobenzene                             | EPA 624 | 6A03022 | 0.36  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Chloroethane                              | EPA 624 | 6A03022 | 0.33  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Chloroform                                | EPA 624 | 6A03022 | 0.33  | 2.0       | ND     | l        | 01/03/06  | 01/04/06 |            |
| Chloromethane                             | EPA 624 | 6A03022 | 0.30  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Dibromochloromethane                      | EPA 624 | 6A03022 | 0.28  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,2-Dichlorobenzene                       | EPA 624 | 6A03022 | 0.32  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,3-Dichlorobenzene                       | EPA 624 | 6A03022 | 0.35  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,4-Dichlorobenzene                       | EPA 624 | 6A03022 | 0.37  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,1-Dichloroethane                        | EPA 624 | 6A03022 | 0.27  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,2-Dichloroethane                        | EPA 624 | 6A03022 | 0.28  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,1-Dichloroethene                        | EPA 624 | 6A03022 | 0.32  | 3.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| trans-1,2-Dichloroethene                  | EPA 624 | 6A03022 | 0.27  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,2-Dichloropropane                       | EPA 624 | 6A03022 | 0.35  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| cis-1,3-Dichloropropene                   | EPA 624 | 6A03022 | 0.22  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| trans-1,3-Dichloropropene                 | EPA 624 | 6A03022 | 0.32  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Ethylbenzene                              | EPA 624 | 6A03022 | 0.25  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Methylene chloride                        | EPA 624 | 6A03022 | 0.51  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,1,2,2-Tetrachloroethane                 | EPA 624 | 6A03022 | 0.24  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 | L          |
| Tetrachloroethene                         | EPA 624 | 6A03022 | 0.32  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Toluene                                   | EPA 624 | 6A03022 | 0.36  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,1,1-Trichloroethane                     | EPA 624 | 6A03022 | 0.30  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| 1,1,2-Trichloroethane                     | EPA 624 | 6A03022 | 0.30  | 2.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Trichloroethene                           | EPA 624 | 6A03022 | 0.26  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Trichlorofluoromethane                    | EPA 624 | 6A03022 | 0.34  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Vinyl chloride                            | EPA 624 | 6A03022 | 0.26  | 5.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Xylenes, Total                            | EPA 624 | 6A03022 | 0.52  | 4.0       | ND     | 1        | 01/03/06  | 01/04/06 |            |
| Surrogate: Dibromofluoromethane (80-120%) |         |         |       |           | 109 %  |          |           |          |            |
| Surrogate: Toluene-d8 (80-120%)           |         |         |       |           | 109 %  |          |           |          |            |
| Surrogate: 4-Bromofluorobenzene (80-120%) |         |         |       |           | 102 %  |          |           |          |            |

Del Mar Analytical, Irvine Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101

Report Number: IPA0102

Received: 01/03/06

Attention: Bronwyn Kelly

#### PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

| Analyte   | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|---|----------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - W<br>Reporting Units: ug/l | ater) - cont.  |         |              |                    |                  |                    |                   |                  |                    |
| 1,2-Dichloro-1,1,2-trifluoroethane                            | EPA 624 (MOD.) | 6A03022 | N/A          | 2.5                | ND               | 1                  | 01/03/06          | 01/04/06         |                    |
| Cyclohexane   | EPA 624 (MOD.) | 6A03022 | N/A          | 2.5                | ND               | 1                  | 01/03/06          | 01/04/06         |                    |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Pasadena, CA 91101

Attention: Bronwyn Kelly

#### SEMI-VOL ORGANICS by GC/MS-CHEMICAL IONIZATION (EPA 3520C/1625C-CI MOD)

MDL Reporting Sample Dilution Data Qualifiers Analyte Method Batch Limit Limit Result Factor Extracted Analyzed Sample ID: IPA0102-01 (009 Split - Water) - cont. Reporting Units: ug/l N-Nitrosodimethylamine EPA 1625C-CI Mod 6A08026 0.00019 0.0019 0.00045 0.943 01/08/06 01/10/06 B, J



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

#### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

| Analyte                              | Method        | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--------------------------------------|---------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - W | ater) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                | ,             |         |              |                    |                  |                    |                   |                  |                    |
| Acenaphthene                         | EPA 625       | 6A08028 | 0.10         | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Acenaphthylene                       | EPA 625       | 6A08028 | 0.10         | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Aniline                              | EPA 625       | 6A08028 | 2.9          | 10                 | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Anthracene                           | EPA 625       | 6A08028 | 0.083        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Benzidine                            | EPA 625       | 6A08028 | 2.4          | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         | C                  |
| Benzoic acid                         | EPA 625       | 6A08028 | 3.7          | 20                 | 4.9              | 1                  | 01/08/06          | 01/11/06         | A-01, J            |
| Benzo(a)anthracene                   | EPA 625       | 6A08028 | 0.038        | 5.0                | 0.32             | 1                  | 01/08/06          | 01/11/06         | J                  |
| Benzo(a)pyrene                       | EPA 625       | 6A08028 | 0.14         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Benzo(b)fluoranthene                 | EPA 625       | 6A08028 | 0.050        | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Benzo(g,h,i)perylene                 | EPA 625       | 6A08028 | 0.059        | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Benzo(k)fluoranthene                 | EPA 625       | 6A08028 | 0.053        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Benzyl alcohol                       | EPA 625       | 6A08028 | 0.21         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Bis(2-chloroethoxy)methane           | EPA 625       | 6A08028 | 0.072        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Bis(2-chloroethyl)ether              | EPA 625       | 6A08028 | 0.084        | 0.50               | ND               | l                  | 01/08/06          | 01/11/06         |                    |
| Bis(2-chloroisopropyl)ether          | EPA 625       | 6A08028 | 0.11         | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Bis(2-ethylhexyl)phthalate           | EPA 625       | 6A08028 | 1.1          | 5.0                | 2.4              | 1                  | 01/08/06          | 01/11/06         | B, J               |
| 4-Bromophenyl phenyl ether           | EPA 625       | 6A08028 | 0.12         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Butyl benzyl phthalate               | EPA 625       | 6A08028 | 0.34         | 5.0                | 1.3              | 1                  | 01/08/06          | 01/11/06         | B, J               |
| 4-Chloroaniline                      | EPA 625       | 6A08028 | 0.20         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2-Chloronaphthalene                  | EPA 625       | 6A08028 | 0.059        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 4-Chloro-3-methylphenol              | EPA 625       | 6A08028 | 0.34         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 4-Chlorophenyl phenyl ether          | EPA 625       | 6A08028 | 0.056        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2-Chlorophenol                       | EPA 625       | 6A08028 | 0.12         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Chrysene                             | EPA 625       | 6A08028 | 0.072        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Dibenz(a,h)anthracene                | EPA 625       | 6A08028 | 0.083        | 0.50               | 0.60             | 1                  | 01/08/06          | 01/11/06         | В                  |
| Dibenzofuran                         | EPA 625       | 6A08028 | 0.075        | 0.50               | ND               | l                  | 01/08/06          | 01/11/06         |                    |
| Di-n-butyl phthalate                 | EPA 625       | 6A08028 | 0.26         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 1,2-Dichlorobenzene                  | EPA 625       | 6A08028 | 0.11         | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 1,3-Dichlorobenzene                  | EPA 625       | 6A08028 | 0.13         | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 1,4-Dichlorobenzene                  | EPA 625       | 6A08028 | 0.050        | 0.50               | ND               | l                  | 01/08/06          | 01/11/06         |                    |
| 3,3-Dichlorobenzidine                | EPA 625       | 6A08028 | 0.93         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2,4-Dichlorophenol                   | EPA 625       | 6A08028 | 0.21         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Diethyl phthalate                    | EPA 625       | 6A08028 | 0.12         | 1.0                | 0.62             | 1                  | 01/08/06          | 01/11/06         | B, J               |
| 2,4-Dimethylphenol                   | EPA 625       | 6A08028 | 0.31         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Dimethyl phthalate                   | EPA 625       | 6A08028 | 0.081        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 4,6-Dinitro-2-methylphenol           | EPA 625       | 6A08028 | 0.38         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2,4-Dinitrophenol                    | EPA 625       | 6A08028 | 2.7          | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2,4-Dinitrotoluene                   | EPA 625       | 6A08028 | 0.23         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2,6-Dinitrotoluene                   | EPA 625       | 6A08028 | 0.24         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Di-n-octyl phthalate                 | EPA 625       | 6A08028 | 0.17         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 1,2-Diphenylhydrazine/Azobenzene     | EPA 625       | 6A08028 | 0.087        | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
|                                      |               |         |              |                    |                  |                    |                   |                  |                    |

Del Mar Analytical, Irvine

Michele Chamberlin

MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06

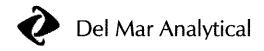
Report Number: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

| Analyte                                   | Method  | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|---|---------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - Water) | - cont. |         |              |                    |                  |                    |                   | •                |                    |
| Reporting Units: ug/l                     | - 0000  |         |              |                    |                  |                    |                   |                  |                    |
| Fluoranthene                              | EPA 625 | 6A08028 | 0.089        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Fluorene                                  | EPA 625 | 6A08028 | 0.075        | 0.50               | ND               | l                  | 01/08/06          | 01/11/06         |                    |
| Hexachlorobenzene                         | EPA 625 | 6A08028 | 0.13         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Hexachlorobutadiene                       | EPA 625 | 6A08028 | 0.38         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Hexachlorocyclopentadiene                 | EPA 625 | 6A08028 | 1.8          | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Hexachloroethane                          | EPA 625 | 6A08028 | 0.51         | 3.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Indeno(1,2,3-cd)pyrene                    | EPA 625 | 6A08028 | 0.19         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Isophorone                                | EPA 625 | 6A08028 | 0.059        | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         | C                  |
| 2-Methylnaphthalene                       | EPA 625 | 6A08028 | 0.13         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2-Methylphenol                            | EPA 625 | 6A08028 | 0.28         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 4-Methylphenol                            | EPA 625 | 6A08028 | 0.20         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Naphthalene                               | EPA 625 | 6A08028 | 0.13         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2-Nitroaniline                            | EPA 625 | 6A08028 | 0.18         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 3-Nitroaniline                            | EPA 625 | 6A08028 | 0.35         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 4-Nitroaniline                            | EPA 625 | 6A08028 | 0.49         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Nitrobenzene                              | EPA 625 | 6A08028 | 0.10         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2-Nitrophenol                             | EPA 625 | 6A08028 | 0.23         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 4-Nitrophenol                             | EPA 625 | 6A08028 | 0.73         | 5.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| N-Nitrosodimethylamine                    | EPA 625 | 6A08028 | 0.22         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| N-Nitroso-di-n-propylamine                | EPA 625 | 6A08028 | 0.18         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| N-Nitrosodiphenylamine                    | EPA 625 | 6A08028 | 0.077        | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Pentachlorophenol                         | EPA 625 | 6A08028 | 0.78         | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Phenanthrene                              | EPA 625 | 6A08028 | 0.071        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Phenol                                    | EPA 625 | 6A08028 | 0.14         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Pyrene                                    | EPA 625 | 6A08028 | 0.059        | 0.50               | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 1,2,4-Trichlorobenzene                    | EPA 625 | 6A08028 | 0.10         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2,4,5-Trichlorophenol                     | EPA 625 | 6A08028 | 0.075        | 2.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| 2,4,6-Trichlorophenol                     | EPA 625 | 6A08028 | 0.10         | 1.0                | ND               | 1                  | 01/08/06          | 01/11/06         |                    |
| Surrogate: 2-Fluorophenol (35-120%)       |         |         |              |                    | 60 %             |                    |                   |                  |                    |
| Surrogate: Phenol-d6 (45-120%)            |         |         |              |                    | 71%              |                    |                   |                  |                    |
| Surrogate: 2,4,6-Tribromophenol (50-125%) |         |         |              |                    | <i>78 %</i>      |                    |                   |                  |                    |
| Surrogate: Nitrobenzene-d5 (45-120%)      |         |         |              |                    | 72 %             |                    |                   |                  |                    |
| Surrogate: 2-Fluorobiphenyl (45-120%)     |         |         |              |                    | 71%              |                    |                   |                  |                    |
| Surrogate: Terphenyl-d14 (45-135%)        |         |         |              |                    | 75 %             |                    |                   |                  |                    |

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



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Pasadena, CA 91101

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

### **TOTAL PCBS (EPA 608)**

| Analyte                                   | Method  | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|---|---------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - Water) | - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                     |         |         |              |                    |                  |                    |                   |                  |                    |
| Aroclor 1016                              | EPA 608 | 6A06049 | 0.20         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Aroclor 1221                              | EPA 608 | 6A06049 | 0.10         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Aroclor 1232                              | EPA 608 | 6A06049 | 0.25         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Aroclor 1242                              | EPA 608 | 6A06049 | 0.25         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Aroclor 1248                              | EPA 608 | 6A06049 | 0.25         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Aroclor 1254                              | EPA 608 | 6A06049 | 0.25         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Aroclor 1260                              | EPA 608 | 6A06049 | 0.40         | 1.0                | ND               | 1                  | 01/06/06          | 01/06/06         |                    |
| Surrogate: Decachlorobiphenyl (45-120%)   |         |         |              |                    | 85 %             |                    |                   |                  |                    |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101

Report Number: IPA0102

Received: 01/03/06

Attention: Bronwyn Kelly

#### **METALS**

| Analyte                                  | Method     | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - Water | -) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l                    |            |         |              |                    |                  |                    |                   |                  |                    |
| Barium                                   | EPA 200.8  | 6A04091 | 0.00015      | 0.0010             | 0.041            | 1                  | 01/04/06          | 01/06/06         |                    |
| Boron                                    | EPA 200.7  | 6A04092 | 0.0080       | 0.050              | 0.12             | 1                  | 01/04/06          | 01/05/06         |                    |
| Calcium                                  | EPA 200.7  | 6A04092 | 0.040        | 0.10               | 39               | 1                  | 01/04/06          | 01/05/06         |                    |
| Magnesium                                | EPA 200.7  | 6A04092 | 0.0070       | 0.020              | 11               | 1                  | 01/04/06          | 01/05/06         |                    |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Pasadena, CA 91101

Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

#### METALS

| METALS                               |                |         |              |                    |                  |                    |                   |                  |                    |
|--------------------------------------|----------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Analyte                              | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
| Sample ID: IPA0102-01 (009 Split - V | Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                |                |         |              |                    |                  |                    |                   |                  |                    |
| Antimony                             | EPA 200.8      | 6A04091 | 0.050        | 2.0                | 1.0              | 1                  | 01/04/06          | 01/06/06         | J, B               |
| Arsenic                              | EPA 200.8      | 6A04091 | 0.50         | 1.0                | 1.8              | l                  | 01/04/06          | 01/06/06         |                    |
| Beryllium                            | EPA 200.8      | 6A04091 | 0.075        | 0.50               | 0.085            | 1                  | 01/04/06          | 01/09/06         | J                  |
| Cadmium                              | EPA 200.8      | 6A04091 | 0.025        | 1.0                | ND               | 1                  | 01/04/06          | 01/06/06         |                    |
| Chromium                             | EPA 200.7      | 6A04092 | 0.68         | 5.0                | 1.4              | 1                  | 01/04/06          | 01/05/06         | J                  |
| Cobalt                               | EPA 200.8      | 6A04091 | 0.035        | 1.0                | 0.27             | 1                  | 01/04/06          | 01/06/06         | J                  |
| Copper                               | EPA 200.8      | 6A04091 | 0.25         | 1.0                | 3.2              | 1                  | 01/04/06          | 01/06/06         |                    |
| Lead                                 | EPA 200.8      | 6A04091 | 0.040        | 1.0                | 0.51             | l                  | 01/04/06          | 01/06/06         | J                  |
| Mercury                              | EPA 245.1      | 6A04080 | 0.050        | 0.20               | ND               | 1                  | 01/04/06          | 01/04/06         |                    |
| Molybdenum                           | EPA 200.8      | 6A04091 | 0.15         | 2.0                | 0.75             | 1                  | 01/04/06          | 01/06/06         | B, J               |
| Nickel                               | EPA 200.8      | 6A04091 | 0.35         | 2.0                | 2.3              | 1                  | 01/04/06          | 01/06/06         | В                  |
| Selenium                             | EPA 200.8      | 6A04091 | 0.30         | 2.0                | 0.30             | 1                  | 01/04/06          | 01/06/06         | J                  |
| Silver                               | EPA 200.8      | 6A09086 | 0.025        | 1.0                | ND               | 1                  | 01/09/06          | 01/09/06         |                    |
| Thallium                             | EPA 200.8      | 6A04091 | 0.15         | 1.0                | ND               | 1                  | 01/04/06          | 01/06/06         |                    |
| Vanadium                             | EPA 200.8      | 6A04091 | 0.70         | 2.0                | 1.5              | 1                  | 01/04/06          | 01/06/06         | J                  |
| Zine                                 | EPA 200.8      | 6A04091 | 1.0          | 10                 | 6.5              | 1                  | 01/04/06          | 01/06/06         | J                  |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

Outfall 009

Pasadena, CA 91101

Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

| Analyte                            | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|------------------------------------|----------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - | Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l              |                |         |              |                    |                  |                    |                   |                  |                    |
| Ammonia-N (Distilled)              | EPA 350.2      | 6A05098 | 0.30         | 0.50               | ND               | 1                  | 01/05/06          | 01/05/06         |                    |
| Biochemical Oxygen Demand          | EPA 405.1      | 6A04062 | 0.59         | 2.0                | 0.90             | 1                  | 01/04/06          | 01/09/06         | J                  |
| Fluoride                           | EPA 300.0      | 6A03051 | 0.10         | 0.50               | 0.29             | 1                  | 01/03/06          | 01/03/06         | J, B               |
| Hardness (as CaCO3)                | SM2340B        | 6A04092 | 1.0          | 1.0                | 140              | 1                  | 01/04/06          | 01/05/06         |                    |
| Nitrate/Nitrite-N                  | EPA 300.0      | 6A03051 | 0.072        | 0.26               | 2.7              | 1                  | 01/03/06          | 01/03/06         |                    |
| Sulfate                            | EPA 300.0      | 6A03051 | 0.18         | 0.50               | 52               | 1                  | 01/03/06          | 01/03/06         |                    |
| Surfactants (MBAS)                 | SM5540-C       | 6A03114 | 0.044        | 0.10               | ND               | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Dissolved Solids             | SM2540C        | 6A04107 | 10           | 10                 | 260              | 1                  | 01/04/06          | 01/04/06         |                    |
| Total Organic Carbon               | EPA 415.1      | 6A06094 | 0.25         | 1.0                | 9.1              | 1                  | 01/06/06          | 01/06/06         |                    |
| Total Suspended Solids             | EPA 160.2      | 6A06118 | 10           | 10                 | ND               | 1                  | 01/06/06          | 01/06/06         |                    |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

| Analyte   | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |  |
|---|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|--|
| Sample ID: IPA0102-01 (009 Split - Water) - cont.   |           |         |              |                    |                  |                    |                   |                  |                    |  |
| Reporting Units: ml/l/hr<br>Total Settleable Solids | EPA 160.5 | 6A04072 | 0.10         | 0.10               | ND               | 1                  | 01/04/06          | 01/04/06         |                    |  |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

Received: 01/03/06

| Analyte                                  | Method     | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0102-01 (009 Split - Water | r) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                    |            |         |              |                    |                  |                    |                   |                  |                    |
| Total Cyanide                            | EPA 335.2  | 6A06111 | 2.2          | 5.0                | 3.4              | 1                  | 01/06/06          | 01/09/06         | J                  |
| Perchlorate                              | EPA 314.0  | 6A04078 | 0.80         | 4.0                | ND               | 1                  | 01/04/06          | 01/04/06         |                    |



MWH-Pasadena/Boeing

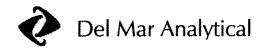
Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 er: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

| Analyte   | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |  |
|---|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|--|
| Sample ID: IPA0102-01 (009 Split - Water) - cont. |           |         |              |                    |                  |                    |                   |                  |                    |  |
| Reporting Units: umhos/cm<br>Specific Conductance | EPA 120.1 | 6A04105 | 1.0          | 1.0                | 420              | 1                  | 01/04/06          | 01/04/06         |                    |  |



MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 IPA0102 Received: 01/03/06

Pasadena, CA 91101

Report Number: IPA0102

SHORT HOLD TIME DETAIL REPORT

|   | Hold Time<br>(in days) | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: 009 Split (IPA0102-01) - Water |                        |                      |                       |                        |                       |
| EPA 160.5                                 | 2                      | 01/03/2006 13:25     | 01/03/2006 18:00      | 01/04/2006 09:18       | 01/04/2006 10:30      |
| EPA 300.0                                 | 2                      | 01/03/2006 13:25     | 01/03/2006 18:00      | 01/03/2006 20:30       | 01/03/2006 21:35      |
| EPA 405.1                                 | 2                      | 01/03/2006 13:25     | 01/03/2006 18:00      | 01/04/2006 10:15       | 01/09/2006 16:00      |
| SM5540-C                                  | 2                      | 01/03/2006 13:25     | 01/03/2006 18:00      | 01/03/2006 21:20       | 01/03/2006 22:46      |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

Report Number: IPA0102 Received: 01/03/06

#### METHOD BLANK/QC DATA

### **PURGEABLES BY GC/MS (EPA 624)**

|                                      |           | Reporting |      |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|--------------------------------------|-----------|-----------|------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                              | Result    | Limit     | MDL  | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03022 Extracted: 01/03/     | <u>06</u> |           |      |       |       |        |      |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03022  | -BLK1)    |           |      |       |       |        |      |        |     |       |            |
| Benzene                              | ND        | 2.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| Benzene                              | ND        | 1.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| Bromodichloromethane                 | ND        | 2.0       | 0.30 | ug/l  |       |        |      |        |     |       |            |
| Bromoform                            | ND        | 5.0       | 0.32 | ug/l  |       |        |      |        |     |       |            |
| Bromomethane                         | ND        | 5.0       | 0.42 | ug/l  |       |        |      |        |     |       |            |
| Trichlorotrifluoroethane (Freon 113) | ND        | 5.0       | 1.2  | ug/l  |       |        |      |        |     |       |            |
| Carbon tetrachloride                 | ND        | 0.50      | 0.28 | ug/l  |       |        |      |        |     |       |            |
| Carbon tetrachloride                 | ND        | 5.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| Chlorobenzene                        | ND        | 2.0       | 0.36 | ug/l  |       |        |      |        |     |       |            |
| Chloroethane                         | ND        | 5.0       | 0.33 | ug/l  |       |        |      |        |     |       |            |
| Chloroform                           | ND        | 2.0       | 0.33 | ug/l  |       |        |      |        |     |       |            |
| Chloroform                           | ND        | 2.0       | 0.33 | ug/l  |       |        |      |        |     |       |            |
| Chloromethane ·                      | ND        | 5.0       | 0.30 | ug/l  |       |        |      |        |     |       |            |
| Dibromochloromethane                 | ND        | 2.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| 1,2-Dichlorobenzene                  | ND        | 2.0       | 0.32 | ug/l  |       |        |      |        |     |       |            |
| 1,3-Dichlorobenzene                  | ND        | 2.0       | 0.35 | ug/l  |       |        |      |        |     |       |            |
| 1,4-Dichlorobenzene                  | ND        | 2.0       | 0.37 | ug/l  |       |        |      |        |     |       |            |
| 1,1-Dichloroethane                   | ND        | 2.0       | 0.27 | ug/l  |       |        |      |        |     |       |            |
| 1,1-Dichloroethane                   | ND        | 2.0       | 0.27 | ug/l  |       |        |      |        |     |       |            |
| 1,2-Dichloroethane                   | ND        | 0.50      | 0.28 | ug/l  |       |        |      |        |     |       |            |
| 1,2-Dichloroethane                   | ND        | 2.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| 1,1-Dichloroethene                   | ND        | 5.0       | 0.42 | ug/l  |       |        |      |        |     |       |            |
| 1,1-Dichloroethene                   | ND        | 3.0       | 0.42 | ug/l  |       |        |      |        |     |       |            |
| trans-1,2-Dichloroethene             | ND        | 2.0       | 0.27 | ug/l  |       |        |      |        |     |       |            |
| 1,2-Dichloropropane                  | ND        | 2.0       | 0.35 | ug/l  |       |        |      |        |     |       |            |
| cis-1,3-Dichloropropene              | ND        | 2.0       | 0.22 | ug/l  |       |        |      |        |     |       |            |
| trans-1,3-Dichloropropene            | ND        | 2.0       | 0.32 | ug/l  |       |        |      |        |     |       |            |
| Ethylbenzene                         | ND        | 2.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Ethylbenzene                         | ND        | 2.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Methylene chloride                   | ND        | 5.0       | 0.51 | ug/Í  |       |        |      |        |     |       |            |
| 1,1,2,2-Tetrachloroethane            | ND        | 2.0       | 0.24 | ug/l  |       |        |      |        |     |       |            |
| Tetrachloroethene                    | ND        | 2.0       | 0.32 | ug/l  |       |        |      |        |     |       |            |
| Tetrachloroethene                    | ND        | 2.0       | 0.32 | ug/l  |       |        |      |        |     |       |            |
| Toluene                              | ND        | 2.0       | 0.36 | ug/l  |       |        |      |        |     |       |            |
| Toluene                              | ND        | 2.0       | 0.36 | ug/l  |       |        |      |        |     |       |            |
|                                      |           |           |      |       |       |        |      |        |     |       |            |

#### Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

#### METHOD BLANK/QC DATA

# **PURGEABLES BY GC/MS (EPA 624)**

|                                       |              | Reporting |      |              | Spike | Source |      | %REC   |     | RPD   | Data       |
|---------------------------------------|--------------|-----------|------|--------------|-------|--------|------|--------|-----|-------|------------|
| Analyte                               | Result       | Limit     | MDL  | Units        | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03022 Extracted: 01/03/0     | <u>6</u>     |           |      |              |       |        |      |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03022-1 | 91 1Z1\      |           |      |              |       |        |      |        |     |       |            |
| 1.1,1-Trichloroethane                 | ND           | 2.0       | 0.30 | ug/l         |       |        |      |        |     |       |            |
| 1,1,1-Trichloroethane                 | ND           | 2.0       | 0.30 | ug/l<br>ug/l |       |        |      |        |     |       |            |
| 1,1,2-Trichloroethane                 | ND           | 2.0       | 0.30 | ug/l         |       |        |      |        |     |       |            |
| 1,1,2-Trichloroethane                 | ND           | 2.0       | 0.30 | ug/l         |       |        |      |        |     |       |            |
| Trichloroethene                       | ND           | 2.0       | 0.26 | ug/l         |       |        |      |        |     |       |            |
| Trichloroethene                       | ND           | 5.0       | 0.26 | ug/l         |       |        |      |        |     |       |            |
| Trichlorofluoromethane                | ND           | 5.0       | 0.34 | ug/l         |       |        |      |        |     |       |            |
| Trichlorofluoromethane                | ND           | 5.0       | 0.34 | ug/l         |       |        |      |        |     |       |            |
| Vinyl chloride                        | ND           | 0.50      | 0.26 | ug/l         |       |        |      |        |     |       |            |
| Vinyl chloride                        | ND           | 5.0       | 0.26 | ug/i         |       |        |      |        |     |       |            |
| Xylenes, Total                        | ND           | 4.0       | 0.52 | ug/l         |       |        |      |        |     |       |            |
| Xylenes, Total                        | ND           | 4.0       | 0.52 | ug/l         |       |        |      |        |     |       |            |
| Trichlorotrifluoroethane (Freon 113)  | ND           | 5.0       | 1.2  | ug/l         |       |        |      |        |     |       |            |
| Surrogate: Dibromofluoromethane       | 26.3         |           |      | ug/l         | 25.0  |        | 105  | 80-120 |     |       |            |
| Surrogate: Dibromofluoromethane       | 26.3         |           |      | ug/l         | 25.0  |        | 105  | 80-120 |     |       |            |
| Surrogate: Toluene-d8                 | 26.6         |           |      | ug/l         | 25.0  |        | 106  | 80-120 |     |       | •          |
| Surrogate: Toluene-d8                 | 26.6         |           |      | ug/l         | 25.0  |        | 106  | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene       | 25.7         |           |      | ug/l         | 25.0  |        | 103  | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene       | 25.7         |           |      | ug/l         | 25.0  |        | 103  | 80-120 |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03022-BS  | 5 <b>1</b> ) |           |      |              |       |        |      |        |     |       |            |
| Benzene                               | 23.2         | 1.0       | 0.28 | ug/l         | 25.0  |        | 93   | 65-120 |     |       |            |
| Benzene                               | 23.2         | 2.0       | 0.28 | ug/l         | 25.0  |        | 93   | 70-120 |     |       |            |
| Bromodichloromethane                  | 25.4         | 2.0       | 0.30 | ug/l         | 25.0  |        | 102  | 65-135 |     |       |            |
| Bromoform                             | 25.5         | 5.0       | 0.32 | ug/l         | 25.0  |        | 102  | 50-130 |     |       |            |
| Bromomethane                          | 21.8         | 5.0       | 0.42 | ug/l         | 25.0  |        | 87   | 60-140 |     |       |            |
| Carbon tetrachloride                  | 24.8         | 5.0       | 0.28 | ug/l         | 25.0  |        | 99   | 70-140 |     |       |            |
| Carbon tetrachloride                  | 24.8         | 0.50      | 0.28 | ug/l         | 25.0  |        | 99   | 65-140 |     |       |            |
| Chlorobenzene                         | 24,4         | 2.0       | 0.36 | ug/l         | 25.0  |        | 98   | 70-125 |     |       |            |
| Chloroethane                          | 21.6         | 5.0       | 0.33 | ug/l         | 25.0  |        | 86   | 55-140 |     |       |            |
| Chloroform                            | 23.6         | 2.0       | 0.33 | ug/l         | 25.0  |        | 94   | 75-130 |     |       |            |
| Chloroform                            | 23.6         | 2.0       | 0.33 | ug/l         | 25.0  |        | 94   | 65-130 |     |       |            |
| Chloromethane                         | 17.6         | 5.0       | 0.30 | ug/l         | 25.0  |        | 70   | 40-140 |     |       |            |
| Dibromochloromethane                  | 27.4         | 2.0       | 0.28 | ug/l         | 25.0  |        | 110  | 65-140 |     |       |            |
| 1,2-Dichlorobenzene                   | 26.4         | 2.0       | 0.32 | ug/l         | 25.0  |        | 106  | 70-120 |     |       |            |
| 1,3-Dichlorobenzene                   | 25.0         | 2.0       | 0.35 | ug/l         | 25.0  |        | 100  | 70-125 |     |       |            |
|                                       |              |           |      |              |       |        |      |        |     |       |            |

Del Mar Analytical, Irvine

Michele Chamberlin



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

#### **PURGEABLES BY GC/MS (EPA 624)**

|                                  |        | Reporting |      |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|----------------------------------|--------|-----------|------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                          | Result | Limit     | MDL  | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03022 Extracted: 01/0   | 3/06   |           |      |       |       |        |      |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A0302 | 2-BS1) |           |      |       |       |        |      |        |     |       |            |
| 1,4-Dichlorobenzene              | 23.5   | 2.0       | 0.37 | ug/l  | 25.0  |        | 94   | 70-125 |     |       |            |
| 1,1-Dichloroethane               | 23.0   | 2.0       | 0.27 | ug/l  | 25.0  |        | 92   | 65-130 |     |       |            |
| 1,1-Dichloroethane               | 23.0   | 2.0       | 0.27 | ug/l  | 25.0  |        | 92   | 70-135 |     |       |            |
| 1,2-Dichloroethane               | 25.9   | 0.50      | 0.28 | ug/l  | 25.0  |        | 104  | 60-140 |     |       |            |
| 1,2-Dichloroethane               | 25.9   | 2.0       | 0.28 | ug/l  | 25.0  |        | 104  | 60-150 |     |       |            |
| 1,1-Dichloroethene               | 22.4   | 5.0       | 0.42 | ug/l  | 25.0  |        | 90   | 70-130 |     |       |            |
| 1,1-Dichloroethene               | 22.4   | 3.0       | 0.32 | ug/l  | 25.0  |        | 90   | 75-135 |     |       |            |
| trans-1,2-Dichloroethene         | 23.5   | 2.0       | 0.27 | ug/l  | 25.0  |        | 94   | 65-130 |     |       |            |
| 1,2-Dichloropropane              | 24.5   | 2.0       | 0.35 | ug/l  | 25.0  |        | 98   | 65-125 |     |       |            |
| cis-1,3-Dichloropropene          | 26.4   | 2.0       | 0.22 | ug/l  | 25.0  |        | 106  | 70-130 |     |       |            |
| trans-1,3-Dichloropropene        | 28.2   | 2.0       | 0.32 | ug/l  | 25.0  |        | 113  | 65-130 |     |       |            |
| Ethylbenzene                     | 25.0   | 2.0       | 0.25 | ug/l  | 25.0  |        | 100  | 80-120 |     |       |            |
| Ethylbenzene                     | 25.0   | 2.0       | 0.25 | ug/l  | 25.0  |        | 100  | 70-125 |     |       |            |
| Methylene chloride               | 20.9   | 5.0       | 0.51 | ug/l  | 25.0  |        | 84   | 60-130 |     |       |            |
| 1,1,2,2-Tetrachloroethane        | 33.2   | 2.0       | 0.24 | ug/l  | 25.0  |        | 133  | 55-130 |     |       | L          |
| Tetrachloroethene                | 24.2   | 2.0       | 0.32 | ug/l  | 25.0  |        | 97   | 75-125 |     |       |            |
| Tetrachloroethene                | 24.2   | 2.0       | 0.32 | ug/l  | 25.0  |        | 97   | 65-125 |     |       |            |
| Toluene                          | 24.4   | 2.0       | 0.36 | ug/l  | 25.0  |        | 98   | 75-120 |     |       |            |
| Toluene                          | 24.4   | 2.0       | 0.36 | ug/l  | 25.0  |        | 98   | 70-125 |     |       |            |
| 1,1,1-Trichloroethane            | 23.3   | 2.0       | 0.30 | ug/l  | 25.0  |        | 93   | 75-140 |     |       |            |
| 1,1,1-Trichloroethane            | 23.3   | 2.0       | 0.30 | ug/l  | 25.0  |        | 93   | 65-135 |     |       |            |
| 1,1,2-Trichloroethane            | 26.4   | 2.0       | 0.30 | ug/l  | 25.0  |        | 106  | 65-125 |     |       |            |
| 1,1,2-Trichloroethane            | 26.4   | 2.0       | 0.30 | ug/l  | 25.0  |        | 106  | 70-125 |     |       |            |
| Trichloroethene                  | 25.2   | 5.0       | 0.26 | ug/l  | 25.0  |        | 101  | 80-120 |     |       |            |
| Trichloroethene                  | 25.2   | 2.0       | 0.26 | ug/l  | 25.0  |        | 101  | 70-125 |     |       |            |
| Trichlorofluoromethane           | 20.4   | 5.0       | 0.34 | ug/l  | 25.0  |        | 82   | 60-140 |     |       |            |
| Trichlorofluoromethane           | 20.4   | 5.0       | 0.34 | ug/l  | 25.0  |        | 82   | 65-145 |     |       |            |
| Vinyl chloride                   | 18.8   | 0.50      | 0.26 | ug/l  | 25.0  |        | 75   | 50-130 |     |       |            |
| Vinyl chloride                   | 18.8   | 5.0       | 0.26 | ug/l  | 25.0  |        | 75   | 50-130 |     |       |            |
| Surrogate: Dibromofluoromethane  | 26.2   |           |      | ug/l  | 25.0  |        | 105  | 80-120 |     |       |            |
| Surrogate: Dibromofluoromethane  | 26.2   |           |      | ug/l  | 25.0  |        | 105  | 80-120 |     |       |            |
| Surrogate: Toluene-d8            | 26.8   |           |      | ug/l  | 25.0  |        | 107  | 80-120 |     |       |            |
| Surrogate: Toluene-d8            | 26.8   |           |      | ug/l  | 25.0  |        | 107  | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene  | 26.0   |           |      | ug/l  | 25.0  |        | 104  | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene  | 26.0   |           |      | ug/l  | 25.0  |        | 104  | 80-120 |     |       |            |
|                                  |        |           |      |       |       |        |      |        |     |       |            |

**Del Mar Analytical, Irvine** Michele Chamberlin



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

#### METHOD BLANK/QC DATA

#### **PURGEABLES BY GC/MS (EPA 624)**

| Analyte                                | Result    | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC    | %REC   | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|-----------|--------------------|------|-------|----------------|------------------|---------|--------|-----|--------------|--------------------|
| Batch: 6A03022 Extracted: 01/03/00     | <u>5</u>  |                    |      |       |                |                  |         |        |     |              |                    |
|  |           |                    |      |       |                |                  |         |        |     |              |                    |
| Matrix Spike Analyzed: 01/04/2006 (6A0 | 3022-MS1) |                    |      |       | Sou            | rce: IOL         | 2210-06 |        |     |              |                    |
| Benzene                                | 23.0      | 2.0                | 0.28 | ug/l  | 25.0           | 0.78             | 89      | 70-120 |     |              |                    |
| Benzene                                | 23.0      | 1.0                | 0.28 | ug/l  | 25.0           | 0.78             | 89      | 60-125 |     |              |                    |
| Bromodichloromethane                   | 24.9      | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 100     | 65-135 |     |              |                    |
| Bromoform                              | 25.0      | 5.0                | 0.32 | ug/l  | 25.0           | ND               | 100     | 50-135 |     |              |                    |
| Bromomethane                           | 21.4      | 5.0                | 0.42 | ug/l  | 25.0           | ND               | 86      | 50-145 |     |              |                    |
| Carbon tetrachloride                   | 23.9      | 0.50               | 0.28 | ug/l  | 25.0           | ND               | 96      | 65-140 |     |              |                    |
| Carbon tetrachloride                   | 23.9      | 5.0                | 0.28 | ug/l  | 25.0           | ND               | 96      | 70-145 |     |              |                    |
| Chlorobenzene                          | 24.4      | 2.0                | 0.36 | ug/l  | 25.0           | ND               | 98      | 70-125 |     |              |                    |
| Chloroethane                           | 21.7      | 5.0                | 0.33 | ug/l  | 25.0           | ND               | 87      | 50-140 |     |              |                    |
| Chloroform                             | 24.1      | 2.0                | 0.33 | ug/l  | 25.0           | ND               | 96      | 70-135 |     |              |                    |
| Chloroform                             | 24.1      | 2.0                | 0.33 | ug/l  | 25.0           | ND               | 96      | 65-135 |     |              |                    |
| Chloromethane                          | 17.7      | 5.0                | 0.30 | ug/l  | 25.0           | ND               | 71      | 35-140 |     |              |                    |
| Dibromochloromethane                   | 26.5      | 2.0                | 0.28 | ug/l  | 25.0           | ND               | 106     | 60-140 |     |              |                    |
| 1,2-Dichlorobenzene                    | 25.1      | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 100     | 70-125 |     |              |                    |
| 1,3-Dichlorobenzene                    | 24.6      | 2.0                | 0.35 | ug/l  | 25.0           | ND               | 98      | 70-125 |     |              |                    |
| 1,4-Dichlorobenzene                    | 23.0      | 2.0                | 0.37 | ug/l  | 25.0           | ND               | 92      | 70-125 |     |              |                    |
| 1,1-Dichloroethane                     | 23.1      | 2.0                | 0.27 | ug/l  | 25.0           | ND               | 92      | 65-135 |     |              |                    |
| 1,1-Dichloroethane                     | 23.1      | 2.0                | 0.27 | ug/l  | 25.0           | ND               | 92      | 60-130 |     |              |                    |
| 1,2-Dichloroethane                     | 26.3      | 2.0                | 0.28 | ug/l  | 25.0           | ND               | 105     | 60-150 |     |              |                    |
| 1,2-Dichloroethane                     | 26.3      | 0.50               | 0.28 | ug/l  | 25.0           | ND               | 105     | 60-140 |     |              |                    |
| 1,1-Dichloroethene                     | 22.4      | 5.0                | 0.42 | ug/l  | 25.0           | ND               | 90      | 60-135 |     |              |                    |
| 1,1-Dichloroethene                     | 22.4      | 3.0                | 0.32 | ug/l  | 25.0           | ND               | 90      | 65-140 |     |              |                    |
| trans-1,2-Dichloroethene               | 23.7      | 2.0                | 0.27 | ug/l  | 25.0           | ND               | 95      | 60-135 |     |              |                    |
| 1,2-Dichloropropane                    | 24.3      | 2.0                | 0.35 | ug/l  | 25.0           | ND               | 97      | 60-125 |     |              |                    |
| cis-1,3-Dichloropropene                | 25.3      | 2.0                | 0.22 | ug/l  | 25.0           | ND               | 101     | 65-135 |     |              |                    |
| trans-1,3-Dichloropropene              | 26.9      | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 108     | 65-140 |     |              |                    |
| Ethylbenzene                           | 38.3      | 2.0                | 0.25 | ug/l  | 25.0           | 16               | 89      | 70-130 |     |              |                    |
| Ethylbenzene                           | 38.3      | 2.0                | 0.25 | ug/l  | 25.0           | 16               | 89      | 65-130 |     |              |                    |
| Methylene chloride                     | 21.6      | 5.0                | 0.51 | ug/I  | 25.0           | ND               | 86      | 55-130 |     |              |                    |
| 1,1,2,2-Tetrachioroethane              | 35.0      | 2.0                | 0.24 | ug/l  | 25.0           | ND               | 140     | 55-140 |     |              |                    |
| Tetrachloroethene                      | 23.3      | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 93      | 70-130 |     |              |                    |
| Tetrachloroethene                      | 23.3      | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 93      | 60-130 |     |              |                    |
| Toluene                                | 23.6      | 2.0                | 0.36 | ug/l  | 25.0           | ND               | 94      | 70-120 |     |              |                    |
| Toluene                                | 23.6      | 2.0                | 0.36 | ug/l  | 25.0           | ND               | 94      | 65-125 |     |              |                    |
| 1,1,1-Trichloroethane                  | 23.8      | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 95      | 65-140 |     |              |                    |
|  |           |                    |      | -     |                | _                |         |        |     |              |                    |

Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

### METHOD BLANK/QC DATA

#### **PURGEABLES BY GC/MS (EPA 624)**

| Analyte                                | Result      | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC   | %REC   | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|-------------|--------------------|------|-------|----------------|------------------|--------|--------|-----|--------------|--------------------|
| Batch: 6A03022 Extracted: 01/03/06     | <u>.</u>    |                    |      |       |                |                  |        |        |     |              |                    |
|  |             |                    |      |       | ~              |                  |        |        |     |              |                    |
| Matrix Spike Analyzed: 01/04/2006 (6A0 | -           |                    |      | _     |                | rce: IOL2        |        |        |     |              |                    |
| 1,1,1-Trichloroethane                  | 23.8        | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 95     | 75-140 |     |              |                    |
| 1,1,2-Trichloroethane                  | 26.8        | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 107    | 60-135 |     |              |                    |
| 1,1,2-Trichloroethane                  | 26.8        | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 107    | 60-130 |     |              |                    |
| Trichloroethene                        | 23.8        | 2.0                | 0.26 | ug/l  | 25.0           | ND               | 95     | 60-125 |     |              |                    |
| Trichloroethene                        | 23.8        | 5.0                | 0.26 | ug/l  | 25.0           | ND               | 95     | 70-125 |     |              |                    |
| Trichlorofluoromethane                 | 21.0        | 5.0                | 0.34 | ug/l  | 25.0           | ND               | 84     | 55-145 |     |              |                    |
| Trichlorofluoromethane                 | 21.0        | 5.0                | 0.34 | ug/l  | 25.0           | ND               | 84     | 55-145 |     |              |                    |
| Vinyl chloride                         | 18.7        | 0.50               | 0.26 | ug/l  | 25.0           | ND               | 75     | 40-135 |     |              |                    |
| Vinyl chloride                         | 18.7        | 5.0                | 0.26 | ug/l  | 25.0           | ND               | 75     | 40-135 |     |              |                    |
| Surrogate: Dibromofluoromethane        | 27.5        |                    |      | ug/l  | 25.0           |                  | 110    | 80-120 |     |              |                    |
| Surrogate: Dibromofluoromethane        | 27.5        |                    |      | ug/l  | 25.0           |                  | 110    | 80-120 |     |              |                    |
| Surrogate: Toluene-d8                  | <i>26.7</i> |                    |      | ug/l  | 25.0           |                  | 107    | 80-120 |     |              |                    |
| Surrogate: Toluene-d8                  | 26.7        |                    |      | ug/l  | 25.0           |                  | 107    | 80-120 |     |              |                    |
| Surrogate: 4-Bromofluorobenzene        | 26.3        |                    |      | ug/l  | 25.0           |                  | 105    | 80-120 |     |              |                    |
| Surrogate: 4-Bromofluorobenzene        | 26.3        |                    |      | ug/l  | 25.0           |                  | 105    | 80-120 |     |              |                    |
| Matrix Spike Dup Analyzed: 01/04/2006  | (6A03022-M  | SD1)               |      |       | Sou            | rce: IOL2        | 210-06 |        |     |              |                    |
| Benzene                                | 20.1        | 2.0                | 0.28 | ug/l  | 25.0           | 0.78             | 77     | 70-120 | 13  | 20           |                    |
| Benzene                                | 20.1        | 1.0                | 0.28 | ug/l  | 25.0           | 0.78             | 77     | 60-125 | 13  | 20           |                    |
| Bromodichloromethane                   | 21.1        | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 84     | 65-135 | 17  | 20           |                    |
| Bromoform                              | 22.0        | 5.0                | 0.32 | ug/l  | 25.0           | ND               | 88     | 50-135 | 13  | 25           |                    |
| Bromomethane                           | 17.7        | 5.0                | 0.42 | ug/l  | 25.0           | ND               | 71     | 50-145 | 19  | 25           |                    |
| Carbon tetrachloride                   | 20.4        | 0.50               | 0.28 | ug/l  | 25.0           | ND               | 82     | 65-140 | 16  | 25           |                    |
| Carbon tetrachloride                   | 20.4        | 5.0                | 0.28 | ug/l  | 25.0           | ND               | 82     | 70-145 | 16  | 25           |                    |
| Chlorobenzene                          | 21.4        | 2.0                | 0.36 | ug/l  | 25.0           | ND               | 86     | 70-125 | 13  | 20           |                    |
| Chloroethane                           | 18.5        | 5.0                | 0.33 | ug/l  | 25.0           | ND               | 74     | 50-140 | 16  | 25           |                    |
| Chloroform                             | 19.7        | 2.0                | 0.33 | ug/l  | 25.0           | ND               | 79     | 70-135 | 20  | 20           |                    |
| Chloroform                             | 19.7        | 2.0                | 0.33 | ug/l  | 25.0           | ND               | 79     | 65-135 | 20  | 20           |                    |
| Chloromethane                          | 14.4        | 5.0                | 0.30 | ug/I  | 25.0           | ND               | 58     | 35-140 | 21  | 25           |                    |
| Dibromochloromethane                   | 23.6        | 2.0                | 0.28 | ug/l  | 25.0           | ND               | 94     | 60-140 | 12  | 25           |                    |
| 1,2-Dichlorobenzene                    | 21.6        | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 86     | 70-125 | 15  | 20           |                    |
| 1,3-Dichlorobenzene                    | 21.0        | 2.0                | 0.35 | ug/l  | 25.0           | ND               | 84     | 70-125 | 16  | 20           |                    |
| 1,4-Dichlorobenzene                    | 20.2        | 2.0                | 0.37 | ug/l  | 25.0           | ND               | 81     | 70-125 | 13  | 20           |                    |
| 1,1-Dichloroethane                     | 19.2        | 2.0                | 0.27 | ug/l  | 25.0           | ND               | 77     | 65-135 | 18  | 20           |                    |
| 1,1-Dichloroethane                     | 19.2        | 2.0                | 0.27 | ug/l  | 25.0           | ND               | 77     | 60-130 | 18  | 20           |                    |
| 1,2-Dichloroethane                     | 22.1        | 2.0                | 0.28 | ug/l  | 25.0           | ND               | 88     | 60-150 | 17  | 20           |                    |

Del Mar Analytical, Irvine

Michele Chamberlin

MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Pasadena, CA 91101 Attention: Bronwyn Kelly

Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

#### METHOD BLANK/QC DATA

### **PURGEABLES BY GC/MS (EPA 624)**

| Analyte                               | Result     | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC    | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---------------------------------------|------------|--------------------|------|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 6A03022 Extracted: 01/03/06    | <u>i</u>   |                    |      |       |                |                  |         |                |     |              |                    |
| Matrix Spike Dup Analyzed: 01/04/2006 | (6A03022-N | MSD1)              |      |       | Sou            | rce: IOL         | 2210-06 |                |     |              |                    |
| 1,2-Dichloroethane                    | 22.1       | 0.50               | 0.28 | ug/l  | 25.0           | ND               | 88      | 60-140         | 17  | 20           |                    |
| 1,1-Dichloroethene                    | 18.8       | 3.0                | 0.32 | ug/l  | 25.0           | ND               | 75      | 65-140         | 17  | 20           |                    |
| 1,1-Dichloroethene                    | 18.8       | 5.0                | 0.42 | ug/l  | 25.0           | ND               | 75      | 60-135         | 17  | 20           |                    |
| trans-1,2-Dichloroethene              | 19.4       | 2.0                | 0.27 | ug/l  | 25.0           | ND               | 78      | 60-135         | 20  | 20           |                    |
| 1,2-Dichloropropane                   | 20.7       | 2.0                | 0.35 | ug/l  | 25.0           | ND               | 83      | 60-125         | 16  | 20           |                    |
| cis-1,3-Dichloropropene               | 21.7       | 2.0                | 0.22 | ug/l  | 25.0           | ND               | 87      | 65-135         | 15  | 20           |                    |
| trans-1,3-Dichloropropene             | 23.0       | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 92      | 65-140         | 16  | 25           |                    |
| Ethylbenzene                          | 35.6       | 2.0                | 0.25 | ug/l  | 25.0           | 16               | 78      | 70-130         | 7   | 20           |                    |
| Ethylbenzene                          | 35.6       | 2.0                | 0.25 | ug/l  | 25.0           | 16               | 78      | 65-130         | 7   | 20           |                    |
| Methylene chloride                    | 16.3       | 5.0                | 0.51 | ug/l  | 25.0           | ND               | 65      | 55-130         | 28  | 20           | R                  |
| 1,1,2,2-Tetrachloroethane             | 30.7       | 2.0                | 0.24 | ug/l  | 25.0           | ND               | 123     | 55-140         | 13  | 30           |                    |
| Tetrachloroethene                     | 20.7       | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 83      | 70-130         | 12  | 20           |                    |
| Tetrachloroethene                     | 20.7       | 2.0                | 0.32 | ug/l  | 25.0           | ND               | 83      | 60-130         | 12  | 20           |                    |
| Toluene                               | 20.5       | 2.0                | 0.36 | ug/l  | 25.0           | ND               | 82      | 65-125         | 14  | 20           |                    |
| Toluene                               | 20.5       | 2.0                | 0.36 | ug/l  | 25.0           | ND               | 82      | 70-120         | 14  | 20           |                    |
| I,1,I-Trichloroethane                 | 19.7       | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 79      | 75-140         | 19  | 20           |                    |
| 1,1,1-Trichloroethane                 | 19.7       | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 79      | 65-140         | 19  | 20           |                    |
| 1,1,2-Trichloroethane                 | 23.0       | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 92      | 60-135         | 15  | 25           |                    |
| 1,1,2-Trichloroethane                 | 23.0       | 2.0                | 0.30 | ug/l  | 25.0           | ND               | 92      | 60-130         | 15  | 25           |                    |
| Trichloroethene                       | 20.3       | 5.0                | 0.26 | ug/l  | 25.0           | ND               | 81      | 70-125         | 16  | 20           |                    |
| Trichloroethene                       | 20.3       | 2.0                | 0.26 | ug/l  | 25.0           | ND               | 81      | 60-125         | 16  | 20           |                    |
| Trichlorofluoromethane                | 17.3       | 5.0                | 0.34 | ug/l  | 25.0           | ND               | 69      | 55-145         | 19  | 25           |                    |
| Trichlorofluoromethane                | 17.3       | 5.0                | 0.34 | ug/l  | 25.0           | ND               | 69      | 55-145         | 19  | 25           |                    |
| Vinyl chloride                        | 15.7       | 5.0                | 0.26 | ug/l  | 25.0           | ND               | 63      | 40-135         | 17  | 30           |                    |
| Vinyl chloride                        | 15.7       | 0.50               | 0.26 | ug/l  | 25.0           | ND               | 63      | 40-135         | 17  | 30           |                    |
| Surrogate: Dibromofluoromethane       | 26.3       |                    |      | ug/l  | 25.0           |                  | 105     | 80-120         |     |              |                    |
| Surrogate: Dibromofluoromethane       | 26.3       |                    |      | ug/l  | 25.0           |                  | 105     | 80-120         |     |              |                    |
| Surrogate: Toluene-d8                 | 26.5       |                    |      | ug/l  | 25.0           |                  | 106     | 80-120         |     |              |                    |
| Surrogate: Toluene-d8                 | 26.5       |                    |      | ug/l  | 25.0           |                  | 106     | 80-120         |     |              |                    |
| Surrogate: 4-Bromofluorobenzene       | 26.7       |                    |      | ug/l  | 25.0           |                  | 107     | 80-120         |     |              |                    |
| Surrogate: 4-Bromofluorobenzene       | 26.7       |                    |      | ug/l  | 25.0           |                  | 107     | 80-120         |     |              |                    |

Del Mar Analytical, Irvine Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

Received: 01/03/06

### METHOD BLANK/QC DATA

### PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

|                                      |          | Reporting |     |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|--------------------------------------|----------|-----------|-----|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                              | Result   | Limit     | MDL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03022 Extracted: 01/03/0    | <u>6</u> |           |     |       |       |        |      |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03022- | BLK1)    |           |     |       |       |        |      |        |     |       |            |
| 1,2-Dichloro-1,1,2-trifluoroethane   | ND       | 2.5       | N/A | ug/l  |       |        |      |        |     |       |            |
| Cyclohexane                          | ND       | 2.5       | N/A | ug/l  |       |        |      |        |     |       |            |



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Received: 01/03/06

### METHOD BLANK/QC DATA

### SEMI-VOL ORGANICS by GC/MS-CHEMICAL IONIZATION (EPA 3520C/1625C-CI MOD)

|                                      |            | Reporting |         |       | Spike   | Source |      | %REC   |     | RPD   | Data       |
|--------------------------------------|------------|-----------|---------|-------|---------|--------|------|--------|-----|-------|------------|
| Analyte                              | Result     | Limit     | MDL     | Units | Level   | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A08026 Extracted: 01/08/0    | <u> 16</u> |           |         |       |         |        |      |        |     |       |            |
| Blank Analyzed: 01/09/2006 (6A08026- | BLK1)      |           |         |       |         |        |      |        |     |       |            |
| N-Nitrosodimethylamine               | 0.000730   | 0.0020    | 0.00020 | ug/l  |         |        |      |        |     |       | J          |
| LCS Analyzed: 01/09/2006 (6A08026-B  | S1)        |           |         |       |         |        |      |        |     |       | M-NR1      |
| N-Nitrosodimethylamine               | 0.0105     | 0.0020    | 0.00020 | ug/l  | 0.0100  |        | 105  | 70-130 |     |       |            |
| LCS Analyzed: 01/09/2006 (6A08026-B  | S2)        |           |         |       |         |        |      |        |     |       |            |
| N-Nitrosodimethylamine               | 0.00226    | 0.0020    | 0.00020 | ug/l  | 0.00200 |        | 113  | 70-130 |     |       |            |
| LCS Dup Analyzed: 01/09/2006 (6A080  | 26-BSD1)   |           |         |       |         |        |      |        |     |       |            |
| N-Nitrosodimethylamine               | 0.0112     | 0.0020    | 0.00020 | ug/l  | 0.0100  |        | 112  | 70-130 | 6   | 20    |            |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

# METHOD BLANK/QC DATA

# ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|                                   |          | Reporting |       |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|-----------------------------------|----------|-----------|-------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                           | Result   | Limit     | MDL   | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A08028 Extracted: 01/0    | 8/06     |           |       |       |       |        |      |        |     |       |            |
|                                   |          |           |       |       |       |        |      |        |     |       |            |
| Blank Analyzed: 01/11/2006 (6A080 | 28-BLK1) |           |       |       |       |        |      |        |     |       |            |
| Acenaphthene                      | ND       | 0.50      | 0.10  | ug/l  |       |        |      |        |     |       |            |
| Acenaphthylene                    | ND       | 0.50      | 0.10  | ug/l  |       |        |      |        |     |       |            |
| Aniline                           | ND       | 10        | 2.9   | ug/l  |       |        |      |        |     |       |            |
| Anthracene                        | ND       | 0.50      | 0.083 | ug/l  |       |        |      |        |     |       |            |
| Benzidine                         | ND       | 5.0       | 2.4   | ug/l  |       |        |      |        |     |       |            |
| Benzoic acid                      | ND       | 20        | 3.7   | ug/l  |       |        |      |        |     |       |            |
| Benzo(a)anthracene                | ND       | 5.0       | 0.038 | ug/l  |       |        |      |        |     |       |            |
| Benzo(a)pyrene                    | ND       | 2.0       | 0.14  | ug/l  |       |        |      |        |     |       |            |
| Benzo(b)fluoranthene              | ND       | 2.0       | 0.050 | ug/l  |       |        |      |        |     |       |            |
| Benzo(g,h,i)perylene              | ND       | 5.0       | 0.059 | ug/l  |       |        |      |        |     |       |            |
| Benzo(k)fluoranthene              | ND       | 0.50      | 0.053 | ug/l  |       |        |      |        |     |       |            |
| Benzyl alcohol                    | ND       | 5.0       | 0.21  | ug/l  |       |        |      |        |     |       |            |
| Bis(2-chloroethoxy)methane        | ND       | 0.50      | 0.072 | ug/l  |       |        |      |        |     |       |            |
| Bis(2-chloroethyl)ether           | ND       | 0.50      | 0.084 | ug/l  |       |        |      |        |     |       |            |
| Bis(2-chloroisopropyl)ether       | ND       | 0.50      | 0.11  | ug/l  |       |        |      |        |     |       |            |
| Bis(2-ethylhexyl)phthalate        | 2.00     | 5.0       | 1.1   | ug/l  |       |        |      |        |     |       | J          |
| 4-Bromophenyl phenyl ether        | ND       | 1.0       | 0.12  | ug/l  |       |        |      |        |     |       |            |
| Butyl benzyl phthalate            | 0.780    | 5.0       | 0.34  | ug/l  |       |        |      |        |     |       | J          |
| 4-Chloroaniline                   | ND       | 2.0       | 0.20  | ug/l  |       |        |      |        |     |       |            |
| 2-Chloronaphthalene               | ND       | 0.50      | 0.059 | ug/l  |       |        |      |        |     |       |            |
| 4-Chloro-3-methylphenol           | ND       | 2.0       | 0.34  | ug/l  |       |        |      |        |     |       |            |
| 4-Chlorophenyl phenyl ether       | ND       | 0.50      | 0.056 | ug/l  |       |        |      |        |     |       |            |
| 2-Chlorophenol                    | ND       | 1.0       | 0.12  | ug/l  |       |        |      |        |     |       |            |
| Chrysene                          | ND       | 0.50      | 0.072 | ug/l  |       |        |      |        |     |       |            |
| Dibenz(a,h)anthracene             | 0.540    | 0.50      | 0.083 | ug/l  |       |        |      |        |     |       | В          |
| Dibenzofuran                      | ND       | 0.50      | 0.075 | ug/l  |       |        |      |        |     |       |            |
| Di-n-butyl phthalate              | ND       | 2.0       | 0.26  | ug/l  |       |        |      |        |     |       |            |
| 1,2-Dichlorobenzene               | ND       | 0.50      | 0.11  | ug/l  |       |        |      |        |     |       |            |
| 1,3-Dichlorobenzene               | ND       | 0.50      | 0.13  | ug/l  |       |        |      |        |     |       |            |
| 1,4-Dichlorobenzene               | ND       | 0.50      | 0.050 | ug/I  |       |        |      |        |     |       |            |
| 3,3-Dichlorobenzidine             | ND       | 5.0       | 0.93  | ug/l  |       |        |      |        |     |       |            |
| 2,4-Dichlorophenol                | ND       | 2.0       | 0.21  | ug/l  |       |        |      |        |     |       |            |
| Diethyl phthalate                 | 0.540    | 1.0       | 0.12  | ug/l  |       |        |      |        |     |       | J          |
| 2,4-Dimethylphenol                | ND       | 2.0       | 0.31  | ug/l  |       |        |      |        |     |       |            |
| Dimethyl phthalate                | ND       | 0.50      | 0.081 | ug/l  |       |        |      |        |     |       |            |
|                                   |          |           |       |       |       |        |      |        |     |       |            |

Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

### METHOD BLANK/QC DATA

# ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|  |              | Reporting |       |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|--|--------------|-----------|-------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte  | Result       | Limit     | MDL   | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A08028 Extracted: 01/08  | <u> 8/06</u> |           |       |       |       |        |      |        |     |       |            |
| T  | 0 D7 T74     |           |       |       |       |        |      |        |     |       |            |
| Blank Analyzed: 01/11/2006 (6A0802   | •            |           |       |       |       |        |      |        |     |       |            |
| 4,6-Dinitro-2-methylphenol   | ND           | 5.0       | 0.38  | ug/l  |       |        |      |        |     |       |            |
| 2,4-Dinitrophenol  | ND           | 5.0       | 2.7   | ug/l  |       |        |      |        |     |       |            |
| 2,4-Dinitrotoluene   | ND           | 5.0       | 0.23  | ug/l  |       |        |      |        |     |       |            |
| 2,6-Dinitrotoluene   | ND           | 5.0       | 0.24  | ug/l  |       |        |      |        |     |       |            |
| Di-n-octyl phthalate   | ND           | 5.0       | 0.17  | ug/l  |       |        |      |        |     |       |            |
| 1,2-Diphenylhydrazine/Azobenzene   | ND           | 1.0       | 0.087 | ug/l  |       |        |      |        |     |       |            |
| Fluoranthene   | ND           | 0.50      | 0.089 | ug/l  |       |        |      |        |     |       |            |
| Fluorene   | ND           | 0.50      | 0.075 | ug/l  |       |        |      |        |     |       |            |
| Hexachlorobenzene  | ND           | 1.0       | 0.13  | ug/l  |       |        |      |        |     |       |            |
| Hexachlorobutadiene  | ND           | 2.0       | 0.38  | ug/l  |       |        |      |        |     |       |            |
| Hexachlorocyclopentadiene  | ND           | 5.0       | 1.8   | ug/l  |       |        |      |        |     |       |            |
| Hexachloroethane   | ND           | 3.0       | 0.51  | ug/l  |       |        |      |        |     |       |            |
| Indeno(1,2,3-cd)pyrene   | ND           | 2.0       | 0.19  | ug/l  |       |        |      |        |     |       |            |
| Isophorone   | ND           | 1.0       | 0.059 | ug/l  |       |        |      |        |     |       |            |
| 2-Methylnaphthalene  | ND           | 1.0       | 0.13  | ug/l  |       |        |      |        |     |       |            |
| 2-Methylphenol   | ND           | 2.0       | 0.28  | ug/I  |       |        |      |        |     |       |            |
| 4-Methylphenol   | ND           | 5.0       | 0.20  | ug/l  |       |        |      |        |     |       |            |
| Naphthalene  | ND           | 1.0       | 0.13  | ug/l  |       |        |      |        |     |       |            |
| 2-Nitroaniline   | ND           | 5.0       | 0.18  | ug/l  |       |        |      |        |     |       |            |
| 3-Nitroaniline   | ND           | 5.0       | 0.35  | ug/l  |       |        |      |        |     |       |            |
| 4-Nitroaniline   | ND           | 5.0       | 0.49  | ug/l  |       |        |      |        |     |       |            |
| Nitrobenzene   | ND           | 1.0       | 0.10  | ug/l  |       |        |      |        |     |       |            |
| 2-Nitrophenol  | ND           | 2.0       | 0.23  | ug/l  |       |        |      |        |     |       |            |
| 4-Nitrophenol  | ND           | 5.0       | 0.73  | ug/l  |       |        |      |        |     |       |            |
| N-Nitrosodimethylamine   | ND           | 2.0       | 0.22  | ug/l  |       |        |      |        |     |       |            |
| N-Nitroso-di-n-propylamine   | ND           | 2.0       | 0.18  | ug/l  |       |        |      |        |     |       |            |
| N-Nitrosodiphenylamine   | ND           | 1.0       | 0.077 | ug/l  |       |        |      |        |     |       |            |
| Pentachlorophenol  | ND           | 2.0       | 0.78  | ug/I  |       |        |      |        |     |       |            |
| Phenanthrene   | ND           | 0.50      | 0.071 | ug/i  |       |        |      |        |     |       |            |
| Phenol   | ND           | 1.0       | 0.14  | ug/l  |       |        |      |        |     |       |            |
| Pyrene   | ND           | 0.50      | 0.059 | ug/l  |       |        |      |        |     |       |            |
| 1,2,4-Trichlorobenzene   | ND           | 1.0       | 0.10  | ug/I  |       |        |      |        |     |       |            |
| 2,4,5-Trichlorophenol  | ND           | 2.0       | 0.075 | ug/l  |       |        |      |        |     |       |            |
| 2,4,6-Trichlorophenol  | ND           | 1.0       | 0.10  | ug/l  |       |        |      |        |     |       |            |
| Surrogate: 2-Fluorophenol  | 11.4         |           |       | ug/l  | 20.0  |        | 57   | 35-120 |     |       |            |
| and a contract of the contract | 3217         |           |       | "O'   | 20.0  |        | ~ .  |        |     |       |            |

Del Mar Analytical, Irvine Michele Chamberlin

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Project ID: LARWQCB Sample Splits

Outfall 009 Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

### METHOD BLANK/QC DATA

### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

| Analyte                               | Result       | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result | %REC | %REC   | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---------------------------------------|--------------|--------------------|-------|-------|----------------|------------------|------|--------|-----|--------------|--------------------|
| Batch: 6A08028 Extracted: 01/08/00    | 6            |                    |       |       |                |                  |      |        |     |              |                    |
| Baten. 0A00020 Extracted. 01/00/00    | <del>.</del> |                    |       |       |                |                  |      |        |     |              |                    |
| Blank Analyzed: 01/11/2006 (6A08028-E | BLK1)        |                    |       |       |                |                  |      |        |     |              |                    |
| Surrogate: Phenol-d6                  | 12.6         |                    |       | ug/l  | 20.0           |                  | 63   | 45-120 |     |              |                    |
| Surrogate: 2,4,6-Tribromophenol       | 16.1         |                    |       | ug/l  | 20.0           |                  | 80   | 50-125 |     |              |                    |
| Surrogate: Nitrobenzene-d5            | 6.18         |                    |       | ug/l  | 10.0           |                  | 62   | 45-120 |     |              |                    |
| Surrogate: 2-Fluorobiphenyl           | 6.58         |                    |       | ug/l  | 10.0           |                  | 66   | 45-120 |     |              |                    |
| Surrogate: Terphenyl-d14              | 6.96         |                    |       | ug/l  | 10.0           |                  | 70   | 45-135 |     |              |                    |
| LCS Analyzed: 01/11/2006 (6A08028-BS  | 31)          |                    |       |       |                |                  |      |        |     |              | M-NR1              |
| Acenaphthene                          | 7.62         | 0.50               | 0.10  | ug/l  | 10.0           |                  | 76   | 55-120 |     |              |                    |
| Acenaphthylene                        | 8.16         | 0.50               | 0.10  | ug/l  | 10.0           |                  | 82   | 55-120 |     |              |                    |
| Aniline                               | 6.36         | 10                 | 2.9   | ug/l  | 10.0           |                  | 64   | 30-120 |     |              | J                  |
| Anthracene                            | 8.30         | 0.50               | 0.083 | ug/l  | 10.0           |                  | 83   | 60-120 |     |              |                    |
| Benzidine                             | 5.88         | 5.0                | 2.4   | ug/l  | 10.0           |                  | 59   | 20-180 |     |              |                    |
| Benzoic acid                          | 10.6         | 20                 | 3.7   | ug/l  | 10,0           |                  | 106  | 30-125 |     |              | J                  |
| Benzo(a)anthracene                    | 8.58         | 5.0                | 0.038 | ug/l  | 10.0           |                  | 86   | 65-120 |     |              |                    |
| Benzo(a)pyrene                        | 8.80         | 2.0                | 0.14  | ug/l  | 10.0           |                  | 88   | 55-125 |     |              |                    |
| Benzo(b)fluoranthene                  | 8.38         | 2.0                | 0.050 | ug/l  | 10.0           |                  | 84   | 50-125 |     |              |                    |
| Benzo(g,h,i)perylene                  | 9.46         | 5.0                | 0.059 | ug/l  | 10.0           |                  | 95   | 35-160 |     |              |                    |
| Benzo(k)fluoranthene                  | 8.12         | 0.50               | 0.053 | ug/l  | 10.0           |                  | 81   | 50-125 |     |              |                    |
| Benzyl alcohol                        | 7.22         | 5.0                | 0.21  | ug/l  | 10.0           |                  | 72   | 40-130 |     |              |                    |
| Bis(2-chloroethoxy)methane            | 7.22         | 0.50               | 0.072 | ug/l  | 10.0           |                  | 72   | 55-120 |     |              |                    |
| Bis(2-chloroethyl)ether               | 6.66         | 0.50               | 0.084 | ug/l  | 10.0           |                  | 67   | 50-120 |     |              |                    |
| Bis(2-chloroisopropyl)ether           | 6.98         | 0.50               | 0.11  | ug/l  | 10.0           |                  | 70   | 50-120 |     |              |                    |
| Bis(2-ethylhexyl)phthalate            | 9.58         | 5.0                | 1.1   | ug/l  | 10.0           |                  | 96   | 65-125 |     |              |                    |
| 4-Bromophenyl phenyl ether            | 7.60         | 1.0                | 0.12  | ug/l  | 10.0           |                  | 76   | 55-125 |     |              |                    |
| Butyl benzyl phthalate                | 9.00         | 5.0                | 0.34  | ug/l  | 10.0           |                  | 90   | 60-125 |     |              |                    |
| 4-Chloroaniline                       | 6.32         | 2.0                | 0.20  | ug/l  | 10.0           |                  | 63   | 55-120 |     |              |                    |
| 2-Chloronaphthalene                   | 7.04         | 0.50               | 0.059 | ug/l  | 10.0           |                  | 70   | 60-120 |     |              |                    |
| 4-Chloro-3-methylphenol               | 8.36         | 2.0                | 0.34  | ug/Ī  | 10.0           |                  | 84   | 60-120 |     |              |                    |
| 4-Chlorophenyl phenyl ether           | 7.82         | 0.50               | 0.056 | ug/l  | 10.0           |                  | 78   | 55-120 |     |              |                    |
| 2-Chlorophenol                        | 6.94         | 1.0                | 0.12  | ug/l  | 10.0           |                  | 69   | 45-120 |     |              |                    |
| Chrysene                              | 8.28         | 0.50               | 0.072 | ug/I  | 10.0           |                  | 83   | 65-120 |     |              |                    |
| Dibenz(a,h)anthracene                 | 7.56         | 0.50               | 0.083 | ug/l  | 10.0           |                  | 76   | 40-160 |     |              |                    |
| Dibenzofuran                          | 7.32         | 0.50               | 0.075 | ug/l  | 10.0           |                  | 73   | 60-120 |     |              |                    |
| Di-n-butyl phthalate                  | 9.48         | 2.0                | 0.26  | ug/l  | 10.0           |                  | 95   | 65-125 |     |              |                    |
| 1,2-Dichlorobenzene                   | 5.76         | 0.50               | 0.11  | ug/l  | 10.0           |                  | 58   | 40-120 |     |              |                    |
| 1,3-Dichlorobenzene                   | 5.40         | 0.50               | 0.13  | ug/l  | 10.0           |                  | 54   | 40-120 |     |              |                    |

Del Mar Analytical, Irvine

Michele Chamberlin



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06

Report Number: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

#### METHOD BLANK/QC DATA

#### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|                                    |        | Reporting |       |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|------------------------------------|--------|-----------|-------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                            | Result | Limit     | MDL   | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A08028 Extracted: 01/08/   | /06    |           |       |       |       |        |      |        |     |       |            |
|                                    |        |           |       |       |       |        |      |        |     |       |            |
| LCS Analyzed: 01/11/2006 (6A08028- | BS1)   |           |       |       |       |        |      |        |     |       | M-NR1      |
| 1,4-Dichlorobenzene                | 5.62   | 0.50      | 0.050 | ug/l  | 10.0  |        | 56   | 40-120 |     |       |            |
| 3,3-Dichlorobenzidine              | 9.16   | 5.0       | 0.93  | ug/l  | 10.0  |        | 92   | 50-170 |     |       |            |
| 2,4-Dichlorophenol                 | 7.34   | 2.0       | 0.21  | ug/l  | 10.0  |        | 73   | 55-120 |     |       |            |
| Diethyl phthalate                  | 7.20   | 1.0       | 0.12  | ug/l  | 10.0  |        | 72   | 60-120 |     |       |            |
| 2,4-Dimethylphenol                 | 4.88   | 2.0       | 0.31  | ug/l  | 10.0  |        | 49   | 35-120 |     |       |            |
| Dimethyl phthalate                 | 4.10   | 0.50      | 0.081 | ug/l  | 10.0  |        | 41   | 30-120 |     |       |            |
| 4,6-Dinitro-2-methylphenol         | 8.54   | 5.0       | 0.38  | ug/l  | 10.0  |        | 85   | 55-120 |     |       |            |
| 2,4-Dinitrophenol                  | 9.22   | 5.0       | 2.7   | ug/l  | 10.0  |        | 92   | 40-140 |     |       |            |
| 2,4-Dinitrotoluene                 | 7.76   | 5.0       | 0.23  | ug/l  | 10.0  |        | 78   | 60-140 |     |       |            |
| 2,6-Dinitrotoluene                 | 8.26   | 5.0       | 0.24  | ug/l  | 10.0  |        | 83   | 65-125 |     |       |            |
| Di-n-octyl phthalate               | 10.2   | 5.0       | 0.17  | ug/l  | 10.0  |        | 102  | 60-130 |     |       |            |
| 1,2-Diphenylhydrazine/Azobenzene   | 7.44   | 1.0       | 0.087 | ug/l  | 10.0  |        | 74   | 60-120 |     |       |            |
| Fluoranthene                       | 8.92   | 0.50      | 0.089 | ug/l  | 10.0  |        | 89   | 55-125 |     |       |            |
| Fluorene                           | 7.88   | 0.50      | 0.075 | ug/l  | 10.0  |        | 79   | 60-120 |     |       |            |
| Hexachlorobenzene                  | 7.38   | 1.0       | 0.13  | ug/l  | 10.0  |        | 74   | 50-120 |     |       |            |
| Hexachlorobutadiene                | 6.14   | 2.0       | 0.38  | ug/l  | 10.0  |        | 61   | 45-120 |     |       |            |
| Hexachlorocyclopentadiene          | 3.96   | 5.0       | 1.8   | ug/l  | 10.0  |        | 40   | 10-130 |     |       | J          |
| Hexachloroethane                   | 5.34   | 3.0       | 0.51  | ug/l  | 10.0  |        | 53   | 40-120 |     |       |            |
| Indeno(1,2,3-cd)pyrene             | 8.50   | 2.0       | 0.19  | ug/l  | 10.0  |        | 85   | 35-150 |     |       |            |
| Isophorone                         | 9.18   | 1.0       | 0.059 | ug/l  | 10.0  |        | 92   | 55-120 |     |       |            |
| 2-Methylnaphthalene                | 7.38   | 1.0       | 0.13  | ug/l  | 10.0  |        | 74   | 50-120 |     |       |            |
| 2-Methylphenol                     | 6.76   | 2.0       | 0.28  | ug/l  | 10.0  |        | 68   | 45-120 |     |       |            |
| 4-Methylphenol                     | 6.82   | 5.0       | 0.20  | ug/l  | 10.0  |        | 68   | 45-120 |     |       |            |
| Naphthalene                        | 6.60   | 1.0       | 0.13  | ug/l  | 10.0  |        | 66   | 50-120 |     |       |            |
| 2-Nitroaniline                     | 7.70   | 5.0       | 0.18  | ug/l  | 10.0  |        | 77   | 60-130 |     |       |            |
| 3-Nitroaniline                     | 7.36   | 5.0       | 0.35  | ug/l  | 10.0  |        | 74   | 50-140 |     |       |            |
| 4-Nitroaniline                     | 8.04   | 5.0       | 0.49  | ug/l  | 10.0  |        | 80   | 45-160 |     |       |            |
| Nitrobenzene                       | 6.98   | 1.0       | 0.10  | ug/l  | 10.0  |        | 70   | 50-120 |     |       |            |
| 2-Nitrophenol                      | 7.08   | 2.0       | 0.23  | ug/l  | 10.0  |        | 71   | 55-120 |     |       |            |
| 4-Nitrophenol                      | 9.56   | 5.0       | 0.73  | ug/l  | 10.0  |        | 96   | 50-135 |     |       |            |
| N-Nitrosodimethylamine             | 6.32   | 2.0       | 0.22  | ug/l  | 10.0  |        | 63   | 40-120 |     |       |            |
| N-Nitroso-di-n-propylamine         | 7.88   | 2.0       | 0.18  | ug/l  | 10.0  |        | 79   | 50-120 |     |       |            |
| N-Nitrosodiphenylamine             | 7.88   | 1.0       | 0.077 | ug/l  | 10.0  |        | 79   | 60-120 |     |       |            |
| Pentachlorophenol                  | 10.1   | 2.0       | 0.78  | ug/l  | 10.0  |        | 101  | 50-125 |     |       |            |
| Phenanthrene                       | 8.00   | 0.50      | 0.071 | ug/l  | 10.0  |        | 80   | 55-120 |     |       |            |
|                                    |        |           |       |       |       |        |      |        |     |       |            |

Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

#### **ACID & BASE/NEUTRALS BY GC/MS (EPA 625)**

|                                   |            | Reporting |       |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|-----------------------------------|------------|-----------|-------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                           | Result     | Limit     | MDL   | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A08028 Extracted: 01/0    | 8/06       |           |       |       |       |        |      |        |     |       |            |
| LCS Analyzed: 01/11/2006 (6A08028 | I-BS1)     |           |       |       |       |        |      |        |     |       | M-NR1      |
| Phenol                            | 7.36       | 1.0       | 0.14  | ug/l  | 10.0  |        | 74   | 45-120 |     |       |            |
| Pyrene                            | 7.84       | 0.50      | 0.059 | ug/l  | 10.0  |        | 78   | 50-120 |     |       |            |
| 1,2,4-Trichlorobenzene            | 6.28       | 1.0       | 0.10  | ug/l  | 10.0  |        | 63   | 50-120 |     |       |            |
| 2,4,5-Trichlorophenol             | 8.02       | 2.0       | 0.075 | ug/l  | 10.0  |        | 80   | 60-120 |     |       |            |
| 2,4,6-Trichlorophenol             | 8.10       | 1.0       | 0.10  | ug/l  | 10.0  |        | 81   | 60-120 |     |       |            |
| Surrogate: 2-Fluorophenol         | 12.9       |           |       | ug/l  | 20.0  |        | 64   | 35-120 |     |       |            |
| Surrogate: Phenol-d6              | 14.1       |           |       | ug/l  | 20.0  |        | 70   | 45-120 |     |       |            |
| Surrogate: 2,4,6-Tribromophenol   | 15.9       |           |       | ug/l  | 20.0  |        | 80   | 50-125 |     |       |            |
| Surrogate: Nitrobenzene-d5        | 6.86       |           |       | ug/l  | 10.0  |        | 69   | 45-120 |     |       |            |
| Surrogate: 2-Fluorobiphenyl       | 7.26       |           |       | ug/l  | 10.0  |        | 73   | 45-120 |     |       |            |
| Surrogate: Terphenyl-d14          | 7.12       |           |       | ug/l  | 10.0  |        | 71   | 45-135 |     |       |            |
| LCS Dup Analyzed: 01/11/2006 (6A0 | 8028-BSD1) |           |       |       |       |        |      |        |     |       |            |
| Acenaphthene                      | 6.82       | 0.50      | 0.10  | ug/l  | 10.0  |        | 68   | 55-120 | 11  | 20    |            |
| Acenaphthylene                    | 7.30       | 0.50      | 0.10  | ug/l  | 10.0  |        | 73   | 55-120 | 11  | 20    |            |
| Aniline                           | 6.06       | 10        | 2.9   | ug/l  | 10.0  |        | 61   | 30-120 | 5   | 25    | J          |
| Anthracene                        | 7.74       | 0.50      | 0.083 | ug/l  | 10.0  |        | 77   | 60-120 | 7   | 20    |            |
| Benzidine                         | 6.62       | 5.0       | 2.4   | ug/l  | 10.0  |        | 66   | 20-180 | 12  | 35    |            |
| Benzoic acid                      | 12.3       | 20        | 3.7   | ug/I  | 10.0  |        | 123  | 30-125 | 15  | 30    | J          |
| Benzo(a)anthracene                | 8.12       | 5.0       | 0.038 | ug/l  | 10.0  |        | 81   | 65-120 | 6   | 20    |            |
| Benzo(a)pyrene                    | 8.48       | 2.0       | 0.14  | ug/l  | 10.0  |        | 85   | 55-125 | 4   | 25    |            |
| Benzo(b)fluoranthene              | 7.98       | 2.0       | 0.050 | ug/l  | 10.0  |        | 80   | 50-125 | 5   | 25    |            |
| Benzo(g,h,i)perylene              | 8.62       | 5.0       | 0.059 | ug/I  | 10.0  |        | 86   | 35-160 | 9   | 25    |            |
| Benzo(k)fluoranthene              | 7.52       | 0.50      | 0.053 | ug/l  | 10.0  |        | 75   | 50-125 | 8   | 20    |            |
| Benzyl alcohol                    | 6.50       | 5.0       | 0.21  | ug/l  | 10.0  |        | 65   | 40-130 | 10  | 20    |            |
| Bis(2-chloroethoxy)methane        | 6.66       | 0.50      | 0.072 | ug/l  | 10.0  |        | 67   | 55-120 | 8   | 20    |            |
| Bis(2-chloroethyl)ether           | 6.02       | 0.50      | 0.084 | ug/l  | 10.0  |        | 60   | 50-120 | 10  | 20    |            |
| Bis(2-chloroisopropyl)ether       | 6.28       | 0.50      | 0.11  | ug/l  | 10.0  |        | 63   | 50-120 | 11  | 20    |            |
| Bis(2-ethylhexyl)phthalate        | 10.0       | 5.0       | 1.1   | ug/l  | 10.0  |        | 100  | 65-125 | 4   | 20    |            |
| 4-Bromophenyl phenyl ether        | 7,00       | 1.0       | 0.12  | ug/l  | 10.0  |        | 70   | 55-125 | 8   | 25    |            |
| Butyl benzyl phthalate            | 8.88       | 5.0       | 0.34  | ug/l  | 10.0  |        | 89   | 60-125 | 1   | 20    |            |
| 4-Chloroaniline                   | 5.86       | 2.0       | 0.20  | ug/l  | 10.0  |        | 59   | 55-120 | 8   | 25    |            |
| 2-Chloronaphthalene               | 6.34       | 0.50      | 0.059 | ug/l  | 10.0  |        | 63   | 60-120 | 10  | 20    |            |
| 4-Chloro-3-methylphenol           | 8.06       | 2.0       | 0.34  | ug/I  | 10.0  |        | 81   | 60-120 | 4   | 25    |            |
| 4-Chlorophenyl phenyl ether       | 7.12       | 0.50      | 0.056 | ug/l  | 10.0  |        | 71   | 55-120 | 9   | 20    |            |
| 2-Chlorophenol                    | 6.44       | 1.0       | 0.12  | ug/l  | 10.0  |        | 64   | 45-120 | 7   | 25    |            |

Del Mar Analytical, Irvine

Michele Chamberlin



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

#### METHOD BLANK/QC DATA

### **ACID & BASE/NEUTRALS BY GC/MS (EPA 625)**

| Analyte Result Limit MDL Units Level Result %REC Limits RPD Limit Qualific  Batch: 6A08028 Extracted: 01/08/06  LCS Dup Applyand: 01/11/2006 (6A09028 PSD1) | ere  |
|---|------|
|   | W1.5 |
| LCS Dun Analysed, 61/11/2666 (6A0629 DSD1)  |      |
| I CC Dun Analyzada 61/31/2664 (4A6629 DCD1)   |      |
| LCS Dup Analyzed: 01/11/2006 (6A08028-BSD1)   |      |
| Chrysene 7.84 0.50 0.072 ug/l 10.0 78 65-120 5 20   |      |
| Dibenz(a,h)anthracene 6.78 0.50 0.083 ug/l 10.0 68 40-160 11 25   |      |
| Dibenzofuran 6.54 0.50 0.075 ug/l 10.0 65 60-120 11 20  |      |
| Di-n-butyl phthalate 9.28 2.0 0.26 ug/l 10.0 93 65-125 2 20   |      |
| 1,2-Dichlorobenzene 5.20 0.50 0.11 ug/l 10.0 52 40-120 10 25  |      |
| 1,3-Dichlorobenzene 5.12 0.50 0.13 ug/l 10.0 51 40-120 5 25   |      |
| 1,4-Dichlorobenzene 5.34 0.50 0.050 ug/l 10.0 53 40-120 5 25  |      |
| 3,3-Dichlorobenzidine 8.84 5.0 0.93 ug/l 10.0 88 50-170 4 25  |      |
| 2,4-Dichlorophenol 6.80 2.0 0.21 ug/l 10.0 68 55-120 8 20   |      |
| Diethyl phthalate 6.46 1.0 0.12 ug/l 10.0 65 60-120 11 20   |      |
| 2,4-Dimethylphenol 5.44 2.0 0.31 ug/l 10.0 54 35-120 11 25  |      |
| Dimethyl phthalate 3.92 0.50 0.081 ug/l 10.0 39 30-120 4 20   |      |
| 4,6-Dinitro-2-methylphenol 8.40 5.0 0.38 ug/l 10.0 84 55-120 2 25   |      |
| 2,4-Dinitrophenol 9.02 5.0 2.7 ug/l 10.0 90 40-140 2 25   |      |
| 2,4-Dinitrotoluene 7.16 5.0 0.23 ug/l 10.0 72 60-140 8 20   |      |
| 2,6-Dinitrotoluene 7.20 5.0 0.24 ug/l 10.0 72 65-125 14 20  |      |
| Di-n-octyl phthalate 9.94 5.0 0.17 ug/l 10.0 99 60-130 3 20   |      |
| 1,2-Diphenylhydrazine/Azobenzene 6.82 1.0 0.087 ug/l 10.0 68 60-120 9 25  |      |
| Fluoranthene 8.84 0.50 0.089 ug/l 10.0 88 55-125 1 20   |      |
| Fluorene 7.16 0.50 0.075 ug/l 10.0 72 60-120 10 20  |      |
| Hexachlorobenzene 6.98 1.0 0.13 ug/l 10.0 70 50-120 6 20  |      |
| Hexachlorobutadiene 5.58 2.0 0.38 ug/l 10.0 56 45-120 10 25   |      |
| Hexachlorocyclopentadiene 4.76 5.0 1.8 ug/l 10.0 48 10-130 18 30 J  |      |
| Hexachloroethane 5.06 3.0 0.51 ug/l 10.0 51 40-120 5 25   |      |
| Indeno(1,2,3-cd)pyrene 8.14 2.0 0.19 ug/l 10.0 81 35-150 4 25   |      |
| Isophorone 8.24 1.0 0.059 ug/l 10.0 82 55-120 11 20   |      |
| 2-Methylnaphthalene 6.68 1.0 0.13 ug/l 10.0 67 50-120 10 20   |      |
| 2-Methylphenol 6.22 2.0 0.28 ug/t 10.0 62 45-120 8 20   |      |
| 4-Methylphenol 6.32 5.0 0.20 ug/l 10.0 63 45-120 8 20   |      |
| Naphthalene 5.98 1.0 0.13 ug/l 10.0 60 50-120 10 20   |      |
| 2-Nitroaniline 7.30 5.0 0.18 ug/l 10.0 73 60-130 5 20   |      |
| 3-Nitroaniline 6.70 5.0 0.35 ug/l 10.0 67 50-140 9 25   |      |
| 4-Nitroaniline 7.40 5.0 0.49 ug/l 10.0 74 45-160 8 20   |      |
| Nitrobenzene 6.30 1.0 0.10 ug/l 10.0 63 50-120 10 25  |      |
| 2-Nitrophenol 6.74 2.0 0.23 ug/l 10.0 67 55-120 5 25  |      |

**Del Mar Analytical, Irvine** Michele Chamberlin



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

Outfall 009

300 North Lake Avenue, Suite 1200 Report Number: IPA0102

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

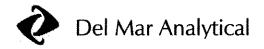
Pasadena, CA 91101

#### METHOD BLANK/QC DATA

# ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|                                      |          | Reporting |       |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|--------------------------------------|----------|-----------|-------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                              | Result   | Limit     | MDL   | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A08028 Extracted: 01/08/06   | <u>-</u> |           |       |       |       |        |      |        |     |       |            |
| LCS Dup Analyzed: 01/11/2006 (6A0802 | 8-BSD1)  |           |       |       |       |        |      |        |     |       |            |
| 4-Nitrophenol                        | 9.36     | 5.0       | 0.73  | ug/l  | 10.0  |        | 94   | 50-135 | 2   | 25    |            |
| N-Nitrosodimethylamine               | 6.08     | 2.0       | 0.22  | ug/l  | 10.0  |        | 61   | 40-120 | 4   | 20    |            |
| N-Nitroso-di-n-propylamine           | 6.96     | 2.0       | 0.18  | ug/l  | 10.0  |        | 70   | 50-120 | 12  | 20    |            |
| N-Nitrosodiphenylamine               | 7.36     | 1.0       | 0.077 | ug/l  | 10.0  |        | 74   | 60-120 | 7   | 20    |            |
| Pentachlorophenol                    | 10.5     | 2.0       | 0.78  | ug/l  | 10.0  |        | 105  | 50-125 | 4   | 25    |            |
| Phenanthrene                         | 7.44     | 0.50      | 0.071 | ug/l  | 10.0  |        | 74   | 55-120 | 7   | 20    |            |
| Phenol                               | 6.74     | 1.0       | 0.14  | ug/l  | 10.0  |        | 67   | 45-120 | 9   | 25    |            |
| Pyrene                               | 7.38     | 0.50      | 0.059 | ug/l  | 10.0  |        | 74   | 50-120 | 6   | 25    |            |
| 1,2,4-Trichlorobenzene               | 5.70     | 0,1       | 0.10  | ug/l  | 10.0  |        | 57   | 50-120 | 10  | 20    |            |
| 2,4,5-Trichlorophenol                | 7.76     | 2.0       | 0.075 | ug/l  | 10.0  |        | 78   | 60-120 | 3   | 20    |            |
| 2,4,6-Trichlorophenol                | 7.98     | 1.0       | 0.10  | ug/l  | 10.0  |        | 80   | 60-120 | 1   | 20    |            |
| Surrogate: 2-Fluorophenol            | 12.5     |           |       | ug/l  | 20.0  |        | 62   | 35-120 |     |       |            |
| Surrogate: Phenol-d6                 | 12.8     |           |       | ug/l  | 20.0  |        | 64   | 45-120 |     |       |            |
| Surrogate: 2,4,6-Tribromophenol      | 15.8     |           |       | ug/l  | 20.0  |        | 79   | 50-125 |     |       |            |
| Surrogate: Nitrobenzene-d5           | 6.34     |           |       | ug/l  | 10.0  |        | 63   | 45-120 |     |       |            |
| Surrogate: 2-Fluorobiphenyl          | 6.40     |           |       | ug/l  | 10.0  |        | 64   | 45-120 |     |       |            |
| Surrogate: Terphenyl-d14             | 6.68     |           |       | ug/l  | 10.0  |        | 67   | 45-135 |     |       |            |

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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

#### METHOD BLANK/QC DATA

#### **TOTAL PCBS (EPA 608)**

|                                       |          | Reporting |      |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|---------------------------------------|----------|-----------|------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                               | Result   | Limit     | MDL  | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A06049 Extracted: 01/06/0     | <u>6</u> |           |      |       |       |        |      |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06049-I | BLK1)    |           |      |       |       |        |      |        |     |       |            |
| Aroclor 1016                          | ND       | 1.0       | 0.20 | ug/l  |       |        |      |        |     |       |            |
| Aroclor 1221                          | ND       | 1.0       | 0.10 | ug/l  |       |        |      |        |     |       |            |
| Aroclor 1232                          | ND       | 1.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Aroclor 1242                          | ND       | 1.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Aroclor 1248                          | ND       | 1.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Aroclor 1254                          | ND       | 1.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Aroclor 1260                          | ND       | 1.0       | 0.40 | ug/l  |       |        |      |        |     |       |            |
| Surrogate: Decachlorobiphenyl         | 0.468    |           |      | ug/l  | 0.500 |        | 94   | 45-120 |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06049-BS  | (2)      |           |      |       |       |        |      |        |     |       | M-NR1      |
| Aroclor 1016                          | 3.96     | 1.0       | 0.20 | ug/l  | 4.00  |        | 99   | 45-115 |     |       |            |
| Aroclor 1260                          | 3.95     | 1.0       | 0.40 | ug/l  | 4.00  |        | 99   | 55-115 |     |       |            |
| Surrogate: Decachlorobiphenyl         | 0.451    |           |      | ug/l  | 0.500 |        | 90   | 45-120 |     |       |            |
| LCS Dup Analyzed: 01/06/2006 (6A0604  | 9-BSD2)  |           |      |       |       |        |      |        |     |       |            |
| Aroclor 1016                          | 3.70     | 1.0       | 0.20 | ug/l  | 4.00  |        | 92   | 45-115 | 7   | 30    |            |
| Aroclor 1260                          | 3.82     | 1.0       | 0.40 | ug/l  | 4.00  |        | 96   | 55-115 | 3   | 25    |            |
| Surrogate: Decachlorobiphenyl         | 0.441    |           |      | ug/l  | 0.500 |        | 88   | 45-120 |     |       |            |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

Sampled: 01/03/06 Received: 01/03/06

#### METHOD BLANK/QC DATA

#### **METALS**

|  |            | Reporting |         |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|--|------------|-----------|---------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                | Result     | Limit     | MDL     | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04080 Extracted: 01/04/06     | <u> </u>   |           |         |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04080-B  | LK1)       |           |         |       |       |           |        |        |     |       |            |
| Mercury                                | ND         | 0.20      | 0.050   | ug/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/04/2006 (6A04080-BS   | 1)         |           |         |       |       |           |        |        |     |       |            |
| Mercury                                | 8.40       | 0.20      | 0.050   | ug/l  | 8.00  |           | 105    | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/04/2006 (6A0 | 4080-MS1)  |           |         |       | Sou   | rce: IPA( | 079-01 |        |     |       |            |
| Mercury                                | 8.03       | 0.20      | 0.050   | ug/l  | 8.00  | ND        | 100    | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/04/2006  | (6A04080-M | SD1)      |         |       | Sou   | rce: IPA( | 079-01 |        |     |       |            |
| Mercury                                | 8.17       | 0.20      | 0.050   | ug/l  | 8.00  | ND        | 102    | 70-130 | 2   | 20    |            |
| Batch: 6A04091 Extracted: 01/04/06     | <u>.</u>   |           |         |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/05/2006-01/06/2006  | (6A04091RT | K1)       |         |       |       |           |        |        |     |       |            |
| Antimony                               | 0.242      | 2.0       | 0.18    | ug/l  |       |           |        |        |     |       | J          |
| Arsenic                                | ND         | 1.0       | 0.50    | ug/l  |       |           |        |        |     |       |            |
| Barium                                 | 0.000310   | 0.0010    | 0.00015 | mg/l  |       |           |        |        |     |       | J          |
| Beryllium                              | ND         | 0.50      | 0.075   | ug/l  |       |           |        |        |     |       |            |
| Cadmium                                | ND         | 1.0       | 0.015   | ug/l  |       |           |        |        |     |       |            |
| Cobalt                                 | ND         | 1.0       | 0.035   | ug/l  |       |           |        |        |     |       |            |
| Copper                                 | ND         | 1.0       | 0.25    | ug/l  |       |           |        |        |     |       |            |
| Lead                                   | ND         | 1.0       | 0.13    | ug/l  |       |           |        |        |     |       |            |
| Molybdenum                             | 0.394      | 2.0       | 0.15    | ug/l  |       |           |        |        |     |       | J          |
| Nickel                                 | 1.06       | 2.0       | 0.35    | ug/l  |       |           |        |        |     |       | J          |
| Selenium                               | ND         | 2.0       | 0.36    | ug/l  |       |           |        |        |     |       |            |
| Thallium                               | 0.0800     | 1.0       | 0.075   | ug/l  |       |           |        |        |     |       | J          |
| Vanadium                               | ND         | 2.0       | 0.70    | ug/l  |       |           |        |        |     |       |            |
| Zinc                                   | ND         | 10        | 1.0     | ug/l  |       |           |        |        |     |       |            |



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06

Report Number: IPA0102 Received: 01/03/06

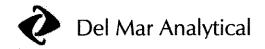
Pasadena, CA 91101 Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

#### **METALS**

|  |                 | Reporting |         |       | Spike  | Source    |        | %REC   |     | RPD   | Data       |
|--|-----------------|-----------|---------|-------|--------|-----------|--------|--------|-----|-------|------------|
| Analyte                                | Result          | Limit     | MDL     | Units | Level  | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04091 Extracted: 01/04/06     | <u>5</u>        |           |         |       |        |           |        |        |     |       |            |
|  |                 |           |         |       |        |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04091-BS   | 1)              |           |         |       |        |           |        |        |     |       |            |
| Antimony                               | 86.9            | 2.0       | 0.18    | ug/l  | 80.0   |           | 109    | 85-115 |     |       |            |
| Arsenic                                | 84.2            | 1.0       | 0.50    | ug/l  | 80.0   |           | 105    | 85-115 |     |       |            |
| Barium                                 | 0.0840          | 0.0010    | 0.00015 | mg/l  | 0.0800 |           | 105    | 85-115 |     |       |            |
| Beryllium                              | 79.6            | 0.50      | 0.075   | ug/l  | 80.0   |           | 100    | 85-115 |     |       |            |
| Cadmium                                | 83.4            | 1.0       | 0.015   | ug/l  | 80.0   |           | 104    | 85-115 |     |       |            |
| Cobalt                                 | 88.5            | 1.0       | 0.035   | ug/l  | 80.0   |           | 111    | 85-115 |     |       |            |
| Copper                                 | 90.3            | 1.0       | 0.25    | ug/l  | 80.0   |           | 113    | 85-115 |     |       |            |
| Lead                                   | 86.8            | 1.0       | 0.13    | ug/l  | 80.0   |           | 108    | 85-115 |     |       |            |
| Molybdenum                             | 81.0            | 2.0       | 0.15    | ug/l  | 80.0   |           | 101    | 85-115 |     |       |            |
| Nickel                                 | 88.7            | 2.0       | 0.35    | ug/l  | 80.0   |           | 111    | 85-115 |     |       |            |
| Selenium                               | 79.3            | 2.0       | 0.36    | ug/l  | 80.0   |           | 99     | 85-115 |     |       |            |
| Thallium                               | 87.3            | 1.0       | 0.075   | ug/l  | 80.0   |           | 109    | 85-115 |     |       |            |
| Vanadium                               | 81.7            | 2.0       | 0.70    | ug/l  | 80.0   |           | 102    | 85-115 |     |       |            |
| Zinc                                   | 87.7            | 10        | 1.0     | ug/l  | 80.0   |           | 110    | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A0 | 4091-MS1)       |           |         |       | Sou    | rce: IPA0 | 032-01 |        |     |       |            |
| Antimony                               | 74.7            | 2.0       | 0.18    | ug/l  | 80.0   | 0.24      | 93     | 70-130 |     |       |            |
| Arsenic                                | 70.8            | 1.0       | 0.50    | ug/l  | 80.0   | ND        | 88     | 70-130 |     |       |            |
| Barium                                 | 0.0797          | 0.0010    | 0.00015 | mg/l  | 0.0800 | 0.0060    | 92     | 70-130 |     |       |            |
| Beryllium                              | 65.4            | 0.50      | 0.075   | ug/I  | 80.0   | ND        | 82     | 70-130 |     |       |            |
| Cadmium                                | 70.2            | 1.0       | 0.015   | ug/I  | 80.0   | ND        | 88     | 70-130 |     |       |            |
| Cobalt                                 | 73.6            | 1.0       | 0.035   | ug/l  | 80.0   | 0.25      | 92     | 70-130 |     |       |            |
| Copper                                 | 79.6            | 1.0       | 0.25    | ug/l  | 80.0   | 7.7       | 90     | 70-130 |     |       |            |
| Lead                                   | 73.1            | 1.0       | 0.13    | ug/l  | 80.0   | 4.1       | 86     | 70-130 |     |       |            |
| Molybdenum                             | 71.4            | 2.0       | 0.15    | ug/l  | 80.0   | 0.46      | 89     | 70-130 |     |       |            |
| Nickel                                 | 70.5            | 2.0       | 0.35    | ug/l  | 80.0   | ND        | 88     | 70-130 |     |       |            |
| Selenium                               | 65.4            | 2.0       | 0.36    | ug/l  | 80.0   | 1.1       | 80     | 70-130 |     |       |            |
| Thallium                               | 70.0            | 1.0       | 0.075   | ug/l  | 80.0   | ND        | 88     | 70-130 |     |       |            |
| Vanadium                               | 72.1            | 2.0       | 0.70    | ug/l  | 80.0   | 0.76      | 89     | 70-130 |     |       |            |
| Zine                                   | 7 <del>69</del> | 10        | 1.0     | ug/l  | 80.0   | 730       | 49     | 70-130 |     |       | M-HA       |

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



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06
Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

#### METHOD BLANK/QC DATA

#### **METALS**

|  |             | Reporting |         |       | Spike  | Source    |        | %REC   |     | RPD   | Data       |
|--|-------------|-----------|---------|-------|--------|-----------|--------|--------|-----|-------|------------|
| Analyte                                | Result      | Limit     | MDL     | Units | Level  | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04091 Extracted: 01/04/06     | ó           |           |         |       |        |           |        |        |     |       |            |
|  | <del></del> |           |         |       |        |           |        |        |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A0 | 4091-MS2)   |           |         |       | Sou    | rce: IPA0 | 101-01 |        |     |       |            |
| Antimony                               | 84.1        | 2.0       | 0.18    | ug/l  | 80.0   | 0.64      | 104    | 70-130 |     |       |            |
| Arsenic                                | 81.2        | 1.0       | 0.50    | ug/l  | 80.0   | 1.9       | 99     | 70-130 |     |       |            |
| Barium                                 | 0.133       | 0.0010    | 0.00015 | mg/l  | 0.0800 | 0.048     | 106    | 70-130 |     |       |            |
| Beryllium                              | 77.9        | 0.50      | 0.075   | ug/l  | 80.0   | ND        | 97     | 70-130 |     |       |            |
| Cadmium                                | 79.0        | 1.0       | 0.015   | ug/l  | 80.0   | 0.034     | 99     | 70-130 |     |       |            |
| Cobalt                                 | 82.3        | 1.0       | 0.035   | ug/l  | 80.0   | 0.39      | 102    | 70-130 |     |       |            |
| Copper                                 | 84.1        | 1.0       | 0.25    | ug/l  | 80.0   | 8.5       | 94     | 70-130 |     |       |            |
| Lead                                   | 79.7        | 1.0       | 0.13    | ug/l  | 80.0   | 0.50      | 99     | 70-130 |     |       |            |
| Molybdenum                             | 82.2        | 2.0       | 0.15    | ug/l  | 80.0   | 2.9       | 99     | 70-130 |     |       |            |
| Nickel                                 | 81.5        | 2.0       | 0.35    | ug/l  | 0.08   | 0.80      | 101    | 70-130 |     |       |            |
| Selenium                               | 77.1        | 2.0       | 0.36    | ug/l  | 80.0   | 0.77      | 95     | 70-130 |     |       |            |
| Thallium                               | 80.0        | 1.0       | 0.075   | ug/l  | 80.0   | ND        | 100    | 70-130 |     |       |            |
| Vanadium                               | 82.7        | 2.0       | 0.70    | ug/l  | 80.0   | 2.3       | 100    | 70-130 |     |       |            |
| Zinc                                   | 87.3        | 10        | 1.0     | ug/l  | 80.0   | 9.7       | 97     | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/05/2006  | (6A04091-MS | SD1)      |         |       | Sou    | rce: IPA0 | 032-01 |        |     |       |            |
| Antimony                               | 85.3        | 2.0       | 0.18    | ug/l  | 80.0   | 0.24      | 106    | 70-130 | 13  | 20    |            |
| Arsenic                                | 80.8        | 1.0       | 0.50    | ug/l  | 80.0   | ND        | 101    | 70-130 | 13  | 20    |            |
| Barium                                 | 0.0914      | 0.0010    | 0.00015 | mg/l  | 0.0800 | 0.0060    | 107    | 70-130 | 14  | 20    |            |
| Beryllium                              | 75.9        | 0.50      | 0.075   | ug/l  | 80.0   | ND        | 95     | 70-130 | 15  | 20    |            |
| Cadmium                                | 79.0        | 1.0       | 0.015   | ug/l  | 80.0   | ND        | 99     | 70-130 | 12  | 20    |            |
| Cobalt                                 | 83.3        | 1.0       | 0.035   | ug/l  | 80.0   | 0.25      | 104    | 70-130 | 12  | 20    |            |
| Copper                                 | 87.5        | 1.0       | 0.25    | ug/l  | 80.0   | 7.7       | 100    | 70-130 | 9   | 20    |            |
| Lead                                   | 83.3        | 1.0       | 0.13    | ug/l  | 80.0   | 4.1       | 99     | 70-130 | 13  | 20    |            |
| Molybdenum                             | 81.4        | 2.0       | 0.15    | ug/l  | 80.0   | 0.46      | 101    | 70-130 | 13  | 20    |            |
| Nickel                                 | 79.3        | 2.0       | 0.35    | ug/l  | 80.0   | ND        | 99     | 70-130 | 12  | 20    |            |
| Selenium                               | 74.6        | 2.0       | 0.36    | ug/l  | 80.0   | 1.1       | 92     | 70-130 | 13  | 20    |            |
| Thallium                               | 79.9        | 1.0       | 0.075   | ug/l  | 80.0   | ND        | 100    | 70~130 | 13  | 20    |            |
| Vanadium                               | 84.2        | 2.0       | 0.70    | ug/l  | 80.0   | 0.76      | 104    | 70-130 | 15  | 20    |            |
| Zinc                                   | 795         | 10        | 1.0     | ug/l  | 80.0   | 730       | 81     | 70-130 | 3   | 20    | M-HA       |

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



MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06

Attention: Bronwyn Kelly

Pasadena, CA 91101

Report Number: IPA0102 Received: 01/03/06

#### METHOD BLANK/QC DATA

#### **METALS**

|                                   |                  | Reporting | ;      |       | Spike   | Source    |        | %REC   |     | RPD   | Data       |  |
|-----------------------------------|------------------|-----------|--------|-------|---|-----------|--------|--------|-----|-------|------------|--|
| Analyte                           | Result           | Limit     | MDL    | Units | Level   | Result    | %REC   | Limits | RPD | Limit | Qualifiers |  |
| Batch: 6A04092 Extracted: 01/     | <u>/04/06</u>    |           |        |       |   |           |        |        |     |       |            |  |
| Blank Analyzed: 01/05/2006 (6A04  | 092-BLK1)        |           |        |       |   |           |        |        |     |       |            |  |
| Boron                             | ND               | 0.050     | 0.0080 | mg/l  |   |           |        |        |     |       |            |  |
| Calcium                           | ND               | 0.10      | 0.040  | mg/l  |   |           |        |        |     |       |            |  |
| Chromium                          | 1.63             | 5.0       | 0.68   | ug/l  |   |           |        |        |     |       | J          |  |
| Magnesium                         | 0.00930          | 0.020     | 0.0070 | mg/l  |   |           |        |        |     |       | J          |  |
| LCS Analyzed: 01/05/2006 (6A040)  | 92-BS1)          |           |        |       |   |           |        |        |     |       |            |  |
| Boron                             | 0.469            | 0.050     | 0.0080 | mg/l  | 0.500   |           | 94     | 85-115 |     |       |            |  |
| Calcium                           | 2.54             | 0.10      | 0.040  | mg/l  | 2.50  |           | 102    | 85-115 |     |       |            |  |
| Chromium                          | 510              | 5.0       | 0.68   | ug/l  | 500   |           | 102    | 85-115 |     |       |            |  |
| Magnesium                         | 2.51             | 0.020     | 0.0070 | mg/l  | 2.50  |           | 100    | 85-115 |     |       |            |  |
| Matrix Spike Analyzed: 01/05/2006 | 6 (6A04092-MS1)  |           |        |       | Sou   | rce: IPA0 | 101-01 |        |     |       |            |  |
| Boron                             | 0.586            | 0.050     | 0.0080 | mg/l  | 0.500   | 0.090     | 99     | 70-130 |     |       |            |  |
| Calcium                           | 67.5             | 0.10      | 0.040  | mg/l  | 2.50  | 65        | 100    | 70-130 |     |       |            |  |
| Chromium                          | 505              | 5.0       | 0.68   | ug/l  | 500   | 1.8       | 101    | 70-130 |     |       |            |  |
| Magnesium                         | 20.0             | 0.020     | 0.0070 | mg/l  | 2.50  | 18        | 80     | 70-130 |     |       |            |  |
| Matrix Spike Dup Analyzed: 01/05  | /2006 (6A04092-M | (SD1)     |        |       | 2.50 102 85-115 500 102 85-115 2.50 100 85-115  Source: IPA0101-01  0.500 0.090 99 70-130 2.50 65 100 70-130 500 1.8 101 70-130 2.50 18 80 70-130  Source: IPA0101-01 |           |        |        |     |       |            |  |
| Boron                             | 0.599            | 0.050     | 0.0080 | mg/l  | 0.500   | 0.090     | 102    | 70-130 | 2   | 20    |            |  |
| Calcium                           | 68.2             | 0.10      | 0.040  | mg/l  | 2.50  | 65        | 128    | 70-130 | 1   | 20    |            |  |
| Magnesium                         | 20.4             | 0.020     | 0.0070 | mg/l  | 2.50  | 18        | 96     | 70-130 | 2   | 20    |            |  |
| Batch: 6A09086 Extracted: 01/     | 09/06            |           |        |       |   |           |        |        |     |       |            |  |
| Blank Analyzed: 01/09/2006 (6A090 | 086-BLK1)        |           |        |       |   |           |        |        |     |       |            |  |
| Silver                            | ND               | 1.0       | 0.089  | ug/l  |   |           |        |        |     |       |            |  |

**Del Mar Analytical, Irvine** Michele Chamberlin



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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06
Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

#### METHOD BLANK/QC DATA

#### **METALS**

| Analyte                                | Result     | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source<br>Result | %REC   | %REC   | RPD  | RPD<br>Limit | Data<br>Qualifiers |
|--|------------|--------------------|-------|-------|----------------|------------------|--------|--------|------|--------------|--------------------|
| Analyte                                | resuit     | Litter             | MEDL  | CHIIS | LICYCI         | Resuit           | /SICEC | Limits | KI D | Lann         | Quantiers          |
| Batch: 6A09086 Extracted: 01/09/06     | -          |                    |       |       |                |                  |        |        |      |              |                    |
| LCS Analyzed: 01/09/2006 (6A09086-BS)  | ia.        |                    |       |       |                |                  |        |        |      |              |                    |
| Silver                                 | 76.4       | 1.0                | 0.089 | //    | 80.0           |                  | 96     | 85-115 |      |              |                    |
| Silver                                 | 70.4       | 1.0                | 0.069 | ug/l  | 80.0           |                  | 90     | 03-113 |      |              |                    |
| Matrix Spike Analyzed: 01/09/2006 (6A0 | 9086-MS1)  |                    |       |       | Sou            | rce: IPA0        | 492-04 |        |      |              |                    |
| Silver                                 | 72.8       | 1.0                | 0.089 | ug/l  | 80.0           | ND               | 91     | 70-130 |      |              |                    |
| Matrix Spike Analyzed: 01/09/2006 (6A0 | 9086-MS2)  |                    |       |       | Sou            | rce: IPA0        | 451-01 |        |      |              |                    |
| Silver                                 | 76.2       | 1.0                | 0.089 | ug/l  | 80.0           | ND               | 95     | 70-130 |      |              |                    |
| Matrix Spike Dup Analyzed: 01/09/2006  | (6A09086-M | SD1)               |       |       | Sou            | rce: IPA0        | 492-04 |        |      |              |                    |
| Silver                                 | 74.0       | 1.0                | 0.089 | ug/l  | 80.0           | ND               | 92     | 70-130 | 2    | 20           |                    |



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MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Report Number: IPA0102

Pasadena, CA 91101 Attention: Bronwyn Kelly Sampled: 01/03/06 Received: 01/03/06

#### METHOD BLANK/QC DATA

|   |             | Reporting   |       |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|-------------|-------------|-------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit       | MDL   | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03051 Extracted: 01/03/06      |             |             |       |       |       |           |        |        |     |       |            |
|   |             |             |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03051-B)  | LK1)        |             |       |       |       |           |        |        |     |       |            |
| Fluoride                                | 0.198       | 0.50        | 0.10  | mg/l  |       |           |        |        |     |       | J          |
| Nitrate/Nitrite-N                       | ND          | 0.26        | 0.072 | mg/l  |       |           |        |        |     |       |            |
| Sulfate                                 | ND          | 0.50        | 0.18  | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03051-BS1   | 1)          |             |       |       |       |           |        |        |     |       |            |
| Fluoride                                | 4.76        | 0.50        | 0.10  | mg/l  | 5.00  |           | 95     | 90-110 |     |       |            |
| Sulfate                                 | 9.83        | 0.50        | 0.18  | mg/l  | 10.0  |           | 98     | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A0) | 3051-MS1)   |             |       |       | Sour  | rce: IPA6 | 036-01 |        |     |       |            |
| Fluoride                                | 50.8        | 5.0         | 1.0   | mg/l  | 50.0  | 1.7       | 98     | 80-120 |     |       |            |
| Sulfate                                 | 342         | 5.0         | 1.8   | mg/l  | 100   | 240       | 102    | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006 ( | 6A03051-MSI | <b>D1</b> ) |       |       | Sour  | ce: IPA0  | 036-01 |        |     |       |            |
| Fluoride                                | 53.2        | 5.0         | 1.0   | mg/l  | 50.0  | 1.7       | 103    | 80-120 | 5   | 20    |            |
| Sulfate                                 | 345         | 5.0         | 1.8   | mg/l  | 100   | 240       | 105    | 80-120 | 1   | 20    |            |
| Batch: 6A03114 Extracted: 01/03/06      |             |             |       |       |       |           |        |        |     |       |            |
|   | •           |             |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03114-BI  | .K1)        |             |       |       |       |           |        |        |     |       |            |
| Surfactants (MBAS)                      | ND          | 0.10        | 0.044 | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03114-BS1   | )           |             |       |       |       |           |        |        |     |       |            |
| Surfactants (MBAS)                      | 0.275       | 0.10        | 0.044 | mg/l  | 0.250 |           | 110    | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03 | 114-MS1)    |             |       |       | Sour  | ce: IPA0  | 017-01 |        |     |       |            |
| Surfactants (MBAS)                      | 0.377       | 0.10        | 0.044 | mg/l  | 0.250 | 0.096     | 112    | 50-125 |     |       |            |



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O/DEC

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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Snike Source

METHOD BLANK/QC DATA

#### **INORGANICS**

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|                                       |              | Reporting |       |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|---------------------------------------|--------------|-----------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                               | Result       | Limit     | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03114 Extracted: 01/03/0     | <u>)6</u>    |           |       |       |       |           |         |        |     |       |            |
|                                       |              |           |       |       | _     |           |         |        |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/200  | 6 (6A03114-N | ISD1)     |       |       | Sou   | rce: IPA( | 9017-01 |        |     |       |            |
| Surfactants (MBAS)                    | 0.342        | 0.10      | 0.044 | mg/l  | 0.250 | 0.096     | 98      | 50-125 | 10  | 20    |            |
| Batch: 6A04062 Extracted: 01/04/6     | <u>)6</u>    |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/09/2006 (6A04062-  | BLK1)        |           |       |       |       |           |         |        |     |       |            |
| Biochemical Oxygen Demand             | ND           | 2.0       | 0.59  | mg/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/09/2006 (6A04062-B   | S1)          |           |       |       |       |           |         |        |     |       |            |
| Biochemical Oxygen Demand             | 216          | 100       | 30    | mg/l  | 198   |           | 109     | 85-115 |     |       |            |
| LCS Dup Analyzed: 01/09/2006 (6A040   | 62-BSD1)     |           |       |       |       |           |         |        |     |       |            |
| Biochemical Oxygen Demand             | 200          | 100       | 30    | mg/l  | 198   |           | 101     | 85-115 | 8   | 20    |            |
| Batch: 6A04078 Extracted: 01/04/0     | <u> 16</u>   |           |       |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04078-  | BLK1)        |           |       |       |       |           |         |        |     |       |            |
| Perchlorate                           | ND           | 4.0       | 0.80  | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/04/2006 (6A04078-B   | Sn .         |           |       |       |       |           |         |        |     |       |            |
| Perchlorate                           | 45.3         | 4.0       | 0.80  | ug/l  | 50.0  |           | 91      | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/04/2006 (6A | .04078-MS1)  |           |       |       | Son   | rce: IPA0 | 121-01  |        |     |       |            |
| Perchlorate                           | 48.9         | 4.0       | 0.80  | ug/l  | 50.0  | 5.5       | 87      | 80-120 |     |       |            |
|                                       |              |           | 0.50  | ~~    |       |           |         | 00 120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/04/200  | 6 (6A04078-M | SD1)      |       |       | Sou   | rce: IPA0 | 121-01  |        |     |       |            |
| Perchlorate                           | 51.8         | 4.0       | 0.80  | ug/l  | 50.0  | 5.5       | 93      | 80-120 | 6   | 20    |            |

Del Mar Analytical, Irvine Michele Chamberlin Project Manager



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Sampled: 01/03/06

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102 Received: 01/03/06

#### METHOD BLANK/QC DATA

| Analyte   | Result             | Reporting<br>Limit | MDL  | Units    | Spike<br>Level | Source<br>Result | %REC   | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---|--------------------|--------------------|------|----------|----------------|------------------|--------|----------------|-----|--------------|--------------------|
| Batch: 6A04092 Extracted: 01/04/06                            |                    |                    |      |          |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/05/2006 (6A04092-Bl<br>Hardness (as CaCO3) | L <b>K1)</b><br>ND | 1.0                | 1.0  | mg/l     |                |                  |        |                |     |              |                    |
| Batch: 6A04105 Extracted: 01/04/06                            | •                  |                    |      |          |                |                  |        |                |     |              |                    |
| Duplicate Analyzed: 01/04/2006 (6A04105 Specific Conductance  | 5-DUP1)<br>839     | 1.0                | 1.0  | umhos/cm | Soui           | rce: IPA6        | 118-01 |                | 4   | 5            |                    |
| Batch: 6A04107 Extracted: 01/04/06                            |                    |                    |      |          |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/04/2006 (6A04107-BI                        | LK1)               |                    |      |          |                |                  |        |                |     |              |                    |
| Total Dissolved Solids  | ND                 | 10                 | 10   | mg/l     |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/04/2006 (6A04107-BS1                         | )                  |                    |      |          |                |                  |        |                |     |              |                    |
| Total Dissolved Solids  | 996                | 10                 | 10   | mg/l     | 1000           |                  | 100    | 90-110         |     |              |                    |
| Duplicate Analyzed: 01/04/2006 (6A04107                       | '-DUP1)            |                    |      |          | Sour           | ce: IPA0         | 094-06 |                |     |              |                    |
| Total Dissolved Solids  | 956                | 10                 | 10   | mg/l     |                | 920              |        |                | 4   | 10           |                    |
| Batch: 6A05098 Extracted: 01/05/06                            |                    |                    |      |          |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/05/2006 (6A05098-BI                        | .K1)               |                    |      |          |                |                  |        |                |     |              |                    |
| Ammonia-N (Distilled)   | ND                 | 0.50               | 0.30 | mg/I     |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/05/2006 (6A05098-BS1                         | )                  |                    |      |          |                |                  |        |                |     |              |                    |
| Ammonia-N (Distilled)   | 10.9               | 0.50               | 0.30 | mg/l     | 10.0           |                  | 109    | 80-115         |     |              |                    |



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Project ID: LARWQCB Sample Splits

Outfall 009

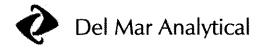
Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

Received: 01/03/06

#### METHOD BLANK/QC DATA

|   | ]            | Reporting   |      |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|---|--------------|-------------|------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                                 | Result       | Limit       | MDL  | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05098 Extracted: 01/05/06      | _            |             |      |       |       |           |         |        |     |       |            |
|   |              |             |      |       |       |           |         |        |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A0  | 5098-MS1)    |             |      |       | Sou   | rce: IOL2 | 2366-01 |        |     |       |            |
| Ammonia-N (Distilled)                   | 11.5         | 0.50        | 0.30 | mg/l  | 10.0  | ND        | 115     | 70-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/05/2006   | (6A05098-MSI | <b>D1</b> ) |      |       | Sou   | rce: IOL2 | 2366-01 |        |     |       |            |
| Ammonia-N (Distilled)                   | 11.2         | 0.50        | 0.30 | mg/l  | 10.0  | ND        | 112     | 70-120 | 3   | 15    |            |
| Batch: 6A06094 Extracted: 01/06/06      | <u>-</u>     |             |      |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06094-Bl  | LK1)         |             |      |       |       |           |         |        |     |       |            |
| Total Organic Carbon                    | ND           | 1.0         | 0.25 | mg/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06094-BS1   | )            |             |      |       |       |           |         |        |     |       |            |
| Total Organic Carbon                    | 9.66         | 1.0         | 0.25 | mg/l  | 10.0  |           | 97      | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/06/2006 (6A06 | 6094-MS1)    |             |      |       | Sou   | rce: IPA0 | 097-06  |        |     |       |            |
| Total Organic Carbon                    | 10.0         | 1.0         | 0.25 | mg/l  | 5.00  | 5.7       | 86      | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/06/2006 ( | 6A06094-MSI  | <b>)</b> 1) |      |       | Sour  | rce: IPA0 | 097-06  |        |     |       |            |
| Total Organic Carbon                    | 10.1         | 1.0         | 0.25 | mg/l  | 5.00  | 5.7       | 88      | 80-120 | 1   | 20    |            |
| Batch: 6A06111 Extracted: 01/06/06      |              |             |      |       |       |           |         |        |     |       |            |
| Blank Analyzed: 01/09/2006 (6A06111-BI  | .K1)         |             |      |       |       |           |         |        |     |       |            |
| Total Cyanide                           | ND           | 5.0         | 2.2  | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/09/2006 (6A06111-BS1   | )            |             |      |       |       |           |         |        |     |       |            |
| Total Cyanide                           | 183          | 5.0         | 2.2  | ug/l  | 200   |           | 92      | 90-110 |     |       |            |



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

#### METHOD BLANK/QC DATA

|   |             | Reporting |     |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|-------------|-----------|-----|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit     | MDL | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A06111 Extracted: 01/06/06      | _           |           |     |       |       |           |        |        |     |       |            |
| Matrix Spike Analyzed: 01/09/2006 (6A0  | 6111-MS1)   |           |     |       | Sou   | rce: IPA0 | 102-01 |        |     |       |            |
| Total Cyanide                           | 211         | 5.0       | 2.2 | ug/l  | 200   | 3.4       | 104    | 70-115 |     |       |            |
| Matrix Spike Dup Analyzed: 01/09/2006   | (6A06111-MS | D1)       |     |       | Sou   | rce: IPA0 | 102-01 |        |     |       |            |
| Total Cyanide                           | 213         | 5.0       | 2.2 | ug/l  | 200   | 3.4       | 105    | 70-115 | 1   | 15    |            |
| Batch: 6A06118 Extracted: 01/06/06      | -           |           |     |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06118-B   | LK1)        |           |     |       |       |           |        |        |     |       |            |
| Total Suspended Solids                  | ND          | 10        | 10  | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06118-BS)   | l)          |           |     |       |       |           |        |        |     |       |            |
| Total Suspended Solids                  | 980         | 10        | 10  | mg/l  | 1000  |           | 98     | 85-115 |     |       |            |
| Duplicate Analyzed: 01/06/2006 (6A0611) | 8-DUP1)     |           |     |       | Sou   | rce: IPA0 | 396-01 |        |     |       |            |
| Total Suspended Solids                  | 188         | 10        | 10  | mg/l  |       | 180       |        |        | 4   | 10    |            |

17461 Derian Ave., Suite 100, Invine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 GAX (958) South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunser Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Compliance

MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009 Sampled: 01/03/06 r: IPA0102 Received: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

#### Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

|            |                                |                            |         |         |        | Compliance |
|------------|--------------------------------|----------------------------|---------|---------|--------|------------|
| LabNumber  | Analysis                       | Analyte                    | Units   | Result  | MRL    | Limit      |
| IPA0102-01 | 624-Boeing 001/002 Q (Frl13+X) | 1,1-Dichloroethene         | ug/l    | 0       | 3.0    | 3.20       |
| IPA0102-01 | 624-Boeing 001/002 Q (Fr113+X) | Trichloroethene            | ug/l    | 0.21    | 5.0    | 5.00       |
| IPA0102-01 | 625+NDMA, LL                   | 2,4,6-Trichlorophenol      | ug/l    | 0       | 1.0    | 6.50       |
| IPA0102-01 | 625+NDMA, LL                   | 2,4-Dinitrotoluene         | ug/l    | 0       | 5.0    | 9.10       |
| IPA0102-01 | 625+NDMA, LL                   | Bis(2-ethylhexyl)phthalate | ug/l    | 2.40    | 5.0    | 4.00       |
| IPA0102-01 | 625+NDMA, LL                   | N-Nitrosodimethylamine     | ug/l    | 0       | 2.0    | 8.10       |
| IPA0102-01 | 625+NDMA, LL                   | Pentachlorophenol          | ug/l    | 0.20    | 2.0    | 8.20       |
| IPA0102-01 | Antimony-200.8                 | Antimony                   | ug/l    | 1.00    | 2.0    | 6.00       |
| IPA0102-01 | Arsenic-200.8                  | Arsenic                    | ug/l    | 1.80    | 1.0    | 50         |
| IPA0102-01 | Barium-200.8                   | Barium                     | mg/l    | 0.041   | 0.0010 | 1.00       |
| IPA0102-01 | Beryllium-200.8                | Beryllium                  | ug/l    | 0.085   | 0.50   | 4.00       |
| IPA0102-01 | BOD                            | Biochemical Oxygen Demand  | mg/l    | 0.90    | 2.0    | 20         |
| IPA0102-01 | Boron-200.7                    | Boron                      | mg/l    | 0.12    | 0.050  | 1.00       |
| IPA0102-01 | Cadmium-200.8                  | Cadmium                    | ug/l    | 0.013   | 1.0    | 4.00       |
| IPA0102-01 | Chromium-200.7                 | Chromium                   | ug/l    | 1.40    | 5.0    | 8.10       |
| IPA0102-01 | Copper-200.8, 1ppb             | Copper                     | ug/l    | 3.20    | 1.0    | 14         |
| IPA0102-01 | Cyanide-335.2 5ppb             | Total Cyanide              | ug/l    | 3.40    | 5.0    | 4.30       |
| IPA0102-01 | Fluoride-300.0                 | Fluoride                   | mg/l    | 0.29    | 0.50   | 1.60       |
| IPA0102-01 | Lead-200.8                     | Lead                       | ug/l    | 0.51    | 1.0    | 2.60       |
| IPA0102-01 | MBAS - SM5540-C                | Surfactants (MBAS)         | mg/l    | 0.042   | 0.10   | 0.50       |
| IPA0102-01 | Mercury - 245.1                | Mercury                    | ug/l    | 0       | 0.20   | 0.20       |
| IPA0102-01 | NDMA-1625C Mod                 | N-Nitrosodimethylamine     | ug/l    | 0.00045 | 0.0019 | 8.10       |
| IPA0102-01 | Nickel-200.8                   | Nickel                     | ug/l    | 2.30    | 2.0    | 35         |
| IPA0102-01 | Nitrogen, NO3+NO2 -N           | Nitrate/Nitrite-N          | mg/l    | 2.70    | 0.26   | 10.00      |
| IPA0102-01 | Perchlorate 314.0              | Perchlorate                | ug/l    | 0       | 4.0    | 6.00       |
| IPA0102-01 | Selenium-200.8                 | Selenium                   | ug/l    | 0.30    | 2.0    | 4.10       |
| IPA0102-01 | Settleable Solids              | Total Settleable Solids    | ml/l/hr | 0       | 0.10   | 0.100      |
| IPA0102-01 | Silver-200.8                   | Silver                     | ug/l    | 0       | 1.0    | 2.00       |
| IPA0102-01 | Sulfate-300.0                  | Sulfate                    | mg/l    | 52      | 0.50   | 250        |
| IPA0102-01 | TDS - SM 2540C                 | Total Dissolved Solids     | mg/l    | 260     | 10     | 850        |
| IPA0102-01 | Thallium-200.8                 | Thallium                   | ug/l    | 0.0030  | 1.0    | 2.00       |
| IPA0102-01 | TSS - EPA 160.2                | Total Suspended Solids     | mg/l    | 7.00    | 10     | 15         |
| IPA0102-01 | Zinc-200.8,LOW                 | Zinc                       | ug/l    | 6.50    | 10     | 54         |
|            |                                |                            |         |         |        |            |



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MWH-Pasadena/Boeing Project ID: LARWQCB Sample Splits

 300 North Lake Avenue, Suite 1200
 Outfall 009
 Sampled: 01/03/06

 Pasadena, CA 91101
 Report Number: IPA0102
 Received: 01/03/06

Attention: Bronwyn Kelly

#### DATA QUALIFIERS AND DEFINITIONS

| A-01  | Calibration Verification recovery was above the method control limit for this analyte.   |
|-------|--|
| В     | Analyte was detected in the associated Method Blank.   |
| С     | Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.  |
| 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. |
| L     | Laboratory Control Sample recovery was above the method control limits. Analyte not detected, data not impacted.   |
| М-НА  | Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).   |
| M-NR1 | There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.   |
| R     | The RPD exceeded the method control limit due to sample matrix effects. The individual analyte QA/QC recoveries, however, were within acceptance limits.   |
| ND    | Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.  |
|       |  |

#### ADDITIONAL COMMENTS

#### For TICs:

RPD

All identifications are tentative and concentrations are estimates based upon spectral comparison to the EPA/NIH library.

#### For 1,2-Diphenylhydrazine:

Relative Percent Difference

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.



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MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

Outfall 009

Pasadena, CA 91101

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

#### **Certification Summary**

#### Del Mar Analytical, Irvine

| Method           | Matrix | Nelac | California |
|------------------|--------|-------|------------|
| Calculation      | Water  | x     | X          |
| EDD + Level 4    | Water  |       |            |
| EPA 120.1        | Water  | X     | X          |
| EPA 160.2        | Water  | X     | X          |
| EPA 160.5        | Water  | X     | X          |
| EPA 1625C-CI Mod | Water  |       |            |
| EPA 200.7        | Water  | X     | X          |
| EPA 200.8        | Water  | X     | X          |
| EPA 245.1        | Water  | X     | X          |
| EPA 300.0        | Water  | X     | X          |
| EPA 314.0        | Water  | N/A   | X          |
| EPA 335.2        | Water  | X     | X          |
| EPA 350.2        | Water  |       | X          |
| EPA 405.1        | Water  | X     | X          |
| EPA 415.1        | Water  | X     | X          |
| EPA 608          | Water  | X     | X          |
| EPA 624 (MOD.)   | Water  |       | X          |
| EPA 624          | Water  | X     | X          |
| EPA 625          | Water  | X     | X          |
| EPA 900.0        | Water  |       |            |
| EPA 905.0        | Water  |       |            |
| EPA 906.0        | Water  |       |            |
| SM2340B          | Water  | X     | X          |
| SM2540C          | Water  | X     | X          |
| SM5540-C         | 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.

#### **Subcontracted Laboratories**

#### **Eberline Services**

2030 Wright Avenue - Richmond, CA 94804

Gross Alpha Analysis Performed:

Samples: IPA0102-01

Analysis Performed: Gross Beta

Samples: IPA0102-01

Analysis Performed: Level 4 + EDD

Samples: IPA0102-01

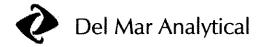
Analysis Performed: Radium, Combined

Samples: IPA0102-01

Analysis Performed: Strontium 90

Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200 Outfall 009 Sampled: 01/03/06 Pasadena, CA 91101 Report Number: IPA0102 Received: 01/03/06

Attention: Bronwyn Kelly

#### **Eberline Services**

2030 Wright Avenue - Richmond, CA 94804

Samples: IPA0102-01
Analysis Performed: Tritium
Samples: IPA0102-01

| # 805 Page 1 of 1                   |                     | PT 0 TEME = 52 X   | Comments   |                                  |               |         |         |         |  |   | <b>X</b> | ×            |        | Ammeria - | MBAS     |  | nd Time: (d       | 48 Hours 10 Days 72 Hours Normal Perchlorate Only 72 Hours.  Metals Only 72 Hours. Sample Integrity (Check) Infact Onlice: |
|-------------------------------------|---------------------|--|--|----------------------------------|---------------|---------|---------|---------|--|---|----------|--------------|--------|-----------|----------|--|-------------------|--|
|                                     | ANALYSIS REQUIRED   |  | 777, C<br>ASEN, PER<br>PERSONAL PERSONAL PERS | ing<br>Ing                       |               |         |         |         | X  | ×   | ×        |              |        |           |          |  | 525               | 0081 90  |
| TODYFORM                            | 2}                  | 10 57 PES 219 PES 21 PE | 91241 h  | 110<br>140<br>1501               | X             | X       | X       | ×       |  |   |          |              |        |           |          |  | Date/Time:        | Date/Time:  Sauly 1-3-06  Date/Time:   |
| CHAIN OF CUS                        |                     | 多片   |  | Preservative Bottle *            |               |         |         |         |  |   |          |              |        |           |          |  | N                 | Received By Received By  |
|                                     | Project: Boeing     | NACA<br>Serie  | Phone Number:<br>(626) 568-6691<br>Fax Number:<br>(626) 568-6515   | # of Sampling<br>Cont. Date/Time | 1 /3/0x 13.20 | 7       |         | ~r      | and the second s |   |          | 7            |        |           | >        | AMARA MARINE MAR | Date/Time:        | Date/Time:   |
| Del Mar Analytical version 02/17/05 | Iress.              | rna<br>renue, Suite 1200<br>101<br>Aichele Hamer   | 7 & ~ ~ P  | Sample Container #               | W Poly        |         | 7       | , COAS  | 5.   | <b>を</b><br>2007<br>100<br>100<br>100<br>100<br>100<br>100<br>100 | 1 20 d   | +            | 1 1    | Solvino A | 80% P    | ***************************************  | 6-3-0 Date/Time:  | # 27 100   |
| Del Mar Ar                          | Client Name/Address | MWH-Pasadena<br>300 North Lake Avenue, Suite 1200<br>Pasadena, CA 91101<br>Del Mar Contact: Michele Harner   | Project Manager:   | Sample Si<br>Description N       | 7481,00       | DOGSPUT | ON SPLT | OD-SPLT | $\mathbf{U}_{i}$   | 37.87.18  | 日からに     | mological in | からくでして | 39952ri   | 304 SPUT |  | Reliperationed By | Relinquished By  |



March 21, 2006

Ms. Michele Chamberlin Project Manager Del Mar Analytical 17461 Derian Avenue, Suite 100 Irvine, CA 92614

Reference: Del Mar Analytical Project No. IPA0102

Eberline Services NELAP Cert #01120CA (exp. 01/31/07)

Eberline Services Report R601023-8640

Dear Ms. Chamberlin:

Enclosed are Sr-90 reanalysis results for one water sample received as the above referenced Del Mar Analytical project. Results were originally reported on January 30, 2006. Only the Sr-90 results are changed, all other results are as reported January 30. The batch QC LCS, blank analysis, and sample duplicate analysis results were within the limits defined in Eberline Services Quality Control Procedures Manual. Analyses that involve the yielding of an analytical tracer or carrier, such as Sr-90, do not require a matrix spike analysis to be performed. The reported gross alpha/gross beta QC sample results are not relevant to this report.

Please call me if you have any questions concerning this report.

Regards,

Melissa Mannion

Senior Program Manager

mas Mon

MCM/njv

Enclosure: Report

#### Eberline Services

#### ANALYSIS RESULTS

| Client<br>Sample ID | Lab<br>Sample ID | Collected | Analyzed | Nuclide    | Results ± 20 | <u>Units</u> | MDA   |
|---------------------|------------------|-----------|----------|------------|--------------|--------------|-------|
| IPA0102 -01         | <b>⊹640-001</b>  | 01/03/06  | 01/20/06 | GrossAlpha | 0.888 ± 0.61 | pCi/L        | 0.888 |
|                     |                  |           | 01/20/06 | Gross Beta | 3.15 ± 0.69  | pCi/L        | 0.976 |
|                     |                  |           | 01/21/06 | Ra-228     | 0.293 ± 0.28 | pCi/L        | 0.684 |
|                     |                  |           | 01/17/06 | H-3        | -43.1 ± 110  | pCi/L        | 182   |
|                     |                  |           | 01/20/06 | Ra-226     | 0.191 ± 0.33 | pCi/L        | 0.569 |
|                     |                  |           | 03/08/06 | Sr-90      | 0.206 ± 0.30 | pCi/L        | 0.590 |

Report Date 03/21/06

Page 1

#### Eberline Services

#### QC RESULTS

Client DEL MAR ANAL SDG 8653 Contract PROJECT# IPB1818 Work Order R602147-)1 Matrix WATER Received Date 02/21/06

| Lab       |               |                    |                 |           |                |             |                                       |         |            |
|-----------|---------------|--------------------|-----------------|-----------|----------------|-------------|---------------------------------------|---------|------------|
|           | thun là do    | Results            | Units           | Amount A  | Added          | MDA         | Evaluat                               | cion    |            |
| Sample ID | Nuclide       | NG3 W. C.          | C A day but had |           |                |             |                                       |         |            |
| LCS       |               |                    |                 |           |                |             |                                       |         |            |
| 8653-002  | GrossAlpha    | 9.32 ± 0.63        | pCi/Smpl        | 10.3      | 2              | 0.306       | 91% red                               | covery  |            |
|           | Gross Beta    | 9.96 ± 0.37        | pCi/Smpl        | 9.8       | 3              | 0.271       | 101% re                               | scovery | 7          |
|           | 3r-90         | 11.2 ± 0.61        | pCi/Smpl        | 10.8      | 3              | 0.229       | 104% re                               | ≥covery | •          |
| BLANK     |               |                    |                 |           |                |             |                                       |         |            |
| 8653-003  | GrossAlpha    | -0.408 ± 0.18      | pCi/Smpl        | . N       | 4              | 0.376       | <mda< td=""><td></td><td></td></mda<> |         |            |
|           | Gross Beta    | $0.080 \pm 0.24$   | pCi/Smpl        | . N       | 4              | 0.414       | <mda< td=""><td></td><td></td></mda<> |         |            |
|           | 3r-90         | -0.073 ± 0.16      | pCi/Smpl        | L N       | 4              | 0.418       | <mda< td=""><td></td><td></td></mda<> |         |            |
|           |               |                    |                 |           | ORIGINALS      |             |                                       |         |            |
|           | DUPLICATES    |                    |                 |           | <u> </u>       |             | -                                     | 3σ      |            |
| Sample [D | Nuclide       | Results ± 20       | MDA S           | Sample ID | Results ±      |             |                                       | D (Tot) |            |
| 8653-004  | GrossAlpha    | $0.122 \pm 0.53$   | 0.893 8         | 3653-001  | $0.735 \pm 0.$ |             | .587 14                               |         | satis      |
|           | Gross Beta    | 6.92 ± 0.71        | 0.869           |           | 7.03 ± 0.      |             |                                       |         | satis      |
|           | Sr-90         | 0.358 ± 0.39       | 0.771           |           | 0.317 ± 0.     | .31 0       | .594                                  | - (     | ) satis    |
|           | SPIKED SAMPLE |                    | L               | ORI       | GINAL SAMPI    | LE          | _                                     |         |            |
|           | OTTROD SAMETE |                    |                 |           |                |             |                                       |         |            |
| Sample ID | Nuclide       | Results + 20       | MDA             | Sample ID | Results ±      | <u>20 M</u> | <u>DA Ad</u>                          | ded 3   | Recv       |
|           | GrossAlpha    | 74.0 ± 2.9         | 0.626           | 8653-001  | 0.735 ± 0      | .45 0       | .587 71                               | .4 ?    | 103        |
|           | Gross Beta    | 66.0 ± 1.7         | 0.891           |           | 7.03 ± 0       | .74 0       | .906 65                               | . 5 .   | <b>9</b> 0 |
|           |               | · · · <del>-</del> | ,               |           |                |             |                                       |         |            |

Certified by April Report Date 03/21/06
Page 2

Del Mar Analytical

Date

Time

Received By

Released By

1014 E. Cooley Dr., Soile A. Colton, CA 92324

SHM Chesapeake Drive, Suite 805, San Diagn, CA 92123 Ph (619) 505-9556 Fax (619) 505-9689 5930 South 51st Simot, Guino 8-120, Phoenic, AZ 85044 Ph (490) 785-9843 Fax (450) 785-9851

#### SUBCONTRACT ORDER - PROJECT #IPA0102

| SEND                                 | NG LABORATORY:                     | RECEIVING LABORATORY:   |
|--------------------------------------|------------------------------------|---|
| Del Mar Analytical, Irvine           | :                                  | Eberline Services   |
| 17461 Derian Avenue, Sui             |                                    | 2030 Wright Avenue  |
| Irvine, CA 92614                     |                                    | Richmond, CA 94804  |
| Phone: (949) 261-1022                |                                    | Phone :(510) 235-2633   |
| Fax: (949) 261-1228                  |                                    | Fax: (510) 235-0438   |
| Project Manager, Michele             | <u> Chamberlin</u>                 |   |
|                                      |                                    |   |
| Standard TAT is request              | ed unless specific due date is rec | equested => Due Date: Initials:   |
| Analysis                             | Expiration                         | Comments  |
| Sample ID: IFA0102-01 W              | <b>-</b>                           |   |
| Gross Alpha-O                        | 01/03/07 13:25                     | 900.0, IF RESULT>15 pCi/L, run Radium 226 & 228   |
| Gross Beta-O                         | 01/03/07 13:25                     | 900.0, IF RESULT>50 pCi/L, run Radium 226 & 228   |
| Level 4 + EDD-OUT Radium, Combined-O | 01/31/06 13:25<br>01/03/07 13:25   | **LEVEL IV QC, ACCESS 7 EDD*** H <del>OLD for Gross Aipha/Desa *esolt</del> ; EPA 903.1 & 904.0 |
| Strontium 90-0                       | 01/03/07 13:25                     | 905.0 MILL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| Tritium-O                            | 01/03/07 13:25                     | 906 Go Wold + analyte   |
| Containers Supplied:                 |                                    | 905.0<br>906 Go Wold + analyze<br>MC /10/06   |
| 1 gai Poly (TPA0102-01M)             |                                    | VC 110/0/   |
| 1 gal Poly (IPA0102-01N)             |                                    | 100   |
|                                      |                                    |   |
|                                      |                                    |   |
|                                      | SA                                 | AMPLE INTEGRITY:  |
| All containers insect:   Yes         | ☐ No Sample labets/COC             | Cagree:   |
| Costudy Seals Present 🗀 Yes          | ☐ No Samples Preserved P           | Properly:  Yer No Samplex Received at (temp):   |
| W. Ch                                |                                    | Alex beleen 01/05/06 09:20  |
| elcased By                           | Date Time                          | Received By Date Time   |

Tunc



# RICHMOND, CA LABORATORY SAMPLE RECEIPT CHECKLIST

| - Clinant | DEL                 | . MX        | R             | City  | INVINE<br># IPACIOZ  | State                                  | CA                                     |  |  |
|-----------|---------------------|-------------|---------------|---|----------------------|--|--|--|--|
| client: _ |                     | 21050       | 6 9:20        | 0C NO =   | # IPA0102            |  |  |  |  |
| Date/Tin  | ne receive          | My /c       | TXM0 -        |   | ys) 670 P.O. Recei   | ved Yes                                | ] No[]                                 |  |  |
| Contain   | er I.D. No.         | <u> </u>    | Kedn          |   |                      |  |  |  |  |
|           | _                   |             |               |   | PECTION              | Yes [Y]                                | No[] N/A                               | []   |  |
| 7.        |                     |             | ipping contai | ine: intact :<br>iner dated & si  | unned?               | Yes [X]                                |  |  |  |
| 2         |                     |             | mple contain  |   | 9.10                 | •                                      | No[] N/A                               | [ <b>X</b> ]   |  |
| 2         |                     |             |               | iers dated & s  | igned?               | Yes[]                                  | No[] N/A                               | N 140  |  |
| 4.<br>E.  | Maria da imana sere | mental :c:  |               |   |                      | Wet[]                                  | Dry [X ]                               |  |  |
| ŝ.        | Niumber 5           | sainmes i   | in shipping o | ontainer:   | Sample Matrix _      | <u>W</u>                               | ······································ |  |  |
| 7         | Number o            | f container | rs per sampli | e: <u> </u>   | (Or see CoC          | ······································ |  |  |  |
| E         |                     |             | ect container |   | Yes [y] No           |  |  |  |  |
| 9         | Paperwor            | k agrees w  | vith samples' | ?   |                      |  |  | 'n   |  |
| 10.       | Samples i           | nave: Ta    | ape[] Ha      | zard labels [   | ] Rad labels [ ] App | ropnate sar                            | mple lade is [ /                       | <b>-</b> J<br>1  |  |
| 11.       | Samples             | are: in     | good condit   | ion [*] Le  | aking [ ] Broken Co  | ntainer [ ]                            | MISSII IG (                            | 1  |  |
| 12.       |                     |             |               | Not preserved   | [ \( \)] pH Preser   | vative                                 | ····                                   |  |  |
| 13.       | Describe            | any anomi   | alies:        |   |                      |  |  |  |  |
|           |                     |             |               |   |                      |  |  |  |  |
|           |                     |             |               |   |                      |  |  |  |  |
| . 4.4     | Mar P M             | notified (  | of any anomi  | alies?  | Yes [ ]   No[ ]      | Date                                   |  |  |  |
| 14.       |                     |             | My            | Dz  | Yes [ 0              | 0                                      | (0)                                    | <del></del>  |  |
| 15.       |                     |             |               |   | Customer Sample      | <u> </u>                               |  |  |  |
|           | tomer<br>ole No.    | com         | mR/hr         | Wipe  | No.                  | cpm                                    | mR/hr                                  | wipe   |  |
|           | We derive a         |             |               |   |                      |  |  |  |  |
|           |                     |             |               |   |                      |  |  |  |  |
|           | i                   |             |               |   |                      |  |  |  |  |
|           |                     |             |               |   |                      |  |  |  |  |
| ·         |                     |             |               |   |                      |  |  |  |  |
|           |                     |             |               |   |                      |  |  |  |  |
|           |                     |             |               |   |                      |  |  | <u> </u>   |  |
| Í         |                     |             |               |   |                      |  |  |  |  |
|           |                     |             |               | A COLUMN TO THE |                      |  |  | ## The state of th |  |
|           |                     |             | 1             | -   |                      |  |  | diavort  |  |
|           |                     |             | <u> </u>      | 3   |                      |  |  |  |  |
|           |                     |             |               |   | A Pro etc. alesto    |  |  |  |  |
| ion Char  | mber Ser. N         | VC          |               |   | Calibration date _   |  |  |  |  |
| Alpha M   | eter Ser. N         | O           |               |   |                      | Calibration date                       |  |  |  |
|           |                     |             |               |   | rulli-mating states  |  |  |  |  |

Form. SCP-02, 06-24-05

Page A3 of A14

"over 55 years of quality nuclear services"

.

#### **APPENDIX G**

#### **Section 34**

Outfall 009, January 03, 2006 AMEC Data Validation Reports

| CONTRACT COMP                                 | LIANCE SCREENING FORM FOR HARDCOPY DATA         |
|---|---|
| MECX, LLC                                     | Package ID B4 MT3)                              |
| 12260 East Vassar Drive                       | Task Order [26]. 0010.0)                        |
| Suite 500                                     | SDG No. IPA 0102                                |
| Lakewood, CO 80226                            | No. of Analyses                                 |
| Laboratory Del M                              |   |
| Reviewer R Med                                | Reyiewer's Signature                            |
| Analysis/Method Metal:                        | s P. Mo   |
|   |   |
| ACTION ITEMS*                                 |   |
| . Case Narrative                              |   |
| Deficiencies                                  |   |
|   |   |
| 2. Out of Scope                               |   |
| Analyses                                      |   |
|   |   |
|   |   |
| 3. Analyses Not Conducted                     |   |
|   |   |
|   |   |
| 4. Missing Hardcopy                           |   |
| Deliverables                                  |   |
|   |   |
|   |   |
| 5. Incorrect Hardcopy                         |   |
| Deliverables                                  |   |
|   |   |
| 6. Deviations from Analysis                   | A 375 A 3 A 5 A 5                               |
|   | Qualifications were assigned for the following: |
| Protocol, e.g.,                               | BE COS and hages less its in the blanks         |
| Holding Times GC/MS Tune/Inst. Performance    | D Detects below the reporting limit             |
| Calibration                                   |   |
| Method blanks                                 |   |
| Surrogates                                    |   |
| Matrix Spike/Dup LCS                          |   |
| Field QC                                      |   |
| Internal Standard Performance                 |   |
| Compound Identification                       |   |
| Quantitation                                  |   |
| System Performance                            | *   |
| OMMENTS <sup>b</sup>                          |   |
|   |   |
|   |   |
|   |   |
| Subcontracted analytical laboratory is not me | ecting contract and/or method requirements.     |

b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



#### DATA VALIDATION REPORT

# NPDES Sampling Outfall 009 LARWQCB Sample Splits

**ANALYSIS: METALS** 

**SAMPLE DELIVERY GROUP IPA0102** 

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

**NPDES** 

SDG: Analysis: IPA0102 Metals

Task Order Title:

**NPDES Sampling** 

MEC<sup>X</sup> Project Number:

DATA VALIDATION REPORT

1261.001D.01

1. INTRODUCTION

Sample Delivery Group:

IPA0102

Project Manager.

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

Reviewer:

P. Meeks

Date of Review:

February 18, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for ICP and ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.7, 200.8, and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

B4MT31

Revision 0

Project: NPDES SDG: IPA0102

DATA VALIDATION REPORT

SDG: IPA0102 Analysis: Metals

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method          |
|-------------|---------------|--------|---------------------|
| Outfall 009 | IPA0102-01    | Water  | 200.7, 200.8, 245.1 |

Project: NPDES SDG: IPA0102 Analysis: Metals

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of  $4^{\circ}$ C  $\pm 2^{\circ}$ C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

#### 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP and ICP-MS metals and 28-days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method-specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP and ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

**NPDES** 

SDG: Analysis: IPA0102 Metals

#### DATA VALIDATION REPORT

#### 2.4 BLANKS

There were detects and negative results in the method blanks and CCBs associated ith the sample in this SDG:

| Blank Detect  | Affected Samples  | Qualification  |
|---|-------------------|--|
| Chromium was detected in method blank 6A04092-BLK1 at 1.63 µg/L.  | Outfall 009 Split | Chromium detected in the sample was qualified as estimated, "UJ."  |
| Antimony was detected in method blank 6A04091-BLK1 at 0.242.      | Outfall 009 Split | Antimony detected in the sample was qualified as estimated, "UJ."  |
| Nickel was detected in method blank<br>6A04091-BLK1 at 1.06 µg/L  | Outfall 009 Split | Nickel detected in the sample was qualified as estimated, "UJ."    |
| Arsenic was detected in a bracketing CCB (01/06/06) at 0.581 µg/L | Outfall 009 Split | Arsenic detected in the sample was qualified as estimated, "UJ."   |
| Silver was reported in a CCB (01/09/06) at -0.767 µg/L.           | Outfall 009 Split | Nondetected silver in the sample was qualified as estimated, "UJ." |

The laboratory reported molybdenum as detected in method blank 6A04091-BLK1 at  $0.394 \, \mu g/L$ ; however, the method blank was not analyzed the same day that Outfall 009 Split was analyzed. The day Outfall 009 Split was analyzed, molybdenum was reported in both bracketing CCBs (01/06/06) at -0.334 and -0.356  $\, \mu g/L$ , and was reported in the method blank at -0.519  $\, \mu g/L$ . As the negative molybdenum results more accurately reflect the instrument conditions on the day Outfall 009 was analyzed, the reviewer qualified molybdenum detected in Outfall 009 Split as estimated, "J." No further qualifications were required.

#### 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP and ICP-MS analyses. For the ICP and ICP-MS analyses, all recoveries were acceptable. For the ICP-MS analyses there were some unspiked analytes detected in the ICSA and ICSAB; however, as none were detected above the applicable reporting limits, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

#### 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP, ICP-MS, and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

B4MT31

4

Revision 0

| Project: | NPDES     |
|----------|-----------|
| SDG:     | IPA0102   |
| Annhain  | 8.6 . 4 1 |

#### DATA VALIDATION REPORT

#### 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.8 MATRIX SPIKES

No matrix spike analyses were performed for the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

#### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Analytes detected below the reporting limit were qualified as estimated, "J," and denoted with "DNQ," in accordance with the NPDES permit. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

#### 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

| D4M131 | ŧ |  |  |
|--------|---|--|--|
|        |   |  |  |

**NPDES** 

SDG: Analysis: IPA0102 Metals

#### DATA VALIDATION REPORT

2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (838) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Suiset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

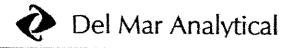
Received: 01/03/06

#### **METALS**

| Analyte  | Method               | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result |   | A CONTRACTOR OF THE CONTRACTOR | Date<br>Analyzed | Data<br>Qualifiers |        |
|--|----------------------|---------|--------------|--------------------|------------------|---|--|------------------|--------------------|--------|
| Sample ID: IPA0102-01 (009 Sp<br>Reporting Units: ug/l | lit - Water) - cont. |         |              |                    |                  |   |  |                  | Par<br>(Va)        | (ode   |
| Antimony   | EPA 200.8            | 6A04091 | 0.050        | 2.0                | 1.0              | 1 | 01/04/06   | 01/06/06         | OL Y B             | В      |
| Arsenic  | EPA 200.8            | 6A04091 | 0.50         | 1.0                | 1.8              | 1 | 01/04/06   | 01/06/06         | ີ່ ເມັ             | B      |
| Beryllium  | EPA 200.8            | 6A04091 | 0.075        | 0.50               | 0.085            | 1 | 01/04/06   | 01/09/06         | 1.2                | DNQ    |
| Cadmium  | EPA 200.8            | 6A04091 | 0.025        | 1.0                | ND               | 1 | 01/04/06   | 01/06/06         | ü                  |        |
| Chromium   | EPA 200.7            | 6A04092 | 0.68         | 5.0                | 1.4              | 1 | 01/04/06   | 01/05/06         |                    | В      |
| Cobalt   | EPA 200.8            | 6A04091 | 0.035        | 1.0                | 0.27             | 1 | 01/04/06   | 01/06/06         | JJ                 | DNG    |
| Copper   | EPA 200.8            | 6A04091 | 0.25         | 1.0                | 3.2              | 1 | 01/04/06   | 01/06/06         |                    |        |
| Lead   | EPA 200.8            | 6A04091 | 0.040        | 1.0                | 0.51             | 1 | 01/04/06   | 01/06/06         | JJ                 | DNQ    |
| Mercury  | EPA 245.1            | 6A04080 | 0.050        | 0.20               | ND               | 1 | 01/04/06   | 01/04/06         | u                  |        |
| Molybdenum   | EPA 200.8            | 6A04091 | 0.15         | 2.0                | 0.75             | 1 | 01/04/06   | 01/06/06         |                    | B, DNG |
| Nickel   | EPA 200.8            | 6A04091 | 0.35         | 2.0                | 2.3              | 1 | 01/04/06   | 01/06/06         | UT B               | В      |
| Selenium   | EPA 200.8            | 6A04091 | 0.30         | 2.0                | 0.30             | 1 | 01/04/06   | 01/06/06         | JJ                 | DNG    |
| Silver   | EPA 200.8            | 6A09086 | 0.025        | 1.0                | ND               | 1 | 01/09/06   | 01/09/06         | ರ್                 | В      |
| Thallium   | EPA 200.8            | 6A04091 | 0.15         | 1.0                | ND               | 1 | 01/04/06   | 01/06/06         | u                  | _      |
| Vanadium   | EPA 200.8            | 6A04091 | 0.70         | 2.0                | 1.5              | 1 | 01/04/06   | 01/06/06         |                    | DNG    |
| Zinc   | EPA 200.8            | 6A04091 | 1.0          | 10                 | 6.5              | 1 | 01/04/06   | 01/06/06         | τι                 | pna    |



Del Mar Analytical, Irvine Michele Chamberlin Project Manager



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A. Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

#### **METALS**

| Analyte   | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit |       |   | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifie                        | ers                                     |
|---|----------------|---------|--------------|--------------------|-------|---|-------------------|------------------|---|---|
| Sample ID: IPA0102-01 (009 Split -<br>Reporting Units: mg/l | Water) - cont. |         |              |                    |       |   |                   |                  | Qual                                    | Qual<br>Code                            |
| Barium  | EPA 200.8      | 6A04091 | 0.00015      | 0.0010             | 0.041 | 1 | 01/04/06          | 01/06/06         | *************************************** | *************************************** |
| Boron   | EPA 200.7      | 6A04092 | 0.0080       | 0.050              | 0.12  | 1 |                   |                  |   |   |
| Calcium   | EPA 200.7      | 6A04092 | 0.040        | 0.10               | 39    | 1 | 01/04/06          | 01/05/06         |   |   |
| Magnesium   | EPA 200.7      | 6A04092 | 0.0070       | 0.020              | 11    | 1 | 01/04/06          | 01/05/06         |   |   |



Del Mar Analytical, Irvine Michele Chamberlin Project Manager

#### CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| ME(   | ×                                   |                            | Package ID:   | B4ND1        |
|---|-------------------------------------|----------------------------|---------------|--------------|
| 12269 East Vassar Drive<br>Aurora, CO 80014 |                                     |                            |               | 1261,001D.01 |
|   |                                     |                            | SDG No.:      |              |
|   |                                     |                            | 3. 3. 3.      | 1            |
|   | Laboratory: Del Mar /               |                            | Date: Februa  |              |
|   | Reviewer. L. Calvin                 |                            | Reviewer's Si |              |
|   | Analysis/Method: NDMA by            | Method 1625C               |               | dirin.       |
|   |                                     |                            |               |              |
| ACT   | TON ITEMS                           |                            |               |              |
| •   | Case Narrative                      |                            |               |              |
|   | Deficiencies                        |                            |               |              |
| 2.  | A                                   |                            |               |              |
| 2.  | Out of Scope Analyses               |                            | ·             |              |
|   |                                     |                            |               |              |
| 3.  | Analyses Not Conducted              |                            |               |              |
| •   | substitution of the substitution of |                            |               |              |
|   |                                     |                            |               |              |
| 4.  | Missing Hardcopy                    |                            |               |              |
|   | Deliverables                        |                            |               |              |
|   |                                     |                            |               |              |
| 5.  | Incorrect Hardcopy                  |                            |               |              |
|   | Deliverables                        |                            |               |              |
|   |                                     |                            |               |              |
| 6.  | Deviations from Analysis            | Qualifications were assign | <del>,</del>  | <u> </u>     |
|   | Protocol, e.g.,                     | -method blank contamina    | tion          |              |
|   | Holding Times                       |                            |               |              |
|   | GC/MS Tune/Inst. Performance        |                            |               |              |
|   | Calibration                         |                            |               | V            |
|   | Method blanks                       |                            |               |              |
|   | Surrogates                          |                            |               |              |
|   | Matrix Spike/Dup LCS                |                            |               | <u>,</u>     |
|   | Field QC                            |                            |               |              |
|   | Internal Standard Performance       |                            |               |              |
|   | Compound Identification             |                            |               |              |
|   | Quantitation                        |                            |               |              |
|   | System Performance                  |                            |               |              |
| <u> </u>                                    | MMENTS*                             |                            |               |              |
| ***   |                                     |                            |               |              |
| ****  |                                     |                            |               |              |
| ·   |                                     |                            |               |              |



## DATA VALIDATION REPORT

### NPDES Monitoring Program Outfall 009 LARWQCB Split Samples

ANALYSIS: NDMA

**SAMPLE DELIVERY GROUP IPA0102** 

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

**NPDES** 

SDG: Analysis: IPA0102 NDMA

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

DATA VALIDATION REPORT

1261.001D.01

1. INTRODUCTION

Sample Delivery Group:

IPA0102

Project Manager:

P. Costa

Matrix:

Water

Analysis:

**NDMA** 

QC Level:

No. of Samples:

Level IV

1

No. of Reanalyses/Dilutions:

Reviewer:

L. Calvin

Date of Review:

February 18, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Levels C and D Semivolatile Organics (DVP-3, Rev. 2), EPA Method 1625C, and the National Functional Guidelines For Organic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

1

34ND1

**NPDES - 816** 

**NPDES** 

SDG: Analysis: IPA0102 NDMA

DATA VALIDATION REPORT

Table 1. Sample Identification

|             |               |        | ALL PARTIES AND ALL PARTIES AN |
|-------------|---------------|--------|--|
| Client ID   | Laboratory ID | Matrix | COC Method   |
| Outfall 009 | IPA0102-01    | Water  | 1625C  |

**NPDES** 

SDG: Analysis: IPA0102 NDMA

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C at 5°C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

#### 2.1.3 Holding Times

The water sample was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

#### 2.2 GC/MS TUNING

Tuning is not applicable for this analysis. No qualifications were required.

#### 2.3 CALIBRATION

One nine-point initial calibration analyzed 01/03/06 was associated with the samples in this SDG. The %RSD for NDMA was ≤35%, and the ion abundance ratios were within the control limits. An initial calibration verification (ICV) was analyzed following the initial calibration, with a recovery for NDMA within the QC limits of 80-120%. The continuing calibration associated with the sample analyses also had a recovery within the QC limits of 80-120%. No qualifications were required.

#### 2.4 BLANKS

One method blank (6A08026-BLK1) was extracted and analyzed with this SDG. Target compound NDMA was detected between the MDL and the reporting limit, at a concentration of 0.00078 µg/L. NDMA was also detected in the site sample between the MDL and the reporting

**B4ND1** 

3

Revision 0

NPDES

SDG: Analysis:

NDMA

DATA VALIDATION REPORT

limit. The sample result was qualified as a nondetect, "U," at the reporting limit. Review of the method blank raw data indicated no false positive. No further qualifications were required.

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6A08026-BS1/BSD1) and one low-level blank spike (6A08026-BS2) were extracted and analyzed with this SDG. All recoveries were within the QC limits of 70-130%. The RPD for the BS/BSD pair was within the QC limit of ≤20%. The recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike and blank spike/blank spike duplicate results. No qualifications were required.

#### 2.7 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

#### 2.7.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

#### 2.7.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

#### 2.8 INTERNAL STANDARDS PERFORMANCE

The labeled internal standard area count was within the control limits of 20-150% of the internal standard area of the associated continuing calibration standard. No qualifications were required.

84ND1

4

Revision 0

| Project:  | NPDES   |
|-----------|---------|
| SDG:      | IPA0102 |
| Analysis: | NDMA    |

#### DATA VALIDATION REPORT

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for target compound NDMA by EPA Method 1625C. Review of the sample chromatogram, retention time, and ion profiles indicated no problems with target compound identification. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limit was supported by the low point of the initial calibration and the laboratory MDL. Results were reported in  $\mu g/L$  (ppb). No qualifications were required.



17461 Undan Avo., Suite 100, Irvino, CA 92614 (949) 761-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 3/17-4667 FAX (909) 3/20-1046 9484 Checaponte Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (958) 501-9689 9630 South 51st St., Suite 8-120, Phaemir, AZ 65044 (480) 785-0043 FAX (480) 785-0185 2520 E. Summit Rd. #3, Las Voges, NV 89120 (702) 798-3620 (AX (707) 798-362)

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadeoa, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

#### SEMI-VOL ORGANICS by GC/MS-CHEMICAL IONIZATION (EPA 3520C/1625C-C1 MOD)

Analyte

Method

I imit

MDL Reporting Sample Dilution Date Result Factor Extracted Analyzed Qualifiers

Sample ID: IPA0102-01 (009 Split - Water) - cont.

Reporting Units: ug/l N-Nitrosodimethylamine

EPA 1625C-CI Mod6A08026 0.00019 0.0019

0.00045 0.943 01/08/06 01/10/06

Del Mar Analytical, Irvine Michele Chamberlin Project Manager

Thu results pertain only to the samples tested in the inhoratory. This report shall not be received in fall, without written permission from Del Mar Analytical. <sup>ed.</sup> IPA0102 <Page 5 of 45>

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## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| MECX  | Package ID B4PP4        |
|---|-------------------------|
| 12269 East Vassar Drive   | Task Order 1261.001D.01 |
| Aurora, CO 80014  | SDG No. IPA0102         |
|   | No. of Analyses 1       |
| Laboratory Del Mar Analytical   | Date: February 17, 2006 |
| Reviewer K. Shadowlight   | Reviewer's Signature    |
| Analysis/Method PCBs by Method 608  | Kradist                 |
|   |                         |
| ACTION ITEMS  |                         |
| . Case Narrative  |                         |
| Deficiencies  |                         |
|   |                         |
| 2. Out of Scope Analyses  |                         |
| ***************************************   |                         |
|   |                         |
| 3. Analyses Not Conducted   |                         |
|   |                         |
| 4. Missing Hardcopy   |                         |
| Deliverables  |                         |
|   |                         |
| 5. Incorrect Hardcopy   |                         |
| Deliverables  |                         |
|   |                         |
| 6. Deviations from Analysis   |                         |
| Protocol, e.g.,   |                         |
| Holding Times   |                         |
| GC/MS Tune/Inst. Performance  |                         |
| Calibration   |                         |
| Method blanks   |                         |
| Surrogates  Matrix Spike/Dup LCS  |                         |
| Field QC  |                         |
| Internal Standard Performance   |                         |
| Compound Identification   |                         |
| Quantitation  |                         |
| System Performance  |                         |
| COMMENTS <sup>3</sup> Acceptable as revi  | ewed.                   |
|   |                         |
|   |                         |
|   |                         |
|   |                         |
| Subcontracted analytical laboratory is not meeting contract and/or met<br>Differences in protocol have been adopted by the laboratory but no ac |                         |



## DATA VALIDATION REPORT

# NPDES Monitoring Program Outfall 009 LARWQCB Split Samples

ANALYSIS: PCBs

SAMPLE DELIVERY GROUP: IPA0102

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

**NPDES** IPA0102

SDG: Analysis:

**PCBs** 

## 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

DATA VALIDATION REPORT

1261.001.01

Sample Delivery Group:

IPA0102

Project Manager:

P. Costa

Matrix:

Water

Analysis:

**PCBs** 

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

Reviewer: K. Shadowlight

Date of Review:

February 17, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Volatile Organics (DVP-4, Rev. 2), EPA Method 608, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: SDG: NPDES IPA0102

SUG: Analysis:

**PCBs** 

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 009 | IPA0102-01    | Water  | 608        |

DATA VALIDATION REPORT

NPDES

DATA VALIDATION REPORT

SDG: Analysis:

IPA0102 **PCBs** 

## 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C. According to the case narrative for this SDG, the sample was received intact and on ice. No qualifications were required.

## 2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the sample was couriered directly to the laboratory, custody seals were not required. No qualifications were required.

## 2.1.3 Holding Times

The water sample was extracted within seven days of sample collection and analyzed within 40 days of extraction. No qualifications were required.

#### 2.2 PESTICIDES INSTRUMENT PERFORMANCE

No resolution check standards or breakdown check standards are required by Method 608 for PCBs, and according to the raw data provided, a resolution check standard was not analyzed by the laboratory. A review of the raw data indicated that the analytical run time was of sufficient length to provide adequate standard separation. The two analytical columns used in the analyses were within the guidelines specified in the methods.

According to the laboratory SOP and the initial calibration raw data, the retention time windows are ±0.10 minutes for both surrogates and target compound calibration standards. A review of the raw data indicated that the laboratory retention time criteria were met for the surrogates and pesticide calibration standards. No qualifications were required.

#### 2.3 **CALIBRATION**

#### 2.3.1 **Analytical Sequence**

Based on the data provided, the analytical sequences were in accordance with the requirements of Method 608. No qualifications were required.

#### 2.3.2 Initial Calibration

There was one initial calibration dated 12/23/05 associated with site sample in this SDG. The initial calibration consisted of six point calibrations for Aroclor 1016 and Aroclor 1260 on two analytical columns. The r<sup>2</sup> values of the individual Aroclor peaks for Aroclor 1016 and Aroclor

84PP4

| Project: | NPDES   |
|----------|---------|
| SDG:     | IPA0102 |
| <b>.</b> |         |

DATA VALIDATION REPORT

1260 were ≥0.995 on the primary column (Channel A) and the average %RSDs of the individual Aroclor peaks were ≤10% on the secondary column (Channel B). As there were no Aroclors detected in the sample and all results were reported from Channel A, the secondary column was not further evaluated. An ICV was analyzed immediately following the initial calibration and the %Ds for Aroclor 1016 and Aroclor 1260 were within the QC limits of ≤15% on the primary analytical column. A representative number of r² values and ICV %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

## 2.3.3 Continuing Calibration

Sample Outfall 009 was bracketed by two continuing calibrations. The %Ds for Aroclor 1016 and Aroclor 1260 were within the Method QC limit of ≤15% for both calibrations. The %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

### 2.4 BLANKS

## 2.4.1 Instrument Blanks

An instrument blank was analyzed at the beginning of the analytical sequence. There was no evidence of cross-contamination in the instrument blank or sample. No qualifications were necessary.

## 2.4.2 Method Blanks

One water method blank (6A06049-BLK1) was extracted and analyzed with this SDG. There were no target compounds detected in the method blank. Review of the chromatograms for both channels showed no false negative. No qualifications were required.

## 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6A06049-BS2/BSD2) was extracted and analyzed with this SDG. The recoveries and RPDs for spiked compounds Aroclor 1016 and Aroclor 1260 were within the laboratory-established QC limits. A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

## 2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory-established QC limits for the sample in this SDG. The recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

84PP4

**NPDES** 

SDG: Analysis:

IPA0102 PCBs

DATA VALIDATION REPORT

## 2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision were based on the blank spike/blank spike duplicate results. No qualifications were required.

## 2.8 SAMPLE CLEANUP PERFORMANCE

According to the laboratory extraction benchsheets, no cleanups were performed on the water sample. No qualifications were required.

## 2.9 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

## 2.9.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

## 2.9.2 Field Duplicates

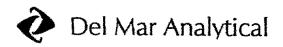
There were no field duplicate samples identified for this SDG.

## 2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for PCBs by EPA Method 608. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the sample in this SDG. No qualifications were required.

## 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 17401 Lorian river, sinte 160, invite, Cr. 32014 (949); 451-1612 FAX (949) 200-3737.
1014 E. Cooley Dr., Soite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1016
9484 Cherapenke Dr., Soite 803, San Diego, CA 92123 (858) 505-8596 FAX (858) 503-9689
9630 Soith S1st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 99120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Bocing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Attention: Bronwyn Kelly

Received: 01/03/06

## TOTAL PCBS (EPA 608)

| Analyte   | Method           | Batch    | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor |          |          | Data<br>Qualifiers | i ~            |
|---|------------------|----------|--------------|--------------------|------------------|--------------------|----------|----------|--------------------|----------------|
| Sample ID: IPA0102-01 (009 Split<br>Reporting Units: ug/l | - Water) - cont. |          |              |                    |                  |                    |          |          | Carlos<br>Caras    | اراند.<br>مارد |
| Aroclor 1016  | EPA 608          | 6A06049  | 0.20         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 | U.                 |                |
| Aroclor 1221  | EPA 608          | 6A06049  | 0.10         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 |                    |                |
| Aroclor 1232  | EPA 608          | 5A06049  | 0.25         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 | · ·                |                |
| Aroclor 1242  | EPA 608          | 6A06049  | 0.25         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 | ţ                  |                |
| Aroclor 1248  | EPA 608          | 6A06049  | 0.25         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 | •                  |                |
| Aroclor 1254  | EPA 608          | 6A06049  | 0.25         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 | :                  |                |
| Arocior 1260  | EPA 608          | 6A.06049 | 0.40         | 1.0                | ND               | 1                  | 01/06/06 | 01/06/06 |                    |                |
| Surrogate: Decachlorobiphenyl (45-                        | 120%)            |          |              |                    | 85 %             |                    |          |          | V                  |                |

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Del Mar Analytical, Irvine Michele Chamberlin Project Manager

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

|                  | EC <sub>x</sub>  |                              | Package ID: B4SV17             |
|------------------|--|------------------------------|--------------------------------|
|                  | 269 East Vassar Drive  |                              | Task Order: 1261,001D,01       |
| Aurora, CO 80014 |  | ,                            | SDG No.: IPA0102               |
|                  |  | N                            | o. of Analyses: 1              |
|                  | Laboratory: Del Mar.   | Analytical                   | Date: February 18, 2008        |
|                  | Reviewer: L. Calvin  |                              | Reviewer's Signatulie          |
|                  | Analysis/Method: Semivol   |                              | Macdin                         |
| AC               | TION (TEMS*  |                              |                                |
|                  | Case Narrative   |                              |                                |
|                  | Deficiencies   |                              |                                |
| 2.               | Out of Scope Analyses  |                              |                                |
| ·                |  |                              |                                |
| 3.               | Analyses Not Conducted   |                              |                                |
| •                |  |                              |                                |
| 4.               | Missing Hardcopy   |                              |                                |
|                  | Deliverables   |                              |                                |
| 5.               | Incorrect Hardcopy   |                              |                                |
|                  | Deliverables   |                              |                                |
| 6.               | Deviations from Analysis   | Qualifications were assigned | I for the following:           |
|                  | Protocol, e.g.,  | -continuing calibration %D o |                                |
| 7.5              | Holding Times  |                              |                                |
|                  | GCMS Tune/inst, Performance<br>Celibration   |                              | ne MOL and the reporting limit |
|                  | Calibration Method blanks  |                              |                                |
|                  | Surrogatea   |                              |                                |
|                  | Metro: Spike/Dup LCS   |                              |                                |
|                  | Field OC   |                              |                                |
|                  | Internal Standard Performance  |                              |                                |
|                  | Compound Identification  |                              |                                |
|                  | Quantitation   |                              |                                |
| مت ه             | System Performance   |                              |                                |
| CON              | MEKTS  |                              |                                |
|                  |  |                              |                                |
|                  |  |                              |                                |
|                  |  |                              |                                |
| -                | The second secon |                              |                                |



## DATA VALIDATION REPORT

# NPDES Monitoring Program Outfall 009 LARWQCB Split Samples

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP IPA0102

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG: NPDES IPA0102 SVOCs

DATA VALIDATION REPORT

SDG: Analysis:

## 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

1261.001D.01

Sample Delivery Group:

IPA0102

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Semivolatiles

QC Level:

Reviewer:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

0 L. Calvin

Date of Review:

February 18, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 625, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

**NPDES - 832** 

Project: NPDES SDG: IPA0102 Analysis: SVOCs

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 009 | IPA0102-01    | Water  | 625        |

## 2. DATA VALIDATION FINDINGS

## 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

## 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of  $4^{\circ}$ C  $\pm 2^{\circ}$ C at  $5^{\circ}$ C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

## 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

## 2.1.3 Holding Times

The water sample was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

## 2.2 GC/MS TUNING

The DFTPP tunes analyzed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 625. No qualifications were required.

## 2.3 CALIBRATION

One initial calibration was associated with the sample, dated 12/22/05. The average RRFs were ≥0.05 for all target compounds. The %RSDs were ≤35% for all target compounds. The continuing calibration associated with the samples in this SDG was dated 01/11/06. The RRFs for all target compounds were ≥0.05. The %Ds exceeded the QC limit of ≤20% for benzidine, benzoic acid, and isophorone. Results for the aforementioned compounds were qualified as estimated, "UJ," for nondetects, and "J," for detects in the site sample of this SDG. A representative number of average RRFs and %RSDs in the initial calibration and RRFs and %Ds in the continuing calibration were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

84SV17

| Project:  | NPDES   |
|-----------|---------|
| SDG:      | IPA0102 |
| Analysis: | SVOCs   |

### DATA VALIDATION REPORT

### 2.4 BLANKS

One method blank (6A08028-BLK1) was extracted and analyzed with this SDG. Target compounds bis(2-ethylhexyl)phthalate, butylbenzylphthalate, and diethylphthalate were detected between the MDLs and the reporting limits, and dibenz(a,h)anthracene was detected above the reporting limit in the method blank. All of the aforementioned compounds were also detected in the site sample. Results for bis(2-ethylhexyl)phthalate, butylbenzylphthalate, and diethylphthalate were qualified as nondetects, "U," at the reporting limits. The result for dibenz(a,h)anthracene was qualified as an estimated nondetect, "UJ," and the reporting limit was raised to the level of contamination. Review of the method blank raw data indicated no false positives or false negatives. No further qualifications were required.

## 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6A08028-BS1/BSD1) was extracted and analyzed with this SDG. All recoveries and RPDs were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

## 2.6 SURROGATE RECOVERY

Surrogate recoveries for the sample were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

## 2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike/blank spike duplicate results. No qualifications were required.

## 2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

84SV17

Project: NPDES SDG: IPA0102 Analysis: SVOCs

DATA VALIDATION REPORT

## 2.8.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

## 2.8.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

## 2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times for the sample were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times. A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

## 2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for semivolatile target compounds by EPA Method 625. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

## 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. Any detects between the MDL and the reporting limit were qualified as estimated, "J," by the laboratory, and were annotated with the "DNQ" qualifier code by the reviewer. No qualifications were required.

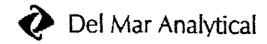
## 2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

### 2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.

84SV17 5 Revision 0



17461 Lindin Ave., Suite 100, Irvine, CA 92614 1949) 761-1022 FAX (949): 260-3297 1014 F. Cooley Dr., Suite A, Cohon, CA 92324 (909) 370-4667 FAX (909) 370-1046 9464 Chesapeale Dr., Suite 805, San Diego, CA 92123 1838) 505-8546 FAX (858) 505-8669 9830 South 314 St., Suite 8-120, Phoenix, AZ 65044 1489) 785-0043 FAX (480) 785-0831 2520 E. Sumet 8d. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Passidens/Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 9110)

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Keith M. Spiegelman

Sampled: 01/03/06

Received: 01/03/06

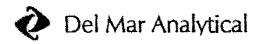
## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|   | ŧ.                 |                    | MDL          | Reporting | Sample   | Dilution | Date      | Date     | Data           |
|---|--------------------|--------------------|--------------|-----------|----------|----------|-----------|----------|----------------|
| Analyte   | Method             | Batch              | Limit        | Limit     | Result   | Factor   | Extracted | Analyzed | Qualifiers     |
| Sample ID: IPA0102-01 (009 Split -<br>Reporting Units: ag/l | Water) - cont.     |                    |              |           |          |          |           | á        | and grade      |
| Accouphtheac  | EPA 625            | 6A08028            | 0.10         | 0.50      | ND       | 1        | 01/08/06  | 01/11/06 | 4              |
| Acceaphthylene  | EPA 625            | 6A08028            | 0.10         | 0.50      | NO       | 1        | 01/08/06  | 01/11/06 | 1              |
| Antine  | EPA 625            | 6A08028            | 2.9          | 10        | ND       | 1        | 01/08/06  |          |                |
| Anthracene  | EPA 625            | 6A08028            | 0.0X3        | 0.50      | ND       | 1        | 01/08/06  |          |                |
| Benzidine   | EPA 625            | 6A08028            | 2.4          | 5.0       | ND       | 1        | 01/08/06  | 01/11/06 | uotic re       |
| Benzoic acid  | EPA 625            | 6A08028            | 3.7          | 20        | 4.9      | 1        | 01/08/06  |          | TAOI, IV DUG   |
| Benzo(a)anthracene  | EPA 625            | 6A08028            | 0.038        | 5.0       | 0.32     | 1        | 01/08/06  |          |                |
| Benzo(a)pyrene  | EPA 625            | 6A08028            | 0.14         | 2.0       | ND       | 1        | 01/08/06  | 01/11/06 | ŭ l            |
| Benzo(b)fluorantheue  | EPA 625            | 6A08028            | 0.050        | 2.0       | ND       | 1        | 01/08/06  | 01/11/06 | 1              |
| Benzo(g,h,i)pcrylene  | EPA 625            | 6A08028            | 0.059        | 5.0       | ND       | 1        | 01/08/06  |          |                |
| Benzo(k)fluoranthene  | EPA 625            | 6A08028            | 0.053        | 0.50      | ND       | 1        | 01/08/06  |          |                |
| Benzyl alcohol  | EPA 625            | 6A08028            | 0.21         | 5.0       | ND       | ī        | 01/08/06  |          |                |
| Bis(2-chloroethoxy)methane                                  | EPA 625            | 6A08028            | 0.072        | 0.50      | ND       | i        | 01/08/06  |          |                |
| Bis(2-chloroethyl)cther                                     | EPA 625            | 6AD8028            | 0.084        | 0.50      | ND       | ì        | 01/08/06  | 01/11/06 |                |
| Bis(2-chloroisopropyl)ether                                 | EPA 625            | 6A08028            | 0.11         | 0.50      | ND       | î        | 01/08/06  | 01/11/06 |                |
| Bis(2-ethylhexyl)phthalate                                  | EPA 625            | 6A08028            | 1.1          | 5.0       | 2 N      |          | 01/08/06  | 01/11/06 | 8.18           |
| 4-lifromophenyi phenyi ether                                | EPA 625            | 6A08028            | 0.12         | 1.0       | ND       | 1        | 01/08/06  | 01/11/06 | P, 2 P         |
| Butyl benzyl phthalate                                      | EPA 625            | 6A08028            | 0.34         | 5.0       | الانحاز  | -        | 01/08/06  | 01/11/06 | B. J 18        |
| 4-Chlorouniling   | EPA 625            | 6A08028            | 0.20         | 2.0       | ND       | 1        | 01/08/06  | 01/11/06 | P. 72          |
| 2-Chioronaphthalene   | EPA 625            | 6A08028            |              | 0.50      | ND       | 1        | 01/08/06  | 11.00    |                |
| 4-Chloro-3-mothylphenol                                     | EPA 625            | 6A08028            | 0.34         | 2.0       | ND       | 1        | 01/08/06  | 01/11/06 |                |
| 4-Chlorophonyl phenyl other                                 | EPA 625            | 6A08028            | 0.056        | 0.50      | ND       | 1        | 01/08/06  | 01/11/06 | 1 )            |
| 2-Chlorophenol  | EPA 625            | 6A08028            | 0.12         | 1.0       | ND       | 1        |           |          |                |
| Chryscae  | EPA 625            | 6A08028            |              | 0.50      | ND       | 1        | 01/08/06  | 01/11/06 | 1.             |
| Dibenz(a,h)anthracenc                                       | EPA 625            | 6A08028            | 0.083        | O.SO      | ADD GO N |          | 01/08/06  | 01/11/06 |                |
| Dibenzofuna   | EPA 625            | 6A08028            | 0.075        | 0.50      | ND       | 1        |           |          |                |
| Di-n-butyl phthalate  | EPA 625            | 6A08028            | 0.073        | 2.0       |          |          | 01/08/06  | 01/11/06 | L              |
| 1,2-Dichlorobenzene   | EPA 625            | 6A08028            |              | 0.50      | ND       | 1        | 01/08/06  | 01/11/06 | 1              |
| 1.3-Dichlorobenzene   | EPA 625            |                    | 0.11         |           | ND       | 1        | 01/08/06  | 01/11/06 |                |
| 1,4-Dichlorobenzene   | EPA 625            | 6A08028<br>6A08028 | 0.13         | 0.50      | ND       | 1        | 01/08/06  | 01/11/06 | 1 1            |
| 3.3-Dichlorobenzidine                                       | EPA 625            | 6A08028            |              | 0.50      | ND<br>ND | 1        | 01/08/06  | 01/11/06 |                |
| 2,4-Dichlorophenol  | EPA 625            | 6A08028            | 0.93<br>0.21 | 5.0       |          | 1        | 01/08/06  |          |                |
| Dietbył phthelate   | EPA 625            | 6A08028            |              | 2.0       | ND       | 1        | 01/08/06  |          |                |
| 2,4-Directhylphenol   | EPA 625            |                    | 0.12         | 1.0       | pat N    |          | 01/08/06  | 01/11/06 | B, 1 <b>35</b> |
| Directly/ phthalate   | EPA 625            | 6/108028           | 0.31         | 2.0       | ND       | 1        | 01/08/06  |          | 1              |
| 4,6-Dipitro-2-methylphenol                                  | EPA 625            | 6A08028<br>6A08028 | ***          | 0.50      | ND       | 1        | 01/08/06  | 01/11/06 | 1 1            |
| 2,4-Dinitrophenol   | EPA 625            | 6A08028            | 0.38         | 5.0       | ND       | 1        | 01/08/06  | 01/11/06 |                |
| 2,4-Dinitrotoluene  | EPA 625            |                    | 2.7          | 5.0       | ND<br>ND | 1        | 01/08/06  | 01/11/06 |                |
| 2,6-Dinitrotohuene  | EPA 625<br>EPA 625 | 6A08028            | 0.23         | 5.0       |          | )        | 01/08/06  | 01/11/06 | 1 1            |
| Di-n-octyl phthalate  |                    | 6A08028            | 0.24         | 5.0       | ND       | I        | 01/08/06  | 01/11/06 | 1 1            |
| 1,2-Diphenylhydrazine/Azobenzene                            | EPA 625            | 6A08028            | 0.17         | 5.0       | ND       | ĭ        | 01/08/06  | 01/11/06 |                |
|   | FPA 625            | 6A08028            | 0.087        | 1.0       | ND       | 1        | 01/08/06  | 01/11/06 | <b>v</b>       |
| Del Mar Analytical, Irvine<br>Michele Chamberlin            |                    |                    |              | -         | 10       | m1.0     |           |          | *              |

Project Manager

The results partoin only to the samples used in the laboratory. This report shell no except in full, without written permission from Del Mar Analysical.

IPA0102 (Page 6 of 45>



17461 Derbin Ave., Salte 100, Irvina, CA 92614 (949) 261-1022 FAX (949): 260-3297 1074 E. Cookey Dr., Salte A. Cotton, CA 97324 (909) 376-4662 FAX (909): 370-1046 9184 Cheraptable Dr., Neitz 805, San Dingo, CA 92123 (858) 505-8596 FAX (938) 505-9689 9830 5048 5135 SA. Salte B-120, Paucelle, AZ 65044 (480) 785-0643 FAX (488) 785-0651 2520 C. Suntet Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0102

Received: 01/03/06

## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|   |                |          |       | Reporting |        | Dilution |           | Date     | -   | )ata     |
|---|----------------|----------|-------|-----------|--------|----------|-----------|----------|-----|----------|
| Analyte   | Method         | Batch    | Limit | Limit     | Result | Factor   | Extracted | Analyzed | Qu  | glifiens |
| Sample ID: IPA0102-01 (009 Split - W<br>Reporting Units: ug/l | zter) - cont.  |          |       |           |        |          |           | 4        |     | grade    |
| Fluorantheoc  | EPA 625        | 6A08028  | 0.089 | 0.50      | ND     | 1        | 01/08/06  | 01/11/06 | ΄.  |          |
| Fluorene  | EPA 625        | 6A08028  | 0.075 | 0.50      | ND     | i        | 01/08/06  | 7 , 4 7  | 7   | Į.       |
| lexachiorobenzene   | EPA 625        | 6A08028  | 0.13  | 1.0       | ND     | ì        | 01/08/06  |          |     |          |
| Hexachlorobutadiene   | EPA 625        | 6A08028  | 0.38  | 2.0       | ND     | 1        | 01/08/06  | 01/11/06 | 1   | ļ        |
| Hexachlorocyclopentadiene                                     | EPA 625        | 6A08028  | 1.8   | 5.0       | ND     | 1        | 01/08/06  | 01/11/06 | ł   | ŀ        |
| Hexachloroethane  | EPA 625        | 6A08028  | 0.51  | 3.0       | ND     | 1        | 01/08/06  | 01/11/06 |     | ì        |
| Indeno(1,2,3-cd)pyrene  | EPA 625        | 6A08028  | 0.19  | 2.0       | ND .   | 1        | 01/08/06  | 01/11/06 | ٧   |          |
| Isophurone  | EPA 625        | 6A08028  | 0.059 | 1.0       | ND     | 1        | 01/08/06  | 01/11/06 | W   | CC       |
| 2-Mcthylnaphthalene   | EPA 625        | 6A08028  | 0.13  | 1.0       | ND     | 1        | 01/08/06  | 01/11/06 | 朲   | l        |
| 2-Methylphenoi  | EPA 625        | 6A08028  | 0.28  | 2.0       | ND     | 1        | 01/08/06  | 01/11/06 | 1   |          |
| 4-Methylphenol  | EPA 625        | 6A08028  | 0.20  | 5.0       | ND     | ĭ        | 01/08/06  | 07/11/06 |     |          |
| Naphilialene  | EPA 625        | 6A08028  | 0.13  | 1.0       | ND     | 1        | 01/08/06  | 01/11/06 | Ì   |          |
| 2-Nimoaniline   | EPA 625        | 6A08028  | 0.18  | \$.0      | ND     | 1        | 01/08/06  | 01/11/06 | ł   |          |
| 3-Nitroaniline  | <b>EPA 625</b> | 6A08028  | 0.35  | 5.0       | ND     | 1        | 01/08/06  | 01/11/06 |     |          |
| 4-Nitroaniline  | EPA 625        | 6A08028  | 0.49  | 5.0       | ND     | 1        | 01/08/06  | 01/11/06 | 1   |          |
| Nimbenzene  | EPA 625        | 6A08028  | 0.10  | 1.0       | ND     | 1        | 01/08/06  | 01/11/06 | ı   |          |
| 2-Nitrophenol   | EPA 625        | 6A08028  | 0.23  | 2.0       | ND     | 1        | 01/08/06  |          | 1   |          |
| 4-Nurophenol  | FPA 625        | 6A08028  | 0.73  | 5.0       | ND     | 1        | 01/08/06  | 01/11/06 |     |          |
| N-Nitrosodimethylaminc  | EPA 625        | 6A08028  | 0.22  | 2.0       | ND     | 1        | 01/08/02  |          | 1   |          |
| N-Nitroso-di-n-propylamine                                    | EPA 625        | 6A08028  | 0.18  | 2.0       | ND     | 1        |           |          | 1   | 1        |
| N-Nitrosodiphenylamine  | EPA 625        | 6A08028  | 0.077 | 7         | ND     | Ĭ        | 01/08/06  |          |     |          |
| Pentachiorophenol   | EPA 625        | 6A08028  | 0.78  | 2.0       | ND     | 1        | 01/08/06  | 01/11/06 |     | l        |
| Phonanthrene  | EPA 625        | 6A08028  | 0.071 | 0.50      | ND     | 1        | 01/08/06  |          |     |          |
| Phenol  | EPA 625        | 6A08028  | 0.14  | 1.0       | ND     | 1        | 01/08/06  |          | -8  |          |
| Pyrene  | EPA 625        | 6A080Z8  |       |           | ND     | 1        | 01/08/06  |          |     |          |
| 1,2,4-Trichlorobenzene  | EPA 625        | 6,408028 | 0.10  | 1.0       | ND     | 1        | 01/08/06  |          |     | ļ.       |
| 2,4,5-Trichlorophenol   | EPA 625        | 6A08028  | 0.075 |           | ND     | 1        | 01/08/06  |          | 2.7 |          |
| 2,4,6-Trichlorophenol   | EPA 625        | 6A08028  | 0.10  | 1.0       | ND     | i        | 01/08/06  | 01/11/06 | 4   | ľ        |
| Surrogate: 2-Fluorophenol (35-120%)                           |                |          |       |           | 60 %   |          |           |          |     | 1        |
| Surrogate: Phonol-d6 (45-120%)                                |                |          |       |           | 71 %   |          |           |          |     |          |
| Surrogatu: 2,4,6-Tribromophenol (50                           |                |          |       |           | 78 %   |          |           |          |     |          |
| Surrogate: Nitrobenzene-d5 (45-120%)                          |                |          |       |           | 72 %   |          |           |          |     |          |
| Surrogate: 2-Fluorobiphenyl (45-1209                          | <b>₽</b>       |          |       |           | 71 %   |          |           |          |     |          |
| Surrogate: Terphanyl-d14 (45-135%)                            |                |          |       |           | 75 34  |          |           |          |     |          |

Del Mar Analytical, Irvine Michele Chamberlin Project Manager Level I

14

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| E(          | 69 East Vassar Drive            |                             | Package ID:<br>Task Order | 1261.001D.01                                     |
|-------------|---------------------------------|-----------------------------|---------------------------|--|
| 1200        | ora, CO 80014                   |                             |                           | IPA0102  |
| <b>\L</b>   | 44, UV UW 17                    | M                           | o. of Analyses:           | 1  |
|             | Laboratory: Del Mar /           |                             | Date: Februs              | in 18 2006                                       |
|             | Reviewer: L. Calvin             |                             | Reviewer's S              |  |
|             | Analysis/Method: Volatiles      |                             | 1347                      | alvin  |
|             | A larystations loc. Yours       | Cy record CZ+               |                           |  |
| VC1         | TION ITEMS                      |                             |                           |  |
|             | Case Narrative                  | :                           |                           |  |
|             | Deficiencies                    |                             |                           |  |
|             |                                 |                             |                           |  |
| 2.          | Out of Scope Analyses           |                             |                           |  |
|             |                                 |                             |                           | <u></u>  |
|             |                                 |                             |                           |  |
| 3.          | Analyses Not Conducted          |                             |                           |  |
|             |                                 |                             |                           |  |
|             |                                 |                             |                           |  |
| 4.          | Missing Hardcopy                |                             |                           |  |
|             | Deliverables                    |                             |                           |  |
|             |                                 |                             |                           |  |
| <b>5</b> .  | Incorrect Hardcopy              |                             |                           |  |
|             | Deliverables                    |                             |                           |  |
|             |                                 | A                           |                           |  |
| 6.          | Deviations from Analysis        | Qualifications were assigne |                           | <del>`````````````````````````````````````</del> |
| . : .       | Protocol, e.g.,                 | -target compounds search    | MOTOR AS IT, SWE          | <b>9 883 (1888)</b>                              |
|             | Holding Times                   |                             |                           |  |
|             | GC/MS Tune/Inst. Performance    |                             |                           |  |
|             | Calibration                     |                             |                           |  |
|             | Method blanks                   |                             |                           |  |
|             | Surrogates Matrix Spike/Dup LCS |                             | ·                         |  |
|             | Field OC                        |                             |                           |  |
|             | Internal Standard Performance   |                             |                           |  |
|             | Compound Identification         |                             |                           |  |
|             | Quantitation                    |                             |                           |  |
|             | System Performance              |                             |                           |  |
| ^~          | MMENTS.                         |                             |                           |  |
| w           |                                 | 1                           |                           |  |
| <del></del> |                                 |                             |                           |  |
|             |                                 |                             |                           |  |
|             |                                 |                             |                           |  |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Outfall 009 LARWQCB Split Samples

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IPA0102

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

**VOCs** 

SDG: IPA0102 Analysis:

## 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

1261.001.01

Sample Delivery Group:

IPA0102

Project Manager:

P. Costa

Matrix:

Water

**Volatiles** 

Analysis:

QC Level:

Level IV

No. of Samples:

0

No. of Reanalyses/Dilutions:

L. Calvin

Reviewer: Date of Review:

February 17, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 624, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

NPDES

SDG: Analysis: IPA0102 VOCs

. ....

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 009 | IPA0102-01    | Water  | 624        |

NPDES

DATA VALIDATION REPORT

SDG: Analysis:

VOCs

## 2. DATA VALIDATION FINDINGS

## 2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory within the temperature limits of 4°C ±2°C, at 5°C. According to the case narrative for this SDG, the sample was received intact, on ice, and properly preserved. Information regarding lack of headspace in the VOA vials was not provided. No qualifications were required.

## 2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the sample was couriered directly to the laboratory, custody seals were not required. No qualifications were required.

## 2.1.3 Holding Times

The water sample was analyzed within 14 days of collection. No qualifications were required.

## 2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

## 2.3 CALIBRATION

Two initial calibrations were associated with the sample in this SDG, dated 12/21/05 (Freon 113 only) and 12/29/05 (all remaining target compounds). The average RRFs were  $\geq 0.05$  and the %RSDs were  $\leq 35\%$  for all target compounds listed on the sample summary forms. The continuing calibrations associated with the sample in this SDG were dated 01/03/06. The RRFs for all target compounds were  $\geq 0.05$  and all %Ds were within the QC limit of  $\leq 20\%$ . A representative number of average RRFs and %RSDs in the initial calibrations and RRFs and %Ds in the continuing calibrations were checked from the raw data, and no calculation or transcription errors were noted. No further qualifications were required.

## 2.4 BLANKS

One method blank (6A03022-BLK1) was analyzed with this SDG. No target compounds were detected in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

Project: **NPDES** SDG: IPA0102 **VOCs** 

DATA VALIDATION REPORT

Analysis:

### BLANK SPIKES AND LABORATORY CONTROL SAMPLES 2.5

One blank spike (6A03022-BS1) was analyzed with this SDG. The recoveries within the laboratory-established QC limits, with the exception of a recovery above the QC limits for 1,1,2,2tetrachloroethane. As 1,1,2,2-tetrachloroethane was not detected in the sample of this SDG, no qualification was necessary. Target compounds 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane were not included in the blank spike (see section 2.10). A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

#### 2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

### 2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

#### 2.8 **FIELD QC SAMPLES**

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

## 2.8.1 Trip Blanks

There was no trip blank sample associated with the sample in this SDG; however, as there were no sample detects, evaluation of possible trip blank contamination was not necessary. No qualifications were required.

## 2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

## 2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

Project: NPDES SDG: IPA0102 Analysis: VOCs

DATA VALIDATION REPORT

## 2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times. A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

## 2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compounds by EPA Method 624. For two of the requested target compounds, 1,2-dichloro-1,1,2-triflloroethane and cyclohexane, only a TIC search was performed. Calibration was performed for 1,2-dichloro-1,1,2-triflloroethane but was not utilized, and no calibration was performed for cyclohexane. Neither compound was identified in the site sample. Nondetect results for both compounds were qualified as estimated, "UJ," in the site sample. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

## 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

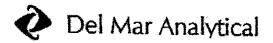
Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

## 2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG; however, a TIC search was performed for two requested target compounds, 1,2-dichloro-1,1,2-trifluoroethane and cyclohexane (see section 2.10). No qualifications were required.

## 2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



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9464 Chesapanhr Dr., Sulta 805, San Eliego, CA 92123 (838) 505-8596 FAX (858) 505-8669
9030 South 514 Sc., Sulta B-120, Mauritix, AZ 85044 (480) 785-0943 FAX (480) 785-0851
2526 E. Sunset Rd. #3, Las Vegas, NV 89120 (202) 798-3620 FAX (702) 296-3621

MWH-Pasadena/Bocing

300 North Lake Avenne, Suite 1200

Pasadega, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Received: 01/03/06

## PURGEABLES BY GC/MS (EPA 624)

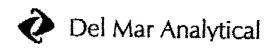
| Analyte   | Method  | Batch   | MDL<br>Limit | Reporting |        |        |                                       | Date                 | Dain       |
|---|---------|---------|--------------|-----------|--------|--------|---------------------------------------|----------------------|------------|
| •   | *****   | PARCH   | LAMIT        | Limit     | Result | Factor | Extracted                             | Analyzed (           | Qualifierx |
| Sample ID: IPA0102-01 (009 Split -<br>Reporting Units: ug/l | Water)  |         |              |           |        |        |                                       | 01/04/06             | al grade   |
| Benzene   | FPA 624 | 6A03022 | 0.28         | 2.0       | ND     | 1      | 01/03/06                              | DIMANE               | 100        |
| Bromodichloromethans  | EPA 624 | 6A03022 | 0.30         | 2.0       | ND     | î      | 01/03/06                              | 01/04/06             | <u>የ</u>   |
| Bromoform   | EPA 624 | 6A03022 | 0.32         | 5.0       | ND     | ī      | 01/03/06                              | 01/04/06             | 1          |
| Bromomethane  | LPA 624 | 6A03022 | 0.42         | 5.0       | ND     | ī      | 01/03/06                              | 01/04/06             |            |
| Trichlorosrifisoroschune (Preca 113)                        | EPA 624 | 6A03022 | 1.2          | 5.0       | ND     | 1      | 01/03/06                              | 01/04/06             |            |
| Carbon Ictrachloride  | EPA 624 | 6A03022 | 0.28         | 5.0       | ND     | i      | 01/03/06                              | 01/04/06             |            |
| Chlorobenzene   | EPA 624 | 6A03022 | 0.36         | 2.0       | ND     | i      | 01/03/06                              | 01/04/06             |            |
| Chloroethane  | EPA 624 | 6A03022 | 0.33         | 5.0       | ND     | i      | 01/03/06                              |                      |            |
| Chioroform  | EPA 624 | 6A03022 | 0.33         | 2.0       | ND     | i      | 01/03/06                              | 01/04/06             |            |
| Chloromethane   | EPA 624 | 6A03022 | 0.30         | 5.0       | ND     | î      | 01/03/06                              | 01/04/06             |            |
| Dibromochloromethane  | EPA 624 | 6A03022 | 0.28         | 2.0       | ND     | î      | 01/03/06                              | 01/04/06             |            |
| 1,2-Dichlorobenzene   | EPA 624 | 6A03022 | 0.32         | 2.0       | ND     | i      | 01/03/06                              | 01/04/06             |            |
| 1,3-Dichlorobenzene   | EPA 624 | 6A03022 | 0.35         | 2.0       | ND     | i      |                                       | 01/04/06             |            |
| 1,4-Dichlorohenzene   | EPA 624 | 6A03022 | 0.37         | 2.0       | ND     | î      | 01/03/06                              | 01/04/06             |            |
| 1,1-Dichloroethane  | EPA 624 | 6A03022 | 0.27         | 2.0       | ND     | î      | 01/03/06                              | 01/04/06             |            |
| 1,2-Dichloroethanc  | EPA 624 | 6A03022 | 0.28         | 2.0       | ND     | î      | 01/03/06                              | 01/04/06             |            |
| 1,1-Dichlorocthene  | EPA 624 | 6A03022 | 0.32         | 3.0       | ND     | i      | 01/03/06                              |                      |            |
| trans-1,2-Dichloroethene                                    | EPA 624 | 6A03022 | 0.27         | 2.0       | ND     | 1      | 01/03/06                              | 01/04/06<br>01/04/06 |            |
| 1,2-Dichloropropane   | EPA 624 | 6A03022 | 0.35         | 2.0       | ND     | i      | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 01/04/06             |            |
| cis-1,3-Dichloropropene                                     | EPA 624 | 6A03022 | 0.22         | 2.0       | ND     | i      | THE RESERVE THE PROPERTY.             | 01/04/06             |            |
| trans-1,3-Dichloropropene                                   | EPA 624 | 6A03022 | 0.32         | 2.0       | ND     | ì      |                                       | 01/04/06             | 1          |
| Ethylbenzene  | EPA 624 | 6A03022 | 0.25         | 2.0       | ND     | 1      |                                       |                      | 1          |
| Methylene chloride  | EPA 624 | 6A03022 | 0.51         | 5.0       | ND     | i      |                                       | 01/04/06             |            |
| 1.1.2.2-Tetrachicenethane                                   | EPA 624 | 6A03022 | 0.24         | 2.0       | ND     | 1      |                                       | 01/04/06             | _          |
| Tetrachloroethene   | EPA 624 | 6A03022 | 0.32         | 2.0       | ND     | 1      |                                       | 01/04/06             | L          |
| Toluene   | EPA 624 | 6A03022 | 0.36         | 2.0       | ND     | 1      |                                       | 01/04/06             | į          |
| 1,1-Trichloroethane   | EPA 624 | 6A03022 | 0.30         | 2.0       | מא     | 1      |                                       | 01/04/06             | -          |
| 1,1,2-Trichloroethane                                       | EPA 624 | 6A03022 | 0.30         | 2.0       | ND     | Ī      |                                       | 01/04/06             | j          |
| Trichlorocinene   | EPA 624 | 6A03022 | 0.26         | 5.0       | ND     | 1      |                                       | 01/04/06             | .          |
| Trichlerofluoromethane                                      | EPA 624 | 6A03022 | 0.34         | 5.0       | ND     |        |                                       |                      |            |
| Vinyl chloride  | EPA 624 | 6A03022 | 0.26         | 5.0       | ND     |        |                                       | 01/04/06             |            |
| Xylenes, Total  | EPA 624 | 6A03022 | 0.52         | 4.0       | ND     | 1      |                                       | 01/04/06             | ,          |
| Surrogate: Dibromofluoromethane (80)                        | 120%)   |         | -rungeau     | -2445     | 109 %  | -#     | 0.1103100                             | OTTONION A           |            |
| Surrogate: Toluene-d8 (80-120%)                             | -       |         |              |           | 109 %  |        |                                       |                      |            |
| Surrogate: 4-Itromofluorobenzene (80-                       | 120%)   |         |              |           | 102 %  |        |                                       |                      |            |

Del Mar Analytical, Irvine Michele Chamberlin Project Manager

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9030 South 5193 St., Suite 8-120, Promite, AZ 83044 (460: 785-004) FAX (480) 785-0651
2520 E. Sunset Rd. #3, Las Vogas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Sampled: 01/03/06

Roceived: 01/03/06

## PURGEABLES BY GC/MS, TENTATIVELY IDENTIFIED COMPOUNDS

| Analyte   | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit |    |   |          | Date<br>Analyzed | Data<br>Qualificite |
|---|----------------|---------|--------------|--------------------|----|---|----------|------------------|---------------------|
| Sample ID: IPA0102-01 (009 Splin<br>Reporting Units: ug/l | •              |         |              |                    |    |   |          |                  | yal quality         |
| 1,2-Dichioro-1,1,2-trifluoroethanc                        | EPA 624 (MOD.) | 6A03022 | NΑ           | 2.5                | ND | 1 | 01/03/06 | 01/04/06         | NT *10              |
| Cyclohexanc   | EPA 624 (MOD.) | 6A03022 | N/A          | 2.5                | ND | 1 | 01/03/06 | *                |                     |

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## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4WC22</u> 12260 East Vassar Drive Task Order <u>1261.001D.01</u> Suite 500 SDG No. IPA0102 Lakewood, CO 80226 No. of Analyses 1 Laboratory Del Mar - Irvine Date: February 17, 2006 Reviews Signature A Reviewer E. Wessling Analysis/Method General Minerals **ACTION ITEMS\*** Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy Deliverables 5. Incorrect Hardcopy **Deliverables** 6. Deviations from Analysis Qualifications were assigned for the following: Protocol, e.g., - estimated values between the RL and MDL **Holding Times** GC/MS Tune/Inst. Performance Calibration Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS<sup>b</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements. b Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# **DATA VALIDATION REPORT**

# NPDES Sampling Outfall 009 LARWQCB Splits

**ANALYSIS: GENERAL MINERALS** 

SAMPLE DELIVERY GROUP: IPA0102

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

**NPDES** 

DATA VALIDATION REPORT

SDG: IPA0102 Analysis:

Gen. Min.

## 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC<sup>X</sup> Project Number:

1261.001D.01

Sample Delivery Group:

IPA0102

Project Manager:

P. Costa

Matrix:

Water

Analysis:

General Minerals

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

Reviewer:

E. Wessling

Date of Review:

February 17, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MECX Data Validation Procedure for General Minerals (DVP-6, Rev. 0), USEPA Methods for Chemical Analysis of Water and Wastes Methods 120.1, 160.5, 335.2, 350.2, 405.1, and 415.1, and Standard Methods for the Examination of Water and Wastewater Method SM5540-C, and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

**NPDES** 

SDG: Analysis: IPA0102 Gen. Min.

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method       |
|-------------|---------------|--------|------------------|
| Outfall 009 | IPA0102-01    | Water  | General Minerals |

**NPDES** 

DATA VALIDATION REPORT

SDG: Analysis: IPA0102 Gen. Min.

## 2. DATA VALIDATION FINDINGS

## 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

## 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of  $4^{\circ}$ C  $\pm$   $2^{\circ}$ C. No preservation problems were noted by the laboratory. No qualifications were required.

## 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary.

## 2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All samples were analyzed within the method specified holding times. No qualifications were required.

### 2.2 CALIBRATION

For all applicable analyses, the initial calibration correlation coefficients were ≥0.995 and the ICV and CCV recoveries were within the control limits of 90-110%. No qualifications were required.

## 2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. Raw data was reviewed to verify the blank data. No qualifications were required.

## 2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS recoveries were within the laboratory-established control limits. No qualifications were required.

**B4WC22** 

3

Revision 0

Project: SDG: **NPDES** 

DATA VALIDATION REPORT

Analysis:

IPA0102 Gen. Min.

## 2.5 LABORATORY DUPLICATES

Duplicate analyses were performed on Outfall 009 for total cyanide only. The RPD was less than the laboratory control limit of  $\leq$ 20%. No qualifications were required.

### 2.6 MATRIX SPIKES

MS/MSD analysis was performed in association with the total cyanide analysis on the Outfall 009 sample. Assessment was made with respect to this criterion for total cyanide only. The total cyanide recoveries were within QC limits (70-115%); therefore, no qualifications were required. Evaluation of method accuracy was based on LCS results for all other analyses. No qualifications were required.

## 2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. Results reported by the laboratory between the MDL and reporting limit were qualified as estimated "J" values and annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No further qualifications were required.

## 2.8 FIELD QC SAMPLES

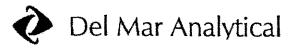
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

## 2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

## 2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101

Report Number: IPA0102

Received: 01/03/06

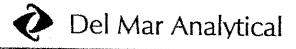
**INORGANICS** 

| A CAROLATECO  |                  |         |              |                    |                  |                    |                   |                  |                     |                    |
|---|------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|---------------------|--------------------|
| Analyte   | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>I Qualifier | 1.5                |
| Sample ID: IPA0102-01 (009 Split<br>Reporting Units: mg/i | - Water) - cont. |         |              |                    |                  |                    |                   |                  | and a               | 654                |
| Ammonia-N (Distilled)                                     | EPA 350.2        | 6A05098 | 0.30         | 0.50               | ND               | 1                  | 01/05/06          | 01/05/06         | u                   |                    |
| Biochemical Oxygen Demand                                 | EPA 405.1        | 6A04062 | 0.59         | 2.0                | 0.90             | 1                  | 01/04/06          | 01/09/06         | 1 1                 | DWG                |
| Fluoride 🚁  | EPA. 300.0       | 6A03051 | 0.10         | 0.50               | 0.29             | 1                  | 01/03/06          | 01/03/06         | -                   |                    |
| Hardness (as CaCO3) 🔭                                     | SM2340B          | 6A04092 | 1.0          | 1.0                | 140              | 1                  | 01/04/06          | 01/05/06         |                     | •                  |
| Nitrate/Nitrite-N 💝                                       | EPA 300.0        | 6A03051 | 0.072        | 0.26               | 2.7              | 1                  | 01/03/06          | 01/03/06         |                     |                    |
| Sulfate 💸   | EPA 300.0        | 6A03051 | 0.18         | 0.50               | 52               | 1                  | 01/03/06          | 01/03/06         |                     |                    |
| Surfactants (MBAS)  | SM5540-C         | 6A03114 | 0.044        | 0.10               | ND               | 1                  | 01/03/06          | 01/03/06         | u                   | ;                  |
| Total Dissolved Solids                                    | SM2540C          | 6A04107 | 10           | 10                 | 260              | 1                  | 01/04/06          | 01/04/06         |                     | 1                  |
| Total Organic Carbon                                      | EPA 415.1        | 6A06094 | 0.25         | 1.0                | 9.1              | 1                  | 01/06/06          | 01/06/06         |                     | -                  |
| Total Suspended Solids                                    | EPA 160.2        | 6A06118 | 10           | 10                 | ND               | 1                  | 01/06/06          | 01/06/06         | ×                   | ron tory designate |

\* analysis not valuables

LEVEL IV

Del Mar Analytical, Irvine Michele Chamberlin Project Manager



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Analyte

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

Batch

Sampled: 01/03/06

Received: 01/03/06

**INORGANICS** 

Limit Limit

MDL Reporting Sample Dilution Date

Date

Data Result Factor Extracted Analyzed Qualifiers

Sample ID: IPA0102-01 (009 Split - Water) - cont.

Reporting Units: ml/l/hr

Total Settleable Solids

**EPA 160.5** 

Method

6A04072 0.10

0.10

ND

01/04/06 01/04/06

(24.4

Del Mar Analytical, Irvine Michele Chamberlin Project Manager





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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: LARWQCB Sample Splits

Outfall 009

Report Number: IPA0102

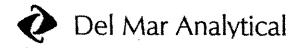
Sampled: 01/03/06

Received: 01/03/06

## **INORGANICS**

| Analyte  | Method                 | Batch              | MDL<br>Limit | Reporting<br>Limit |           |   |                      | Date<br>Analyzed     | Data<br>Qualifiers | Service. |
|--|------------------------|--------------------|--------------|--------------------|-----------|---|----------------------|----------------------|--------------------|----------|
| Sample ID: IPA0102-01 (009 Sp<br>Reporting Units: ug/l | olit - Water) - cont.  |                    |              |                    | 4         |   |                      |                      | 1200 J             |          |
| Total Cyanide Perchlorate                              | EPA 335.2<br>EPA 314.0 | 6A06111<br>6A04078 | 2.2<br>0.80  | 5.0<br>4.0         | 3.4<br>ND | 1 | 01/06/06<br>01/04/06 | 01/09/06<br>01/04/06 | 17                 | DNG      |





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MWH-Pasadena/Boeing

Project ID: LARWQCB Sample Splits

300 North Lake Avenue, Suite 1200

Outfall 009

Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPA0102

Received: 01/03/06

## **INORGANICS**

| Analyte   | Method         | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result |   | ,        | -        | Data<br>Qualifiers   |      |
|---|----------------|---------|--------------|--------------------|------------------|---|----------|----------|--|------|
| Sample ID: IPA0102-01 (009 Split -<br>Reporting Units: umbos/em | Water) - cont. |         |              |                    |                  |   |          | •        | Revo   | Coax |
| Specific Conductance  | EPA 120.1      | 6A04105 | 1.0          | 1.0                | 420              | 1 | 01/04/06 | 01/04/06 | The state of the s | ,    |



Del Mar Analytical, Irvine Michele Chamberlin Project Manager

# APPENDIX G

# **Section 35**

Outfall 010, January 02, 2006

Del Mar Analytical Laboratory Report



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# LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: Routine Outfall 010

Sampled: 01/02/06 Received: 01/02/06

Issued: 01/16/06 14:56

# 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.

#### SAMPLE CROSS REFERENCE

SUBCONTRACTED:

Refer to the last page for specific subcontract laboratory information included in this report.

LABORATORY ID

**CLIENT ID** 

MATRIX

IPA0016-01

Outfall 010

Water

Reviewed By:

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

any Windham

Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0016

Sampled: 01/02/06 Received: 01/02/06

Attention: Bronwyn Kelly

# **METALS**

| Analyte                              | Method    | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--------------------------------------|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0016-01 (Outfall 010 - | Water)    |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                |           |         |              |                    |                  |                    |                   |                  |                    |
| Antimony                             | EPA 200.8 | 6A04084 | 0.050        | 2.0                | 0.47             | 1                  | 01/04/06          | 01/05/06         | B, J               |
| Cadmium                              | EPA 200.8 | 6A04084 | 0.025        | 1.0                | 0.042            | 1                  | 01/04/06          | 01/05/06         | J                  |
| Copper                               | EPA 200.8 | 6A04084 | 0.25         | 2.0                | 3.2              | 1                  | 01/04/06          | 01/05/06         | В                  |
| Lead                                 | EPA 200.8 | 6A04084 | 0.040        | 1.0                | 1.1              | 1                  | 01/04/06          | 01/05/06         |                    |
| Mercury                              | EPA 245.1 | 6A03072 | 0.050        | 0.20               | ND               | 1                  | 01/03/06          | 01/03/06         |                    |



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0016

Sampled: 01/02/06

Received: 01/02/06

# **INORGANICS**

| Analyte                            | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|------------------------------------|------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0016-01 (Outfall 010 | - Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l              |                  |         |              |                    |                  |                    |                   |                  |                    |
| Chloride                           | EPA 300.0        | 6A03053 | 0.15         | 0.50               | 10               | 1                  | 01/03/06          | 01/03/06         |                    |
| Nitrate/Nitrite-N                  | EPA 300.0        | 6A03053 | 0.080        | 0.15               | 0.44             | 1                  | 01/03/06          | 01/03/06         |                    |
| Oil & Grease                       | EPA 413.1        | 6A06048 | 0.90         | 4.8                | 1.9              | 1                  | 01/06/06          | 01/06/06         | J                  |
| Sulfate                            | EPA 300.0        | 6A03053 | 0.45         | 0.50               | 7.2              | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Dissolved Solids             | SM2540C          | 6A03093 | 10           | 10                 | 130              | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Suspended Solids             | EPA 160.2        | 6A05110 | 10           | 10                 | 21               | 1                  | 01/05/06          | 01/05/06         |                    |



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0016

Sampled: 01/02/06 Received: 01/02/06

## SHORT HOLD TIME DETAIL REPORT

| Sample ID: Outfall 010 (IPA0016-01) - Wate | Hold Time | Date/Time        | Date/Time        | Date/Time        | Date/Time        |
|--|-----------|------------------|------------------|------------------|------------------|
|  | (in days) | Sampled          | Received         | Extracted        | Analyzed         |
| EPA 300.0                                  | 2         | 01/02/2006 08:45 | 01/02/2006 13:30 | 01/03/2006 09:00 | 01/03/2006 09:10 |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0016

Sampled: 01/02/06 Received: 01/02/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

#### **METALS**

| Blank Analyzed: 01/03/2006 (6A03072-BLK1)  |   |              | Reporting |       |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|--|---|--------------|-----------|-------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Blank Analyzed: 01/03/2006 (6A03072-BLK1)   ND   | Analyte                                 | Result       | Limit     | MDL   | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Mercury   ND   0.20   0.063   ug/l   | Batch: 6A03072 Extracted: 01/03/06      | _            |           |       |       |       |           |         |        |     |       |            |
| Mercury   ND   0.20   0.063   ug/l   |   |              |           |       |       |       |           |         |        |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03072-MS1)  | Blank Analyzed: 01/03/2006 (6A03072-B   | LK1)         |           |       |       |       |           |         |        |     |       |            |
| Mercury         7.95         0.00         0.063         ug/l         8.00         99         85-115           Matrix Spike Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2-IT-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2-IT-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2-IT-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A04084-BSLK)           Substitution of the Colspan="8">Source: IOL2-IT-01           Batch: 6A04084 Extracted: 01/04/05           Batch: 6A04084-BSLK)           Antimony         0.162         2.0         0.050         ug/l   | Mercury                                 | ND           | 0.20      | 0.063 | ug/l  |       |           |         |        |     |       |            |
| Mercury         7.95         0.00         0.063         ug/l         8.00         99         85-115           Matrix Spike Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2-IT-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2-IT-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2-IT-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A04084-BSLK)           Substitution of the Colspan="8">Source: IOL2-IT-01           Batch: 6A04084 Extracted: 01/04/05           Batch: 6A04084-BSLK)           Antimony         0.162         2.0         0.050         ug/l   | LCS Analyzed: 01/03/2006 (6A03072-RS    | n            |           |       |       |       |           |         |        |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03072-MS1)         Source: IOL2617-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MSD1)         Source: IOL2617-01           Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MSD1)         Source: IOL2617-01           Mercury         8.00         0.063         ug/l         8.00         ND         10.0         70-130         1         20         0.063         ug/l         8.04 00.050         ND         1.0         0.025         ug/l   | • ,                                     | •            | 0.20      | 0.063 | 110/1 | 8.00  |           | 99      | 85-115 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MSD1)   | •                                       |              | V.W. 0    | 01002 | -5.   |       |           |         | 05 115 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006 (6A03072-MSD1)         Source: IOL 2617-01           Mercury         8.00         0.20         0.063         ug/l         8.00         ND         100         70-130         1         20           Blank Analyzed: 01/05/2006 (6A04084-BLK1)           Antimony         0.162         2.0         0.050         ug/l  | • • •                                   | _            |           |       |       |       |           |         |        |     |       |            |
| Mercury   8.00   0.20   0.063   ug/l   8.00   ND   100   70-130   1   20   | Mercury                                 | 7.95         | 0.20      | 0.063 | ug/l  | 8.00  | ND        | 99      | 70-130 |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-BLKI)  | Matrix Spike Dup Analyzed: 01/03/2006   | (6A03072-MSI | D1)       |       |       | Sou   | rce: IOL2 | 2617-01 |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-BLK1)  | Mercury                                 | 8.00         | 0.20      | 0.063 | ug/l  | 8.00  | ND        | 100     | 70-130 | 1   | 20    |            |
| Blank Analyzed: 01/05/2006 (6A04084-BLK1)  | Batch: 6404084 Fytracted: 01/04/06      |              |           |       |       |       |           |         |        |     |       |            |
| Antimony 0.162 2.0 0.050 ug/l  | Battan Olivioor Davidetta, Vilonoo      | -            |           |       |       |       |           |         |        |     |       |            |
| Cadmium         ND         1.0         0.025         ug/l           Copper         0.321         2.0         0.25         ug/l           Lead         ND         1.0         0.040         ug/l           LCS Analyzed: 01/05/2006 (6A04084-BS1)           Antimony         78.5         2.0         0.050         ug/l         80.0         98         85-115           Cadmium         80.2         1.0         0.025         ug/l         80.0         100         85-115           Copper         80.8         2.0         0.25         ug/l         80.0         101         85-115           Lead         78.3         1.0         0.040         ug/l         80.0         101         85-115           Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)         Source: IOL2694-49           Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)         Source: IOL2694-49           Antimony         78.2         2.0         0.050         ug/l         80.0         0.26         97         70-130           Cadmium         76.0         1.0         0.025         ug/l         80.0         ND         95         70-130           Copper         102 <td>Blank Analyzed: 01/05/2006 (6A04084-B</td> <td>LK1)</td> <td></td> | Blank Analyzed: 01/05/2006 (6A04084-B   | LK1)         |           |       |       |       |           |         |        |     |       |            |
| Copper   | Antimony                                | 0.162        | 2.0       | 0.050 | ug/l  |       |           |         |        |     |       | J          |
| Lead       ND       1.0       0.040       ug/l         LCS Analyzed: 01/05/2006 (6A04084-BS1)         Antimony       78.5       2.0       0.050       ug/l       80.0       98       85-115         Cadmium       80.2       1.0       0.025       ug/l       80.0       101       85-115         Copper       80.8       2.0       0.25       ug/l       80.0       101       85-115         Lead       78.3       1.0       0.040       ug/l       80.0       98       85-115         Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)       Source: IOL2694-49         Antimony       78.2       2.0       0.050       ug/l       80.0       0.26       97       70-130         Cadmium       76.0       1.0       0.025       ug/l       80.0       ND       95       70-130         Copper       102       2.0       0.25       ug/l       80.0       23       99       70-130   | Cadmium                                 | ND           | 1.0       | 0.025 | ug/l  |       |           |         |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS1)  Antimony 78.5 2.0 0.050 ug/l 80.0 98 85-115  Cadmium 80.2 1.0 0.025 ug/l 80.0 100 85-115  Copper 80.8 2.0 0.25 ug/l 80.0 101 85-115  Lead 78.3 1.0 0.040 ug/l 80.0 98 85-115  Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)  Antimony 78.2 2.0 0.050 ug/l 80.0 0.26 97 70-130  Cadmium 76.0 1.0 0.025 ug/l 80.0 ND 95 70-130  Copper 102 2.0 0.25 ug/l 80.0 23 99 70-130   | Copper                                  | 0.321        | 2.0       | 0.25  | ug/l  |       |           |         |        |     |       | J          |
| Antimony 78.5 2.0 0.050 ug/l 80.0 98 85-115 Cadmium 80.2 1.0 0.025 ug/l 80.0 100 85-115 Copper 80.8 2.0 0.25 ug/l 80.0 101 85-115 Lead 78.3 1.0 0.040 ug/l 80.0 98 85-115  Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1) Source: IOL2694-49  Antimony 78.2 2.0 0.050 ug/l 80.0 0.26 97 70-130 Cadmium 76.0 1.0 0.025 ug/l 80.0 ND 95 70-130 Copper 102 2.0 0.25 ug/l 80.0 23 99 70-130   | Lead                                    | ND           | 1.0       | 0.040 | ug/l  |       |           |         |        |     |       |            |
| Cadmium       80.2       1.0       0.025       ug/l       80.0       100       85-115         Copper       80.8       2.0       0.25       ug/l       80.0       101       85-115         Lead       78.3       1.0       0.040       ug/l       80.0       98       85-115         Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)       Source: IOL2694-49         Antimony       78.2       2.0       0.050       ug/l       80.0       0.26       97       70-130         Cadmium       76.0       1.0       0.025       ug/l       80.0       ND       95       70-130         Copper       102       2.0       0.25       ug/l       80.0       23       99       70-130   | LCS Analyzed: 01/05/2006 (6A04084-BS)   | l <b>)</b>   |           |       |       |       |           |         |        |     |       |            |
| Copper         80.8         2.0         0.25         ug/l         80.0         101         85-115           Lead         78.3         1.0         0.040         ug/l         80.0         98         85-115           Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)         Source: IOL2694-49           Antimony         78.2         2.0         0.050         ug/l         80.0         0.26         97         70-130           Cadmium         76.0         1.0         0.025         ug/l         80.0         ND         95         70-130           Copper         102         2.0         0.25         ug/l         80.0         23         99         70-130   | Antimony                                | 78.5         | 2.0       | 0.050 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Lead     78.3     1.0     0.040     ug/l     80.0     98     85-115       Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)       Source: IOL2694-49       Antimony     78.2     2.0     0.050     ug/l     80.0     0.26     97     70-130       Cadmium     76.0     1.0     0.025     ug/l     80.0     ND     95     70-130       Copper     102     2.0     0.25     ug/l     80.0     23     99     70-130   | Cadmium                                 | 80.2         | 1.0       | 0.025 | ug/l  | 80.0  |           | 100     | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A04084-MS1)         Source: IOL2694-49           Antimony         78.2         2.0         0.050         ug/l         80.0         0.26         97         70-130           Cadmium         76.0         1.0         0.025         ug/l         80.0         ND         95         70-130           Copper         102         2.0         0.25         ug/l         80.0         23         99         70-130   | Соррег                                  | 80.8         | 2.0       | 0.25  | ug/l  | 80.0  |           | 101     | 85-115 |     |       |            |
| Antimony     78.2     2.0     0.050     ug/l     80.0     0.26     97     70-130       Cadmium     76.0     1.0     0.025     ug/l     80.0     ND     95     70-130       Copper     102     2.0     0.25     ug/l     80.0     23     99     70-130  | Lead                                    | 78.3         | 1.0       | 0.040 | ug/l  | 80.0  |           | 98      | 85-115 |     |       |            |
| Cadmium         76.0         1.0         0.025         ug/l         80.0         ND         95         70-130           Copper         102         2.0         0.25         ug/l         80.0         23         99         70-130   | Matrix Spike Analyzed: 01/05/2006 (6A04 | 1084-MS1)    |           |       |       | Sour  | ce: IOL2  | 694-49  |        |     |       |            |
| Cadmium     76.0     1.0     0.025     ug/l     80.0     ND     95     70-130       Copper     102     2.0     0.25     ug/l     80.0     23     99     70-130   | Antimony                                | 78.2         | 2.0       | 0.050 | ug/l  | 80.0  | 0.26      | 97      | 70-130 |     |       |            |
|  | Cadmium                                 | 76.0         | 1.0       | 0.025 | _     | 80.0  |           | 95      | 70-130 |     |       |            |
| Lead 84.3 1.0 0.040 ug/l 80.0 2.7 102 70-130   | Copper                                  | 102          | 2.0       | 0.25  | ug/l  | 80.0  | 23        | 99      | 70-130 |     |       |            |
|  | Lead                                    | 84.3         | 1.0       | 0.040 | ug/l  | 80.0  | 2.7       | 102     | 70-130 |     |       |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 010

Report Number: IPA0016

Sampled: 01/02/06

Received: 01/02/06

# METHOD BLANK/QC DATA

# **METALS**

| Analyte                                | Result     | Reporting<br>Limit | MDL   | Units | Spike<br>Level | Source    | %REC                | %REC    | RPD   | RPD<br>Limit | Data<br>Oualifiers |
|--|------------|--------------------|-------|-------|----------------|-----------|---------------------|---------|-------|--------------|--------------------|
| Batch: 6A04084 Extracted: 01/04/06     |            | *ASSESSED          |       | Cinto | Devel          | recourt   | / <b>U</b>          | AJAMATA | 141 1 | Dimit        | Quantities         |
| Makein Cuite Ameliana Astronyono (CAG  |            |                    |       |       | C              | ¥OT ′     | 2604 50             |         |       |              |                    |
| Matrix Spike Analyzed: 01/05/2006 (6A0 | 4084-MS2)  |                    |       |       | 50u            | rce: IOL  | 6094-3 <del>0</del> |         |       |              |                    |
| Antimony                               | 80.0       | 2.0                | 0.050 | ug/l  | 80.0           | 0.094     | 100                 | 70-130  |       |              |                    |
| Cadmium                                | 76.2       | 1.0                | 0.025 | ug/l  | 80.0           | ND        | 95                  | 70-130  |       |              |                    |
| Copper                                 | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 18        | 104                 | 70-130  |       |              |                    |
| Lead                                   | 87.5       | 1.0                | 0.040 | ug/l  | 80.0           | 1.8       | 107                 | 70-130  |       |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006  | (6A04084-M | SD1)               |       |       | Sou            | rce: IOL2 | 2694-49             |         |       |              |                    |
| Antimony                               | 76.7       | 2.0                | 0.050 | ug/l  | 80.0           | 0.26      | 96                  | 70-130  | 2     | 20           |                    |
| Cadmium                                | 76.1       | 1.0                | 0.025 | ug/l  | 80.0           | ND        | 95                  | 70-130  | 0     | 20           |                    |
| Copper                                 | 101        | 2.0                | 0.25  | ug/l  | 80.0           | 23        | 98                  | 70-130  | I     | 20           |                    |
| Lead                                   | 83.9       | 1.0                | 0.040 | ug/l  | 80.0           | 2.7       | 102                 | 70-130  | 1     | 20           |                    |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0016

Sampled: 01/02/06 Received: 01/02/06

Attention: Bronwyn Kelly

# METHOD BLANK/QC DATA

# **INORGANICS**

|   |              | Reporting   |       |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|--------------|-------------|-------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result       | Limit       | MDL   | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03053 Extracted: 01/03/06      | _            |             |       |       |       |           |        |        |     |       |            |
|   | -            |             |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03053-B   | LK1)         |             |       |       |       |           |        |        |     |       |            |
| Chloride                                | ND           | 0.50        | 0.26  | mg/l  |       |           |        |        |     |       |            |
| Nitrate/Nitrite-N                       | ND           | 0.15        | 0.080 | mg/l  |       |           |        |        |     |       |            |
| Sulfate                                 | ND           | 0.50        | 0.18  | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03053-BS)   | i)           |             |       |       |       |           |        |        |     |       |            |
| Chloride                                | 4.97         | 0.50        | 0.26  | mg/l  | 5.00  |           | 99     | 90-110 |     |       |            |
| Sulfate                                 | 10.2         | 0.50        | 0.18  | mg/l  | 10.0  |           | 102    | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A0) | 3053-MS1)    |             |       |       | Sour  | rce: IPA0 | 016-01 |        |     |       |            |
| Chloride                                | 15.1         | 0.50        | 0.26  | mg/l  | 5.00  | 10        | 102    | 80-120 |     |       |            |
| Sulfate                                 | 17.5         | 0.50        | 0.18  | mg/l  | 10.0  | 7.2       | 103    | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006   | (6A03053-MSI | <b>D</b> 1) |       |       | Soui  | rce: IPA0 | 016-01 |        |     |       |            |
| Chloride                                | 15.1         | 0.50        | 0.26  | mg/l  | 5.00  | 10        | 102    | 80-120 | 0   | 20    |            |
| Sulfate                                 | 17.4         | 0.50        | 0.18  | mg/l  | 10.0  | 7.2       | 102    | 80-120 | 1   | 20    |            |
| Batch: 6A03093 Extracted: 01/03/06      |              |             |       |       |       |           |        |        |     |       |            |
|   | •            |             |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03093-BI  | LK1)         |             |       |       |       |           |        |        |     |       |            |
| Total Dissolved Solids                  | ND           | 10          | 10    | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03093-BS1   | )            |             |       |       |       |           |        |        |     |       |            |
| Total Dissolved Solids                  | 1000         | 10          | 10    | mg/l  | 1000  |           | 100    | 90-110 |     |       |            |
| Duplicate Analyzed: 01/03/2006 (6A03093 | -DUP1)       |             |       |       | Sour  | ce: IPA0  | 005-01 |        |     |       |            |
| Total Dissolved Solids                  | 981          | 10          | 10    | mg/l  |       | 980       |        |        | 0   | 10    |            |

Del Mar Analytical, Irvine

Amy Windham For Michele Chamberlin

Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0016

Attention: Bronwyn Kelly

Sampled: 01/02/06 Received: 01/02/06

# METHOD BLANK/QC DATA

# **INORGANICS**

|  |         | Reporting |      |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|--|---------|-----------|------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                | Result  | Limit     | MDL  | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05110 Extracted: 01/05/06     | Ĺ       |           |      |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A05110-B  | LK1)    |           |      |       |       |           |        |        |     |       |            |
| Total Suspended Solids                 | ND      | 10        | 10   | mg/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A05110-BS   | 1)      |           |      |       |       |           |        |        |     |       |            |
| Total Suspended Solids                 | 965     | 10        | 10   | mg/l  | 1000  |           | 96     | 85-115 |     |       |            |
| Duplicate Analyzed: 01/05/2006 (6A0511 | 0-DUP1) |           |      |       | Sou   | rce: IPA0 | 025-01 |        |     |       |            |
| Total Suspended Solids                 | 382     | 10        | 10   | mg/l  |       | 380       |        |        | I   | 10    |            |
| Batch: 6A06048 Extracted: 01/06/06     | _       |           |      |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/06/2006 (6A06048-B  | LK1)    |           |      |       |       |           |        |        |     |       |            |
| Oil & Grease                           | ND      | 5.0       | 0.94 | mg/I  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/06/2006 (6A06048-BS   | 1)      |           |      |       |       |           |        |        |     |       | M-NR1      |
| Oil & Grease                           | 19.2    | 5.0       | 0.94 | mg/l  | 20.0  |           | 96     | 65-120 |     |       |            |
| LCS Dup Analyzed: 01/06/2006 (6A0604   | 8-BSD1) |           |      |       |       |           |        |        |     |       |            |
| Oil & Grease                           | 19.6    | 5.0       | 0.94 | mg/l  | 20.0  |           | 98     | 65-120 | 2   | 20    |            |



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Sampled: 01/02/06 Pasadena, CA 91101 Report Number: IPA0016 Received: 01/02/06

Attention: Bronwyn Kelly

# **Compliance Check**

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

| LabNumber  | Analysis             | Analyte                | Units | Result | MRL  | Compliance<br>Limit |
|------------|----------------------|------------------------|-------|--------|------|---------------------|
| IPA0016-01 | 413.1 Oil and Grease | Oil & Grease           | mg/l  | 1.90   | 4.8  | 15                  |
| IPA0016-01 | Chloride - 300.0     | Chloride               | mg/l  | 10.00  | 0.50 | 150                 |
| IPA0016-01 | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N      | mg/l  | 0.44   | 0.15 | 10.00               |
| IPA0016-01 | Sulfate-300.0        | Sulfate                | mg/l  | 7.20   | 0.50 | 250                 |
| IPA0016-01 | TDS - SM 2540C       | Total Dissolved Solids | mg/l  | 130    | 10   | 850                 |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Sampled: 01/02/06 Pasadena, CA 91101 Received: 01/02/06 Report Number: IPA0016

Attention: Bronwyn Kelly

# **DATA QUALIFIERS AND DEFINITIONS**

В Analyte was detected in the associated Method Blank.

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.

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-856 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 01/02/06

MWH-Pasadena/Boeing

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0016 Received: 01/02/06

Attention: Bronwyn Kelly

# **Certification Summary**

#### Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 160.2     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | X          |
| SM2540C       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0016-01

Analysis Performed: EDD + Level 4

Samples: IPA0016-01

| Series Name / Address   | /Adrires                     | Client Mamo/Address: Project   |          | Project  |                                     |          |                                 |                             |            | The state of the s | ANALY | ANAL TOID RECOINED | 1  |   |  |
|---|------------------------------|--|----------|--|-------------------------------------|----------|---------------------------------|-----------------------------|------------|--|-------|--------------------|--|---|--|
|   | }<br>•                       | ś  |          | Boeing-SSFL NPDES  | DES                                 | <b>L</b> | :s                              |                             | 1.         |  |       |                    |  | Field readings:   |  |
| MWH-Pasadena<br>300 North Lake Avenue, Suite 1200<br>Pasadena, CA 91101           | adena<br>ce Avenu<br>a 91101 | e, Suite 12  | 8        | Stormwater at Building 203   | ulding 203                          |          | e Meta<br>gl                    |                             |            |  |       |                    |  | Temp = 5.5.   | <b>'3</b><br>  '3  |
| Project Manager: Bronwyn Kelly Sampler: (2 2 75 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | ager. B                      | ger. Bronwyn Ke<br>Ergenes   | <u>≥</u> | Phone Number: (626) 568-8691<br>Fax Number: (626) 568-6515   |                                     |          | il Recoverabli<br>Cd, Cu, Pb, H | O (and all co<br>Grease (EP | SO4, NO3+N | SST ,  |       |                    | / 12   | to some   |  |
|   | Sample                       | Container  | A O      | Sampling<br>Date/Time  | Preservative                        | Bottle * | stoT<br>,d2                     | <del></del>                 |            |  |       |                    |  |   |  |
| Outfall 010   | X X                          | Poly-1L  | -        | 20-20-06   | HNO3                                | 44       | ×                               | 1                           | _          |  |       |                    | ***************************************          |   |  |
| Outfall 010-  | 3                            | Poly-1L  | -        |  | HNO3                                | <b>æ</b> | ×                               |                             | _          |  |       |                    |  |   |  |
| Outfall 010   | 8                            | Glass-   | 7        |  | None                                | 2A, 2B   |                                 | ×                           |            |  |       | 1                  |  |   | ALEXANDER OF THE PROPERTY OF T |
| Outfall 010   | *                            | Glass  | 2        | The state of the s | 亨                                   | 3A, 3B   |                                 |                             | ×          |  |       |                    |  |   |  |
| Outfall 010   | ×                            | Poly-500   | 7        | 2,02.0   | None                                | 4A, 4B   |                                 |                             | ×          |  | _     |                    |  |   | Average of the feet of the fee |
| Outfall 010   | 3                            | Poly-500   | 2        | 20.10.10   | None                                | 5A, 5B   |                                 |                             |            | ×  |       |                    |  |   |  |
| Reinquished By Reinquished By Reinquished By Reinquished By                       | Serves Serves Sed By         | The state of the s |          | Date/Time:   | Received By Received By Received By |          |                                 | DateTime: DateTime:         |            | 1 1 1 1 5 1  |       | 3 .                | Turn arour 24 Hours 72 Hours Perchlora Perchlora | Turn around Time: (check) 24 Hours 10 Days 42 Hours 10 Days 72 Hours Normal Perchlorate Only 72 Hours |  |
|   |                              | abelian and the second  |          |  |                                     |          | <u> </u>                        | 20 2                        |            | 200  |       |                    | Sample a   | Sample integrity (Check) Intact On los:   | H  |



January 17, 2006

Alta Project I.D.: 27128

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 04, 2006 under your Project Name "IPA0016". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely.

Martha M. Maier

Director of HRMS Services

Series IN ACCOMPANY

Alta Analytical Lal oratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test mestuds. This report should not be reproduced except in full without the written approval—of ALTA.



Section I: Sample Inventory Report

Date Received:

1/4/2006

Alta Lab. ID

Client Sample ID

27128-001

IPA0016-01

# SECTION II

Page 3 of 225

| Method Blank           |                 |                              |   | EPA Method 1613                    |
|------------------------|-----------------|------------------------------|---|------------------------------------|
| Matrix: Aqueous        | QC Batch No.:   | 7632                         | Lab Sample: 0-MB001                           |                                    |
| Sample Size: 1.00 L    | Date Extracted: | 8-Jan-06                     | Date Analyzed DB-5: 11-Jan-06                 | Date Analyzed DB-225: NA           |
| Analyte Conc. (ug/L)   | a pr            | EMPC <sup>b</sup> Qualifiers | Labeled Standard                              | %R LCL-UCL <sup>d</sup> Qualifiers |
| 2,3,7,8-TCDD ND        | 0.00000671      |                              | IS 13C-2.3.7.8-TCDD                           | 84.0 25 - 164                      |
| 1,2,3,7,8-PeCDD ND     | 0.000000560     |                              | 13C-1,2,3,7,8-PeCDD                           | 78.7 25 - 181                      |
| 1,2,3,4,7,8-HxCDD ND   | 0.00000149      |                              | 13C-1,2,3,4,7,8-HxCDD                         | 81.9 32 - 141                      |
| 1,2,3,6,7,8-HxCDD ND   | 0.00000147      |                              | 13C-1,2,3,6,7,8-HxCDD                         | 74.4 28 - 1.30                     |
| 1,2,3,7,8,9-HxCDD ND   | 0.00000145      |                              | 13C-1,2,3,4,6,7,8-HpCDD                       | 75.6 23 - 140                      |
| 1,2,3,4,6,7,8-HpCDD ND | 0.00000146      |                              | 13C-0CDD                                      | 40.1 17 - 157                      |
| OCDD                   | 0.00000535      |                              | 13C-2,3,7,8-TCDF                              | 82.6 24 - 169                      |
| 2,3,7,8-TCDF ND        | 0.000000546     |                              | 13C-1,2,3,7,8-PeCDF                           | 65.3 24 - 185                      |
| 1,2,3,7,8-PeCDF ND     | 0.00000112      |                              | 13C-2,3,4,7,8-PeCDF                           | 71.3 21 - 178                      |
| 2,3,4,7,8-PeCDF ND     | 0.000000885     |                              | 13C-1,2,3,4,7,8-HxCDF                         | 73.7 26 - 152                      |
| 1,2,3,4,7,8-HxCDF ND   | 0.000000511     |                              | 13C-1,2,3,6,7,8-HxCDF                         | 70.0 26 - 123                      |
| 1,2,3,6,7,8-HxCDF ND   | 0.000000518     |                              | 13C-2,3,4,6,7,8-HxCDF                         | 78.0 28 - 136                      |
| 2,3,4,6,7,8-HxCDF ND   | 0.000000522     |                              | 13C-1,2,3,7,8,9-HxCDF                         | 79.2 29 - 147                      |
| 1,2,3,7,8,9-HxCDF ND   | 0.000000675     |                              | 13C-1,2,3,4,6,7,8-HpCDF                       | 64.7 28 - 143                      |
| 1,2,3,4,6,7,8-HpCDF ND | 0.000000764     |                              | 13C-1,2,3,4,7,8,9-HpCDF                       | 76.3 26 - 138                      |
| 1,2,3,4,7,8,9-HpCDF ND | 0.000000622     |                              |   | 17                                 |
| OCDF                   | 0.00000360      |                              | CRS 37Cl-2,3,7,8-TCDD                         | 88.7 35 - 197                      |
| Totals                 |                 |                              | Footnotes                                     |                                    |
| Total TCDD ND          | 0.000000671     |                              | a. Sample specific estimated detection limit. |                                    |
|                        | •               |                              | b. Estimated maximum possible concentration.  |                                    |
| Total HXCDU            | 0.00000147      |                              | c. Meinod detection limit.                    | w                                  |
|                        | 0.00000140      |                              | ti. LOWEI CORRUS IRRIR " Upper Correct Imm.   |                                    |
| Total Pacing ND        | 0.00000340      |                              |   |                                    |
| -                      | 0.00000053      | 2.<br>2.<br>2.               |   |                                    |
| •                      | 0.000000692     |                              |   |                                    |
| Analyst: JMH           |                 |                              | Approved By: Martha M. Maier                  | Aaier 17-Jan-2006 11:16            |

Project 27128

| OPR Results                            |             |                                  |                  |   | EPA                   | EPA Method 1613 |
|--|-------------|----------------------------------|------------------|---|-----------------------|-----------------|
| Matrix: Aqueous<br>Sample Size: 1.00 L |             | QC Batch No.:<br>Date Extracted: | 7632<br>8-Jan-06 | Lab Sample: 0-OPR001<br>Date Analyzed DB-5: 11-Jan-06 | Date Analyzed DB-225: | d DB-225: NA    |
| Analyte                                | Spike Conc. | Spike Conc. Conc. (ng/mL)        | OPR Limits       | Labeled Standard                                      | %R                    | TCL-UCL         |
| 7.3.7.8-TCDD                           | 10.0        | 8.44                             | 6.7 - 15.8       | IS 13C-2,3,7,8-TCDD                                   | 66.2                  | 25 - 164        |
| 1,2,3,7,8-PeCDD                        | 20.0        | 48.8                             | 35 - 71          | 13C-1,2,3,7,8-PeCDD                                   | 70.5                  | 25 - 181        |
| 1,2,3,4,7,8-HxCDD                      | 20.0        | 48.8                             | 35-82            | 13C-1,2,3,4,7,8-HxCDD                                 | 68.7                  | 32 - 141        |
| 1,2,3,6,7,8-HxCDD                      | 50.0        | 46.7                             | 38 - 67          | 13C-1,2,3,6,7,8-HxCDD                                 | 65.6                  | 28 - 130        |
| 1,2,3,7,8,9-HxCDD                      | 20.0        | 48.7                             | 32 - 81          | 13C-1,2,3,4,6,7,8-HpCDD                               | 70.6                  | 23 - 140        |
| 1,2,3,4,6,7,8-HpCDD                    | 20.0        | 47.2                             | 35 - 70          | 13C-0CDD  | 49.9                  | 17 - 157        |
| OCDD                                   | 100         | 95.4                             | 78 - 144         | 13C-2,3,7,8-TCDF                                      | 62.9                  | 24 - 169        |
| 2,3,7,8-TCDF                           | 10.0        | 9.58                             | 7.5 - 15.8       | 13C-1,2,3,7,8-PeCDF                                   | 63.1                  | 24 - 185        |
| 1,2,3,7,8-PeCDF                        | 20.0        | 46.6                             | 40 - 67          | 13C-2,3,4,7,8-PeCDF                                   | 64.2                  | 21 - 178        |
| 2,3,4,7,8-PeCDF                        | 20.0        | 48.4                             | 34 - 80          | 13C-1,2,3,4,7,8-HxCDF                                 | 65.4                  | 26 - 152        |
| 1,2,3,4,7,8-HxCDF                      | 20.0        | 47.6                             | 36 - 67          | 13C-1,2,3,6,7,8-HxCDF                                 | 63.8                  | 26 - 123        |
| 1,2,3,6,7,8-HxCDF                      | 50.0        | 48.7                             | 42 - 65          | 13C-2,3,4,6,7,8-HxCDF                                 | 6.79                  | 28 - 136        |
| 2,3,4,6,7,8-HxCDF                      | 50.0        | 47.3                             | 35 - 78          | 13C-1,2,3,7,8,9-HxCDF                                 | 70.4                  | 29 - 147        |
| 1,2,3,7,8,9-HxCDF                      | 50.0        | 47.3                             | 39 - 65          | 13C-1,2,3,4,6,7,8-HpCDF                               | 63.1                  | 28 - 143        |
| 1,2,3,4,6,7,8-HpCDF                    | 20.0        | 48.5                             |                  | 13C-1,2,3,4,7,8,9-HpCDF                               | 1.07                  | 26 - 138        |
| 1,2,3,4,7,8,9-HpCDF                    | 20.0        | 48.4                             | 39 - 69          | 13C-OCDF  | 56.4                  | 17-157          |
| OCDF                                   | 100         | 2.6                              | 63 - 170         | CRS 37CI-2,3,7,8-TCDD                                 | 81.7                  | 35 - 197        |

Approved By: Martha M. Maier 17-Jan-2006 11:16

Analyst: JMH

| Sample 1D: IPA0016-01                        | 16-01                      |             |              |            |   |                 |                 | EPA M                 | EPA Method 1613 |
|--|----------------------------|-------------|--------------|------------|---|-----------------|-----------------|-----------------------|-----------------|
| Client Data                                  |                            |             | Sample Data  |            | Laboratory Data                               |                 |                 |                       |                 |
|  | Del Mar Analytical, Irvine |             | Matríx;      | Aqueous    | Lab Sample:                                   | 27128-001       | Date Received:  | eived:                | 4-Jan-06        |
| Project: 17A(010<br>Date Collected: 2-Jan-06 | 9                          |             | Sample Size: | 1.02 L     | `   | 7632            | Date Extracted: | acted:                | 8-Jan-06        |
| Time Collected: 0845                         |                            |             |              |            | Date Analyzed DB-5:                           | 11-Jan-06       | Date Anal       | Date Analyzed DB-225: | ž               |
| Analyte Co                                   | Conc. (ug/L)               | Df. a       | EMPCb        | Qualifiers | Labeled Standard                              |                 | %R              | rcr-ncr <sub>q</sub>  | Oualifiers      |
| 2.3,7,8-TCDD                                 | QN                         | 0.000000711 |              |            | LS 13C-2,3,7,8-TCDD                           |                 | 76.4            | 25 - 164              |                 |
| 1,2,3,7,8-PeCDD                              | QN                         | 0.00000111  | _            |            | 13C-1,2,3,7,8-PeCDD                           | Q               | 80.8            | 25 - 181              | _               |
| 1,2,3,4,7,8-HxCDD                            | Q                          | 0.00000178  |              |            | 13C-1,2,3,4,7,8-HxCDD                         | CDD             | 80.3            | 32 - 141              |                 |
| 1,2,3,6,7,8-HxCDD                            | QN.                        | 0.00000188  | <b>~</b>     |            | 13C-1,2,3,6,7,8-HxCDD                         | CDD             | 9.92            | 28 - 130              |                 |
| 1,2,3,7,8,9-HxCDD                            | Ð                          | 0.00000179  | cr.          |            | 13C-1,2,3,4,6,7,8-HpCDD                       | pCDD            | 81.9            | 23 - 140              |                 |
| 1,2,3,4,6,7,8-HpCDD                          | 0.0000518                  |             |              |            | 13C-OCDD                                      |                 | 60.1            | 17 - 157              |                 |
| ОСОО   | 0.000485                   |             | ÷            |            | 13C-2,3,7,8-TCDF                              |                 | 75.6            | 24 - 169              |                 |
| 2,3,7,8-TCDF                                 | QN                         | 0.000000065 | 65           |            | 13C-1,2,3,7,8-PeCDF                           | Ŧ               | 74.3            | 24 - 185              |                 |
| 1,2,3,7,8-PeCDF                              | R                          | 0.00000219  | 0            |            | 13C-2,3,4,7,8-PeCDF                           | <u>u</u>        | 74.0            | 21 - 178              |                 |
| 2,3,4,7,8-PeCDF                              | Q.                         | 0.00000189  | 6            |            | 13C-1,2,3,4,7,8-HxCDF                         | CDF             | 75.4            | 26 - 152              |                 |
| 1,2,3,4,7,8-HxCDF                            | Q                          | 0.00000136  | 9            |            | 13C-1,2,3,6,7,8-HxCDF                         | CDF             | 71.3            | 26 - 123              |                 |
| 1,2,3,6,7,8-HxCDF                            | QN                         | 0.00000136  | 9            |            | 13C-2,3,4,6,7,8-HxCDF                         | CDF             | 77.8            | 28 - 136              |                 |
| 2,3,4,6,7,8-HxCDF                            | Q                          | 0.00000146  | . 9          |            | 13C-1,2,3,7,8,9-HxCDF                         | CDF             | 9.08            | 29 - 147              |                 |
| 1,2,3,7,8,9-HxCDF                            | QN                         | 0.00000195  | 5            |            | 13C-1,2,3,4,6,7,8-HpCDF                       | pCDF            | 73.2            | 28 - 143              |                 |
| 1,2,3,4,6,7,8-HpCDF                          | 0.0000158                  |             |              | <b>-</b>   | 13C-1,2,3,4,7,8,9-HpCDF                       | pCDF            | 81.4            | 26 - 138              |                 |
| 1,2,3,4,7,8,9-HpCDF                          | QN                         | 0.00000770  | 0            | ,          | 13C-OCDF                                      |                 | 0.79            | 17 - 157              |                 |
| OCDF   | 0.000154                   |             |              |            | CRS 37Cl-2,3,7,8-TCDD                         |                 | 78.3            | 35 - 197              |                 |
| Totals                                       |                            |             |              |            | Footnotes                                     |                 |                 |                       |                 |
| Total TCDD                                   | QN                         | 0.000000711 | 111          | 1          | a. Sample specific estimated detection limit. | tection limit.  |                 |                       |                 |
| Total PeCDD                                  | Ę                          | 0.00000104  | 4            |            | b. Estimated maximum possible concentration.  | concentration.  |                 |                       |                 |
| Total HxCDD                                  | 0.00000640                 |             |              |            | c. Method detection limit.                    |                 |                 |                       |                 |
| Total HpCDD                                  | 0.000112                   |             |              |            | d. Lower control limit - upper control limit. | ontrol limit.   | ÷               |                       |                 |
| Total TCDF                                   | ON<br>ON                   | 0.000000967 | 19           |            |   |                 |                 |                       |                 |
| Total PeCDF                                  | S                          | 0.00000204  | 4            |            |   |                 |                 |                       |                 |
| Total HxCDF                                  | QN                         | 0.00000152  | 2            |            |   |                 |                 |                       |                 |
| Total HpCDF                                  | 0.0000409                  |             |              |            |   |                 |                 |                       |                 |
| Analyst: JMH                                 |                            |             |              |            | Approved By:                                  | Martha M. Maier |                 | 17-Jan-2006 11:16     |                 |

# APPENDIX

Page 7 of 225

# **DATA QUALIFIERS & ABBREVIATIONS**

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

J The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEO Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

# **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number     |
|---|------------------------|
| State of Alaska, DEC                        | CA413-02               |
| State of Arizona                            | AZ0639                 |
| State of Arkansas, DEQ                      | 05-013-0               |
| State of Arkansas, DOH                      | Reciprocity through CA |
| State of California – NELAP Primary AA      | 02102CA                |
| State of Colorado                           |                        |
| State of Connecticut                        | PH-0182                |
| State of Florida, DEP                       | E <b>87777</b>         |
| Commonwealth of Kentucky                    | 90063                  |
| State of Louisiana, Health and Hospitals    | LA050001               |
| State of Louisiana, DEQ                     | 01977                  |
| State of Maine                              | CA0413                 |
| State of Michigan                           | 81178087               |
| State of Mississippi                        | Reciprocity through CA |
| Naval Facilities Engineering Service Center |                        |
| State of Nevada                             | CA413                  |
| State of New Jersey                         | CA003                  |
| State of New Mexico                         | Reciprocity through CA |
| State of New York, DOH                      | 11411                  |
| State of North Carolina                     | 06700                  |
| State of North Dakota, DOH                  | R-078                  |
| State of Oklahoma                           | D9919                  |
| State of Oregon                             | CA200001-002           |
| State of Pennsylvania                       | 68-00490               |
| State of South Carolina                     | 87002001               |
| State of Tennessee                          | 02996                  |
| State of Texas                              | TX247-2005A            |
| U.S. Army Corps of Engineers                |                        |
| State of Utah                               | 9169330940             |
| Commonwealth of Virginia                    | 00013                  |
| State of Washington                         | C1285                  |
| State of Wisconsin                          | 998036160              |
| State of Wyoming                            | 8TMS-Q                 |



1 L Amber (IPA0016-01C) 1 L Amber (IPA0016-01D) 17461 Derian Ave. Suite 100, Irvina, CA 92614 1014 E. Cooley Dr., Suite A. Cotton, CA 92324

Ph (909) 370-4657 Ph (619) 505-9596

Ph (949) 261-1022 Fax (949) 261-1228 Fax (909) 370-1046

Ph (702) 798-3620

# SUBCONTRACT ORDER - PROJECT # IPA0016

| Del Mar Analytical, Irv<br>17461 Derian Avenue.<br>Irvine, CA 92614<br>Phone: (949) 261-1022<br>Fax: (949) 261-1228<br>Project Manager: Miche | Suite 100  | RECEIVING Alta Analytical - SUB 1104 Windfield Way El Dorado Hills, CA 95762 Phone :(916) 933-1640 Fax: (916) 673-0106 | 27128     |
|---|--|--|-----------|
| Standard TAT is requ  | ested unless specific due date is rec                            | quested ⇒ Due Date:  | Initials: |
| Analysis  | Expiration   | Comments   |           |
| Sample ID: IPA0016-01<br>1613-Dioxin-HR-Alta<br>EDD + Level 4   | Water Sampled: 01/02/06 08:-<br>01/09/06 08:45<br>01/30/06 08:45 | Instant Notication J flags,17 congeners,no TEQ,ug/L,su Excel EDD email to pm,Include Std l                             |           |
| Containers Supplied:  |  |  |           |

|  | <br> | ·                 |        | SAMPL   | e integri   | ΓY:  |                             |                                 |
|--|------|-------------------|--------|---|-------------|------|-----------------------------|---------------------------------|
| All containers intact<br>Custody Seals Prese | <br> | □ No<br>□ No<br>) | -      | le labels/COC agree:<br>es Preserved Properly | Yes         | □ No | Samples Received On Ice:: E | l Yes 🖸 No                      |
| (4   | (UI) |                   | 1/3/06 |   | Better      | raiX | Benedict 4 1/4/0            | 6 0935                          |
| Released By                                  | 1    |                   | Date   | Time  | Received By | ,    | Daté / /                    | Time                            |
| Released By                                  |      |                   | Date   | Time  | Received By | 7    | Date                        | Time                            |
| Project 27128                                |      |                   |        |   |             |      |                             | Pa <b>pa</b> gl0 p6 <b>23</b> 5 |

# SAMPLE LOG-IN CHECKLIST

| Alta Project #: | 27 | 28 |
|-----------------|----|----|
| Auta Fivjeoum.  |    |    |

| Samples Arrival: | Date/Time | no 093  | Initials: | IB    | Location:<br>WR - | · Y      |
|------------------|-----------|---------|-----------|-------|-------------------|----------|
| Logged In:       | Date/Time | 142     | Initials: | B     | Location: WR      | -8       |
| Delivered By:    | FedEx     | UPS     | Cal       | DHL   | Hand<br>Delivered | Other    |
| Preservation:    | Ice       | Blu     | ie Ice    | Dry I | ce N              | one      |
| Temp °C          |           | Time: 🕜 | 950       |       | Thermometer II    | D: DT-20 |

|  |      |          |          |          | YES           | NO       | NA   |
|--|------|----------|----------|----------|---------------|----------|------|
| Adequate Sample Volume Received?                                       |      | *        |          |          | V/            |          |      |
| Holding Time Acceptable?   |      |          |          |          | V             | Ì        |      |
| Shipping Container(s) Intact?  |      |          |          |          | V             |          |      |
| Shipping Custody Seals Intact?   |      |          |          |          | V             | <u> </u> |      |
| Shipping Documen:ation Present?  |      |          |          |          | . 1/          |          |      |
|  | 47   | 103 4    | 172      |          | 1/            |          |      |
| Sample Container Intact?   |      |          |          |          | V             | <u> </u> |      |
| Sample Custody Seals Intact?   |      |          | ļ        | <b>✓</b> |               |          |      |
| Chain of Custody / Sample Documer                                      |      | 1        | ļ.,,     | <u> </u> |               |          |      |
| COC Anomaly/Sample Acceptance F  |      |          | <b>/</b> |          |               |          |      |
| If Chlorinated or Drinking Water Sam                                   |      |          |          | V        |               |          |      |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? |      |          | coc      |          | nple<br>ainer | No       | one  |
| Shipping Container   | Alta | (Client) | Retain   | (Re      | turn )        | Dis      | pose |

Comments:

.

# **APPENDIX G**

# **Section 36**

Outfall 010, January 02, 2006 AMEC Data Validation Reports

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

|      |  |   | Package ID                                       | B4MT4  |
|------|--|---|--|--|
| ME   | D <sup>X</sup>                             |   | Task Order                                       | 1261.001 <b>D</b> .01  |
| 1226 | 69 East Vassar Drive                       |   | SDG No.  | IPA0016  |
| Auro | ora, CO 80014                              |   | No. of Analyses                                  | 1  |
|      | Laboratory Del Mar Ar                      | nalytical                               | Date: Februa                                     | ary 3, 2006  |
|      | Reviewer P. Meeks                          |   | Reviewer   | ignature   |
|      | Analysis/Method Metals                     |   | -   p. mes                                       | 7  |
|      |  |   |  |  |
| AC1  | TON ITEMS*                                 |   |  |  |
| -    | Case Narrative                             |   |  |  |
|      | Deficiencies                               |   |  |  |
|      |  |   |  |  |
| 2.   | Out of Scope                               |   |  |  |
|      | Analyses                                   |   |  |  |
|      |  |   | · · · · · · · · · · · · · · · · · · ·            |  |
|      |  |   |  |  |
| 3.   | Analyses Not Conducted                     |   |  |  |
|      |  |   |  |  |
|      |  |   |  |  |
| 4.   | Missing Hardcopy                           |   |  |  |
|      | Deliverables                               |   |  |  |
|      |  | *************************************** |  |  |
|      | <u></u>                                    |   |  |  |
| 5.   | Incorrect Hardcopy                         |   |  | <del></del>  |
|      | Deliverables                               |   |  | <del></del>  |
|      | ,  |   | <del> </del>                                     | <u> </u>   |
| 6.   | Deviations from Analysis                   | Qualification applied for a             | atimam: datacted in                              | the method blank   |
| Ο.   | • •  | Analytes detected below th              | <del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del> |  |
|      | Protocol, e.g.,<br>Holding Times           | Analytes detected below in              | ie reporting mair we                             | or quantica as estimateat.   |
|      | GC/MS Tune/Inst. Performance               |   |  | ······································   |
|      | Calibration                                |   |  |  |
|      | Method blanks                              |   |  |  |
|      | Surrogates                                 |   |  |  |
|      | Matrix Spike/Dup LCS                       | <del></del>                             | ·  |  |
|      | Field QC                                   |   |  | · · · · · · · · · · · · · · · · · · ·  |
|      | Internal Standard Performance              |   |  |  |
|      | Compound Identification                    |   |  | and the first of t |
|      | Quantitation                               |   |  |  |
|      | System Performance                         |   |  |  |
| CO   | MMENTS <sup>b</sup>                        |   |  |  |
|      |  |   |  |  |
|      |  |   |  |  |
|      |  |   |  |  |
| * St | bcontracted analytical laboratory is not n | necting contract and/or method requir   | rements.   |  |

<sup>b</sup> Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



# DATA VALIDATION REPORT

# NPDES Sampling Outfall 010

**ANALYSIS: METALS** 

SAMPLE DELIVERY GROUP IPA0016

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

**NPDES** IPA0016

Analysis:

Metals

DATA VALIDATION REPORT

# 1. INTRODUCTION

Task Order Title:

NPDES Sampling

MEC<sup>X</sup> Project Number:

1261.001D.01

Sample Delivery Group:

**IPA0016** 

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1 0

No. of Reanalyses/Dilutions:

Reviewer: Date of Review: P. Meeks February 3, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

84MT4

Revision 0

Project:

NPDES

SDG: Analysis: IPA0016 Metals

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 010 | IPA0016-01    | Water  | 200.8, 245.1 |

Project:

**NPDES** 

SDG: Analysis: IPA0016 Metals

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

# 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of  $4^{\circ}$ C  $\pm 2^{\circ}$ C. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

## 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

# 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

## 2.4 BLANKS

Antimony was detected in method blank 6A03072-BLK1 at 0.162  $\mu$ g/L; therefore, antimony detected in Outfall 010 was qualified as an estimated nondetect, "UJ." The remaining method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No further qualifications were required.

B4MT4 3 Revision 0

Project:

NPDES

DATA VALIDATION REPORT A

SDG: Analysis:

Metals

# 2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Antimony and lead, which are not present in the ICSA or ICSAB, were detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for lead or antimony, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

# 2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

## 2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

# 2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

#### 2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

## 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No

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Revision 0

Project: NPDES SDG: IPA0016 Analysis: Metals

DATA VALIDATION REPORT

transcription errors or calculation errors were noted. Cadmium detected below the reporting limit was qualified as estimated, "J," and annotated with "DNQ," in accordance with the requirements of the NPDES permit. No further qualifications were required.

#### 2.12 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

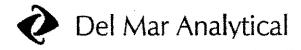
# 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

# 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.

B4MT4 5 Revision 0



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A. Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9464 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 010

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0016

Sampled: 01/02/06

Received: 01/02/06

**METALS** 

|   |              |         | ***          | بيدسد              |        |         |                |          |                  |  |
|---|--------------|---------|--------------|--------------------|--------|---------|----------------|----------|------------------|--|
| Analyte   | Method       | Batch   | MDL<br>Limit | Reporting<br>Limit |        |         | Date Extracted | Date     | Data<br>Ouelifia | rs   |
| Analyte   | Methon       | Daten   | Lillie       | LARIEL             | Wesair | r actor | EAU acteu      | Amaryzeu | Quantie          | iar  |
| Sample ID: IPA0016-01 (Outfall<br>Reporting Units: ug/l | 010 - Water) |         |              |                    |        |         |                |          | Rev<br>Quel      | Code   |
| Antimony  | EPA 200.8    | 6A04084 | 0.050        | 2.0                | 0.47   | 1       | 01/04/06       | 01/05/06 | OJ B, J          | 3  |
| Cadmium   | EPA 200.8    | 6A04084 | 0.025        | 1.0                | 0.042  | 1       | 01/04/06       | 01/05/06 | 21               | DNG  |
| Copper  | EPA 200.8    | 6A04084 | 0.25         | 2.0                | 3.2    | 1       | 01/04/06       | 01/05/06 | В                |  |
| Lead  | EPA 200.8    | 6A04084 | 0.040        | 1.0                | 1.1    | 1       | 01/04/06       | 01/05/06 |                  | apera seria  |
| Mercury   | EPA 245.1    | 6A03072 | 0.050        | 0.20               | ND     | 1       | 01/03/06       | 01/03/06 | U                | de la constitución de la constit |

LEVEL W

Del Mar Analytical, Irvine Amy Windham For Michele Chamberlin Project Manager

|      | CONTRACT COMPI                                | JANCE SCREENING FORM FOR HARDCOPY DATA                              |
|------|---|---|
| ME   | CX, LLC                                       | Package ID <u>B4DF4</u>   |
| 1226 | 50 East Vassar Drive                          | Task Order <u>1261.001.01</u>                                       |
| Suit | e 500   | SDG No. IPA0016   |
| Lake | ewood, CO 80226                               | No. of Analyses 1   |
|      | Laboratory Alta Analy                         | tical Date: February 3, 2006  |
|      | Reviewer E. Wesslin                           |   |
|      | Analysis/Method Dioxins/Fu                    |   |
|      | <u> </u>                                      |   |
| ACT  | 'ION ITEMS'                                   |   |
| •    | Case Narrative                                |   |
|      | Deficiencies                                  |   |
|      |   |   |
| 2.   | Out of Scope                                  |   |
|      | Analyses                                      |   |
|      | A RABORY WALL                                 |   |
|      |   |   |
| 3.   | Analyses Not Conducted                        |   |
|      |   |   |
|      |   |   |
| 4.   | Missing Hardcopy                              |   |
|      | Deliverables                                  |   |
|      |   |   |
|      |   |   |
| 5.   | Incorrect Hardcopy                            |   |
|      | Deliverables                                  |   |
|      |   |   |
|      |   |   |
| 6.   | Deviations from Analysis                      | Qualifications were assigned for the following:                     |
| -    | Protocol, e.g.,                               | estimated values between the RL and the MDL                         |
|      | Holding Times                                 |   |
|      | GC/MS Tune/Inst. Performance                  |   |
|      | Calibration                                   |   |
|      | Method blanks                                 |   |
|      | Surrogates                                    |   |
|      | Matrix Spike/Dup LCS                          |   |
|      | Field QC                                      |   |
|      | Internal Standard Performance                 |   |
|      | Compound Identification                       |   |
|      | Quantitation                                  |   |
|      | System Performance                            |   |
| COI  | MMENTS)                                       |   |
|      |   |   |
|      |   |   |
|      | <u>, , , , , , , , , , , , , , , , , , , </u> |   |
| a St | becontracted analytical laboratory is not n   | neeting contract and/or method requirements.                        |
| bD   | ifferences in protocol have been adopted I    | by the laboratory but no action against the laboratory is required. |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 010

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA0016

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG: Analysis: TTF IPA0016 D/F

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPA0016

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

·

Reviewer

E. Wessling

Date of Review:

February 2, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

TTF

DATA VALIDATION REPORT

Project: SDG: IPA0016 Analysis: D/F

**Table 1. Sample Identification** 

| Sample ID   | Laboratory ID<br>(Del Mar) | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 010 | IPA0016-01                 | 27128-001               | Water  | 1613       |

Project: Analysis:

TTF IPA0016

DATA VALIDATION REPORT

SDG:

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The sample was shipped to Alta for dioxin/furan analysis and was received within the temperature limits of 4°C ±2°C or slightly below. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however not sample custody seals were present. No qualifications were required.

### 2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

#### 2.2 INSTRUMENT PERFORMANCE

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

#### 2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

RADEA

2

Revision 0

Project: TTF SDG: IPA0016 Analysis: D/F

DATA VALIDATION REPORT

#### 2.3 CALIBRATION

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 12/30/2005 on instrument VG-7. The calibration consisted of six concentration level standards (CS1 through CS6) analyzed to verify instrument linearity. The initial calibrations were acceptable with  $RSDs \le 20\%$  for the 16 native compounds (calibration by isotope dilution) and  $\le 35\%$  for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

#### 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

#### 2.4 BLANKS

One method blank (0-7632-MB001) was extracted and analyzed with the sample in this SDG. No compounds were reported in the method blank associated with the site sample. A review of the method blank raw data and chromatograms indicated no false negatives or false positives. No qualifications were required.

### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

B4DF4 4 Revision 0

Project: SDG: TTF

SDG: Analysis: IPA0016 D/F

DATA VALIDATION REPORT

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

#### 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

### 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG. No qualification was required.

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. No qualifications were required.

| Name Project:   Project:   Date Co   Time Co     Date | t.<br>Ollected:<br>Ollected:                               |                                    | -           |   | •  | A A SUM A SUM A A B CA  |                   |  |  |
|---|--|------------------------------------|-------------|---|--|---|-------------------|--|--|
|   |  | Del Mar Analytical, Irvine IPA0016 |             | Matrix.   | Aqueous  | Lab Sample:   | 27128-001         | Date Received  | 4-Jan-06   |
|   | THE REAL PROPERTY AND PERSONS ASSESSED.                    | 2-Jan-06<br>0845                   |             | Sample Size:  | 1.02 L   | QC Batch No.:<br>Date Analyzed DB-5:  | 7632<br>11-Jan-06 | Date Extracted:<br>Date Analyzed DB-225:   | 8-Jan-06<br>NA   |
| <u>a - a - a</u>  | Analyte  | Conc. (ug/L)                       | DL a        | EMPCb   | Qualifiers   | Labeled Standard  |                   | %R LCL-UCL <sup>d</sup>  | d Oualiffers   |
| 444   | 2,3,7,8-TCDD   | ND                                 | 0.000000711 |   |  | IS 13C-2,3,7,8-TCDD   |                   | 76.4 25 - 164  |  |
| 3 4 4   | 1,2,3,7,8-PeCDD  | 2                                  | 4           |   |  | 13C-1,2,3,7,8-PeCDD   | ^                 |  |  |
| 7.4   | 3,4,7,8-HxCDL  | 1,2,3,4,7,8-HxCDD                  | 0.00000178  |   |  | 13C-1,2,3,4,7,8-HxCDD   |                   | 80.3 32 - 141  |  |
| **************************************  | 1,2,3,6,7,8-ttxCDD   | 2                                  |             | 0.00000188  | Communication of the communica | 13C-1,2,3,6,7,8-HxCDD   |                   | :  | \$3<br>3   |
|   | 1234678 H2CDD  |                                    |             |   |  | 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2  |                   | 24.  |  |
| <u> </u>  | OCDD   | 0.000485                           |             |   |  | 13C-23.7.8-TCDF   |                   | 75.6 24 169  |  |
| 2,3,  | 2,3,7,8-TCDF   | 5<br>:                             |             |   |  | 13C-1,2,3,7,8-PeCDF   | à                 |  | v.ii   |
| 1.2   | 1,2,3,7,8-PeCDF  | 2                                  | 0.00000219  |   |  | 13C2,3,4,7,8-PeCDF  |                   | 74.0 21-178  |  |
| 23,   | 2,3,4,7,8-PeCDF  |                                    | 0.00000189  |   |  | 13C-1,2,3,4,7,8-HxCDF   |                   | 75.4 26-152  |  |
| KÝ<br>AT  | 1,2,3,4,7,8-HXCDF  | <b>a</b>                           | 0.00000136  |   |  | 13C-1,2,3,6,7,8-HxCDF   |                   | 71.3 26 - 123  |  |
| 7.7   | 1,2,3,6,7,8-HxCDF  | 2                                  | 10-         | 70 mm - 10 mm |  | 13C-2,3,4,6,7,8-11xCDF  |                   | 77.8 28-136  | 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |
| <b>c</b>  | 4,0,7,8-HXCUF  |                                    | : 12        |   |  | 13C   2,3,7,8,9-HXCDF   |                   | 29 - 147   |  |
|   | 1,2,3,7,8,9-HXCDF  | ON COOLEGE                         | 0.0000      |   | 8  | 13C-1,2,3,4,6,7,8-HpCDF   |                   | 73.2 28 - 143  |  |
| 1 C   | 1.2.3.4.7.8.0.14.0.2.7.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 |                                    | O MOOUD     |   |  | 13C OCDE  |                   | 20-158   |  |
| · 통   | OCDE   |                                    | . 44        |   | 145,4<br>1   | CRS 37CF-2.3,7,8-TCDD 78.3  | ×                 | 78.3 35 4197   |  |
| Totals  | ais  |                                    |             |   |  | Footnotes   |                   | Andrea de la companya de la company | And Annie (Annie Annie Ann   |
| Total   | Total TCDD Total PeCDD                                     | Q Q                                | 0.00000711  |   |  | a. Sample specific estimated detection limit.  b. Estimated they imain possible concentration | stection limit.   |  | erio antidia reservata de la constante de la c |
| ğ   |  | 0.00000640                         |             | i i   |  | c. Method detection limit.  |                   |  |  |
| 5 5   | Total TCDF   | ZTT00000                           | 7960000000  | ."  |  | d. Lower confrol limit - upper control limit.   | South of limit.   | :  |  |
| Tota  | Total PeCDF  | QN                                 | 0.00000204  |   |  |   |                   |  |  |
| 75  | Total HxCDF  | 2                                  | 0.00000152  |   |  | ü   |                   |  |  |
| 101   | I offail HIPCDF  | 0.0000409                          |             |   | **************************************   |   |                   | han yaldus an da da aanaa  | P TO THE PROPERTY OF THE PARTY  |

Project 27128

NPDES 1678

# APPENDIX G

# **Section 37**

Outfall 011, January 03, 2006

Del Mar Analytical Laboratory Report



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-856 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3620

### LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: Quarterly Outfall 011

Sampled: 01/03/06 Received: 01/03/06 Issued: 01/26/06 14:44

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 9°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:

Refer to the last page for specific subcontract laboratory information included in this report.

ADDITIONAL

INFORMATION:

Insufficient sample volume was used in the dilutions for the BOD analysis. The result reported is an

estimated value of the concentration.

LABORATORY ID

CLIENT ID

MATRIX

IPA0103-01

Outfall 011

Water

Reviewed By:

Del Mar Analytical, Irvine

Michele Chamberlin

Michele Chamberlin Project Manager



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

### CORRECTIVE ACTION REPORT

Department: Extractions

Date: 01/18/2006

Method: EPA 625

Matrix: Water

QC Batch: 6A09061

#### Identification and Definition of Problem:

The percent recovery for the "L2"-qualified analytes in the Blank Spike Duplicate sample was below QC acceptance limits.

#### Determination of the Cause of the Problem:

A definitive cause for the QC failure has not been determined.

#### Corrective Action Taken:

All results reported for affected analytes are potentially biased low and can be considered estimates only.

Quality Assurance Approval:

Thong Vu

Date: 01/24/2006 05:18 PM

awah



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Pasadena, CA 91101 Report Number: IPA0103 Received: 01/03/06

Attention: Bronwyn Kelly

### **PURGEABLES BY GC/MS (EPA 624)**

| Analyte                                    | Method  | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date     | Data<br>Qualifiers |
|--|---------|---------|--------------|--------------------|------------------|--------------------|-------------------|----------|--------------------|
| Anaiyic                                    | Method  | Datta   | THREE        | MINIT              | Resuit           | racior             | Extracted         | Analyzed | Quanners           |
| Sample ID: IPA0103-01 (Outfall 011 - Water | er)     |         |              |                    |                  |                    |                   |          |                    |
| Reporting Units: ug/l                      |         |         |              |                    |                  |                    |                   |          |                    |
| Benzene                                    | EPA 624 | 6A05005 | 0.28         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Trichlorotrifluoroethane (Freon 113)       | EPA 624 | 6A05005 | 1.2          | 5.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Carbon tetrachloride                       | EPA 624 | 6A05005 | 0.28         | 5.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Chloroform                                 | EPA 624 | 6A05005 | 0.33         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| 1,1-Dichloroethane                         | EPA 624 | 6A05005 | 0.27         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| 1,2-Dichloroethane                         | EPA 624 | 6A05005 | 0.28         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| 1,1-Dichloroethene                         | EPA 624 | 6A05005 | 0.42         | 3.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Ethylbenzene                               | EPA 624 | 6A05005 | 0.25         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Tetrachloroethene                          | EPA 624 | 6A05005 | 0.32         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Toluene                                    | EPA 624 | 6A05005 | 0.36         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| 1,1,1-Trichloroethane                      | EPA 624 | 6A05005 | 0.30         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| 1,1,2-Trichloroethane                      | EPA 624 | 6A05005 | 0.30         | 2.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Trichloroethene                            | EPA 624 | 6A05005 | 0.26         | 5.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Trichlorofluoromethane                     | EPA 624 | 6A05005 | 0.34         | 5.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Vinyl chloride                             | EPA 624 | 6A05005 | 0.26         | 5.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Xylenes, Total                             | EPA 624 | 6A05005 | 0.52         | 4.0                | ND               | 1                  | 01/05/06          | 01/05/06 |                    |
| Surrogate: Dibromofluoromethane (80-120%)  | )       |         |              |                    | 110 %            |                    |                   |          |                    |
| Surrogate: Toluene-d8 (80-120%)            |         |         |              |                    | 103 %            |                    |                   |          |                    |
| Surrogate: 4-Bromofluorobenzene (80-120%)  |         |         |              |                    | 104 %            |                    |                   |          |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Pasadena, CA 91101 Report Number: IPA0103 Received: 01/03/06

Attention: Bronwyn Kelly

### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

| Analyte                                    | Method      | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|-------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 - Water | er) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                      |             |         |              |                    |                  |                    |                   |                  |                    |
| Bis(2-ethylhexyl)phthalate                 | EPA 625     | 6A09061 | 1.1          | 5.0                | 2.2              | 1                  | 01/09/06          | 01/12/06         | B, J               |
| 2,4-Dinitrotoluene                         | EPA 625     | 6A09061 | 0.23         | 9.0                | ND               | 1                  | 01/09/06          | 01/12/06         | L2                 |
| N-Nitrosodimethylamine                     | EPA 625     | 6A09061 | 0.22         | 8.0                | ND               | 1                  | 01/09/06          | 01/12/06         |                    |
| Pentachlorophenol                          | EPA 625     | 6A09061 | 0.78         | 8.0                | ND               | 1                  | 01/09/06          | 01/12/06         | L2                 |
| 2,4,6-Trichlorophenol                      | EPA 625     | 6A09061 | 0.10         | 6.0                | ND               | 1                  | 01/09/06          | 01/12/06         |                    |
| Surrogate: 2-Fluorophenol (30-120%)        |             |         |              |                    | 61%              |                    |                   |                  |                    |
| Surrogate: Phenol-d6 (35-120%)             |             |         |              |                    | 73 %             |                    |                   |                  |                    |
| Surrogate: 2,4,6-Tribromophenol (45-120%)  |             |         |              |                    | 84 %             |                    |                   |                  |                    |
| Surrogate: Nitrobenzene-d5 (45-120%)       |             |         |              |                    | 81 %             |                    |                   |                  |                    |
| Surrogate: 2-Fluorobiphenyl (45-120%)      |             |         |              |                    | 73 %             |                    |                   |                  |                    |
| Surrogate: Terphenyl-d14 (45-120%)         |             |         |              |                    | 74 %             |                    |                   |                  |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

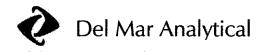
Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

### **ORGANOCHLORINE PESTICIDES (EPA 608)**

| Analyte                                    | Method     | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 - Water | r) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                      |            |         |              |                    |                  |                    |                   |                  |                    |
| alpha-BHC                                  | EPA 608    | 6A07025 | 0.00095      | 0.0095             | ND               | 0.952              | 01/07/06          | 01/09/06         |                    |
| Surrogate: Decachlorobiphenyl (45-120%)    |            |         |              |                    | 69 %             |                    |                   |                  |                    |
| Surrogate: Tetrachloro-m-xylene (35-115%)  |            |         |              |                    | 57 %             |                    |                   |                  |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

**METALS** 

|                                    |                  | *       | ******       | ~~                 |                  |                    |                   |                  |                    |
|------------------------------------|------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Analyte                            | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
| Sample ID: IPA0103-01 (Outfall 011 | - Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l              |                  |         |              |                    |                  |                    |                   |                  |                    |
| Copper                             | EPA 200.8        | 6A04084 | 0.49         | 2.0                | 8.3              | 1                  | 01/04/06          | 01/05/06         |                    |
| Lead                               | EPA 200.8        | 6A04084 | 0.13         | 1.0                | 8.8              | 1                  | 01/04/06          | 01/05/06         |                    |
| Mercury                            | EPA 245.1        | 6A04080 | 0.063        | 0.20               | ND               | 1                  | 01/04/06          | 01/04/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Pasadena, CA 91101 Report Number: IPA0103 Received: 01/03/06

Attention: Bronwyn Kelly

| Analyte                            | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|------------------------------------|------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 | - Water) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: mg/l              |                  |         |              |                    |                  |                    |                   |                  |                    |
| Ammonia-N (Distilled)              | EPA 350.2        | 6A05098 | 0.30         | 0.50               | ND               | 1                  | 01/05/06          | 01/05/06         |                    |
| Biochemical Oxygen Demand          | EPA 405.1        | 6A05070 | 0.59         | 2.0                | 2.7              | 1                  | 01/05/06          | 01/10/06         | K                  |
| Chloride                           | EPA 300.0        | 6A03051 | 0.26         | 0.50               | 24               | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Cyanide                      | EPA 335.2        | 6A06111 | 0.0022       | 0.0050             | ND               | 1                  | 01/06/06          | 01/09/06         |                    |
| Nitrate/Nitrite-N                  | EPA 300.0        | 6A03051 | 0.080        | 0.15               | 1.5              | 1                  | 01/03/06          | 01/03/06         |                    |
| Oil & Grease                       | EPA 413.1        | 6A09050 | 0.99         | 5.3                | 2.7              | 1                  | 01/09/06          | 01/09/06         | J                  |
| Sulfate                            | EPA 300.0        | 6A03051 | 0.18         | 0.50               | 41               | 1                  | 01/03/06          | 01/03/06         |                    |
| Surfactants (MBAS)                 | EPA 425.1        | 6A03114 | 0.044        | 0.10               | ND               | 1                  | 01/03/06          | 01/03/06         |                    |
| Total Dissolved Solids             | EPA 160.1        | 6A04107 | 10           | 10                 | 220              | 1                  | 01/04/06          | 01/04/06         |                    |
| Total Suspended Solids             | EPA 160.2        | 6A06118 | 10           | 10                 | 48               | l                  | 01/06/06          | 01/06/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Pasadena, CA 91101 Report Number: IPA0103 Received: 01/03/06

Attention: Bronwyn Kelly

| Analyte   | Method       | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result |   | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|---|--------------|---------|--------------|--------------------|------------------|---|-------------------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 - Wa             | ter) - cont. |         |              |                    |                  |   |                   |                  |                    |
| Reporting Units: ml/l/hr<br>Total Settleable Solids | EPA 160.5    | 6A04072 | 0.10         | 0.10               | 0.50             | 1 | 01/04/06          | 01/04/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

| Analyte   | Method                   | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|---|--------------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 - W<br>Reporting Units: NTU<br>Turbidity | ater) - cont.  EPA 180.1 | 6A04071 | 0.20         | 5.0                | 72               | 5                  | 01/04/06          | 01/04/06         |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Pasadena, CA 91101 Report Number: IPA0103 Received: 01/03/06

Attention: Bronwyn Kelly

| Analyte                                  | Method       | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifiers |
|--|--------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 - Was | ter) - cont. |         |              |                    |                  |                    |                   |                  |                    |
| Reporting Units: ug/l                    |              |         |              |                    |                  |                    |                   |                  |                    |
| Perchlorate                              | EPA 314.0    | 6A04078 | 0.80         | 4.0                | ND               | 1                  | 01/04/06          | 01/04/06         |                    |



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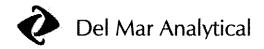
Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

| Analyte   | Method       | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor |          | Date<br>Analyzed | Data<br>Qualifiers |
|---|--------------|---------|--------------|--------------------|------------------|--------------------|----------|------------------|--------------------|
| Sample ID: IPA0103-01 (Outfall 011 - Wa           | ter) - cont. |         |              |                    |                  |                    |          |                  |                    |
| Reporting Units: umhos/cm<br>Specific Conductance | EPA 120.1    | 6A04105 | 1.0          | 1.0                | 380              | 1                  | 01/04/06 | 01/04/06         |                    |



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Project ID: Quarterly Outfall 011 MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06 Report Number: IPA0103 Received: 01/03/06 Pasadena, CA 91101

Attention: Bronwyn Kelly

### SHORT HOLD TIME DETAIL REPORT

| Sample ID: Outfall 011 (IPA0103-01) - Wate | Hold Time<br>(in days)<br>r | Date/Time<br>Sampled | Date/Time<br>Received | Date/Time<br>Extracted | Date/Time<br>Analyzed |
|--|-----------------------------|----------------------|-----------------------|------------------------|-----------------------|
| EPA 160.5                                  | 2                           | 01/03/2006 08:45     | 01/03/2006 18:00      | 01/04/2006 09:18       | 01/04/2006 10:30      |
| EPA 180.1                                  | 2                           | 01/03/2006 08:45     | 01/03/2006 18:00      | 01/04/2006 14:30       | 01/04/2006 16:00      |
| EPA 300.0                                  | 2                           | 01/03/2006 08:45     | 01/03/2006 18:00      | 01/03/2006 20:30       | 01/03/2006 21:51      |
| EPA 405.1                                  | 2                           | 01/03/2006 08:45     | 01/03/2006 18:00      | 01/05/2006 08:15       | 01/10/2006 08:30      |
| EPA 425.1                                  | 2                           | 01/03/2006 08:45     | 01/03/2006 18:00      | 01/03/2006 21:20       | 01/03/2006 22:46      |

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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

### METHOD BLANK/QC DATA

### **PURGEABLES BY GC/MS (EPA 624)**

|                                      |         | Reporting |      |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|--------------------------------------|---------|-----------|------|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                              | Result  | Limit     | MDL  | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05005 Extracted: 01/05      | 5/06    |           |      |       |       |        |      |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A0500   | 5-BLK1) |           |      |       |       |        |      |        |     |       |            |
| Benzene                              | ND      | 2.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| Trichlorotrifluoroethane (Freon 113) | ND      | 5.0       | 1.2  | ug/l  |       |        |      |        |     |       |            |
| Carbon tetrachloride                 | ND      | 5.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| Chloroform                           | ND      | 2.0       | 0.33 | ug/l  |       |        |      |        |     |       |            |
| 1,1-Dichloroethane                   | ND      | 2.0       | 0.27 | ug/l  |       |        |      |        |     |       |            |
| 1,2-Dichloroethane                   | ND      | 2.0       | 0.28 | ug/l  |       |        |      |        |     |       |            |
| 1,1-Dichloroethene                   | ND      | 3.0       | 0.42 | ug/l  |       |        |      |        |     |       |            |
| Ethylbenzene                         | ND      | 2.0       | 0.25 | ug/l  |       |        |      |        |     |       |            |
| Tetrachloroethene                    | ND      | 2.0       | 0.32 | ug/l  |       |        |      |        |     |       |            |
| Toluene                              | ND      | 2.0       | 0.36 | ug/l  |       |        |      |        |     |       |            |
| 1,1,1-Trichloroethane                | ND      | 2.0       | 0.30 | ug/l  |       |        |      |        |     |       |            |
| 1,1,2-Trichloroethane                | ND      | 2.0       | 0.30 | ug/l  |       |        |      |        |     |       |            |
| Trichloroethene                      | ND      | 5.0       | 0.26 | ug/l  |       |        |      |        |     |       |            |
| Trichlorofluoromethane               | ND      | 5.0       | 0.34 | ug/l  |       |        |      |        |     |       |            |
| Vinyl chloride                       | ND      | 5.0       | 0.26 | ug/l  |       |        |      |        |     |       |            |
| Xylenes, Total                       | ND      | 4.0       | 0.52 | ug/l  |       |        |      |        |     |       |            |
| Surrogate: Dibromofluoromethane      | 26.1    |           |      | ug/l  | 25.0  |        | 104  | 80-120 |     |       |            |
| Surrogate: Toluene-d8                | 25.8    |           |      | ug/l  | 25.0  |        | 103  | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene      | 25.2    |           |      | ug/l  | 25.0  |        | 101  | 80-120 |     |       |            |
| LCS Analyzed: 01/05/2006 (6A05005-   | ·BS1)   |           |      |       |       |        |      |        |     |       |            |
| Benzene                              | 24.6    | 2.0       | 0.28 | ug/l  | 25.0  |        | 98   | 65-120 |     |       |            |
| Carbon tetrachloride                 | 25.1    | 5.0       | 0.28 | ug/l  | 25.0  |        | 100  | 65-140 |     |       |            |
| Chloroform                           | 24.2    | 2.0       | 0.33 | ug/l  | 25.0  |        | 97   | 65-130 |     |       |            |
| 1,1-Dichloroethane                   | 24.4    | 2.0       | 0.27 | ug/l  | 25.0  |        | 98   | 65-130 |     |       |            |
| 1,2-Dichloroethane                   | 23.3    | 2.0       | 0.28 | ug/l  | 25.0  |        | 93   | 60-140 |     |       |            |
| 1,1-Dichloroethene                   | 23.8    | 3.0       | 0.42 | ug/l  | 25.0  |        | 95   | 70-130 |     |       |            |
| Ethylbenzene                         | 25.9    | 2.0       | 0.25 | ug/i  | 25.0  |        | 104  | 70-125 |     |       |            |
| Tetrachloroethene                    | 24.3    | 2.0       | 0.32 | ug/l  | 25.0  |        | 97   | 65-125 |     |       |            |
| Toluene                              | 24.1    | 2.0       | 0.36 | ug/l  | 25.0  |        | 96   | 70-125 |     |       |            |
| 1,1,1-Trichloroethane                | 24.5    | 2.0       | 0.30 | ug/l  | 25.0  |        | 98   | 65-135 |     |       |            |
| 1,1,2-Trichloroethane                | 22.1    | 2.0       | 0.30 | ug/l  | 25.0  |        | 88   | 65-125 |     |       |            |
| Trichloroethene                      | 25.4    | 5.0       | 0.26 | ug/l  | 25.0  |        | 102  | 70-125 |     |       |            |
| Trichlorofluoromethane               | 20.5    | 5.0       | 0.34 | ug/l  | 25.0  |        | 82   | 60-140 |     |       |            |
| Vinyl chloride                       | 19.4    | 5.0       | 0.26 | ug/l  | 25.0  |        | 78   | 50-130 |     |       |            |
| Surrogate: Dibromofluoromethane      | 26.1    |           |      | ug/l  | 25.0  |        | 104  | 80-120 |     |       |            |
|                                      |         |           |      |       |       |        |      |        |     |       |            |

Del Mar Analytical, Irvine

Michele Chamberlin

Project Manager

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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

### METHOD BLANK/QC DATA

### **PURGEABLES BY GC/MS (EPA 624)**

|   |             | Reporting |      |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|-------------|-----------|------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit     | MDL  | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05005 Extracted: 01/05/06      | _           |           |      |       |       |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A05005-BS)   | l)          |           |      |       |       |           |        |        |     |       |            |
| Surrogate: Toluene-d8                   | 26.0        |           |      | ug/l  | 25.0  |           | 104    | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene         | 25.9        |           |      | ug/l  | 25.0  |           | 104    | 80-120 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A0: | 5005-MS1)   |           |      |       | Sour  | rce: IPA0 | 009-01 |        |     |       |            |
| Benzene                                 | 22.4        | 2.0       | 0.28 | ug/l  | 25.0  | ND        | 90     | 60-125 |     |       |            |
| Carbon tetrachloride                    | 23.5        | 5.0       | 0.28 | ug/l  | 25.0  | ND        | 94     | 65-140 |     |       |            |
| Chloroform                              | 23.1        | 2.0       | 0.33 | ug/l  | 25.0  | ND        | 92     | 65-135 |     |       |            |
| 1,1-Dichloroethane                      | 23.0        | 2.0       | 0.27 | ug/l  | 25.0  | ND        | 92     | 60-130 |     |       |            |
| 1,2-Dichloroethane                      | 21.2        | 2.0       | 0.28 | ug/l  | 25.0  | ND        | 85     | 60-140 |     |       |            |
| 1,1-Dichloroethene                      | 22.2        | 3.0       | 0.42 | ug/l  | 25.0  | ND        | 89     | 60-135 |     |       |            |
| Ethylbenzene                            | 24.6        | 2.0       | 0.25 | ug/l  | 25.0  | ND        | 98     | 65-130 |     |       |            |
| Tetrachloroethene                       | 22.5        | 2.0       | 0.32 | ug/l  | 25.0  | ND        | 90     | 60-130 |     |       |            |
| Toluene                                 | 22.1        | 2.0       | 0.36 | ug/l  | 25.0  | ND        | 88     | 65-125 |     |       |            |
| 1,1,1-Trichloroethane                   | 23.6        | 2.0       | 0.30 | ug/l  | 25.0  | ND        | 94     | 65-140 |     |       |            |
| 1,1,2-Trichloroethane                   | 19.7        | 2.0       | 0.30 | ug/l  | 25.0  | ND        | 79     | 60-130 |     |       |            |
| Trichloroethene                         | 22.7        | 5.0       | 0.26 | ug/l  | 25.0  | ND        | 91     | 60-125 |     |       |            |
| Trichlorofluoromethane                  | 20.0        | 5.0       | 0.34 | ug/l  | 25.0  | ND        | 80     | 55-145 |     |       |            |
| Vinyl chloride                          | 18.3        | 5.0       | 0.26 | ug/l  | 25.0  | ND        | 73     | 40-135 |     |       |            |
| Surrogate: Dibromofluoromethane         | 27.3        |           |      | ug/l  | 25.0  |           | 109    | 80-120 |     |       |            |
| Surrogate: Toluene-d8                   | 26.1        |           |      | ug/l  | 25.0  |           | 104    | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene         | 26.8        |           |      | ug/l  | 25.0  |           | 107    | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/05/2006 ( | 6A05005-MSE | 1)        |      |       | Sour  | ce: IPA00 | 009-01 |        |     |       |            |
| Benzene                                 | 22.0        | 2.0       | 0.28 | ug/l  | 25.0  | ND        | 88     | 60-125 | 2   | 20    |            |
| Carbon tetrachloride                    | 22.4        | 5.0       | 0.28 | ug/l  | 25.0  | ND        | 90     | 65-140 | 5   | 25    |            |
| Chloroform                              | 22.0        | 2.0       | 0.33 | ug/I  | 25.0  | ND        | 88     | 65-135 | 5   | 20    |            |
| 1,1-Dichloroethane                      | 22.0        | 2.0       | 0.27 | ug/l  | 25.0  | ND        | 88     | 60-130 | 4   | 20    |            |
| 1,2-Dichloroethane                      | 20.5        | 2.0       | 0.28 | ug/l  | 25.0  | ND        | 82     | 60-140 | 3   | 20    |            |
| 1,1-Dichloroethene                      | 21.5        | 3.0       | 0.42 | ug/l  | 25.0  | ND        | 86     | 60-135 | 3   | 20    |            |
| Ethylbenzene                            | 23.5        | 2.0       | 0.25 | ug/l  | 25.0  | ND        | 94     | 65-130 | 5   | 20    |            |
| Tetrachloroethene                       | 21.7        | 2.0       | 0.32 | ug/l  | 25.0  | ND        | 87     | 60-130 | 4   | 20    |            |
| Toluene                                 | 21.9        | 2.0       | 0.36 | ug/l  | 25.0  | ND        | 88     | 65-125 | 1   | 20    |            |
| 1,1,1-Trichloroethane                   | 22.2        | 2.0       | 0.30 | ug/I  | 25.0  | ND        | 89     | 65-140 | 6   | 20    |            |
| 1,1,2-Trichloroethane                   | 20.1        | 2.0       | 0.30 | ug/I  | 25.0  | ND        | 80     | 60-130 | 2   | 25    |            |
| Trichloroethene                         | 21.6        | 5.0       | 0.26 | ug/l  | 25.0  | ND        | 86     | 60-125 | 5   | 20    |            |
| Trichlorofluoromethane                  | 18.4        | 5.0       | 0.34 | ug/l  | 25.0  | ND        | 74     | 55-145 | 8   | 25    |            |

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Project Manager



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

### METHOD BLANK/QC DATA

### **PURGEABLES BY GC/MS (EPA 624)**

|                                      |              | Reporting |      |       | Spike | Source    |         | %REC   |     | RPD   | Data       |
|--------------------------------------|--------------|-----------|------|-------|-------|-----------|---------|--------|-----|-------|------------|
| Analyte                              | Result       | Limit     | MDL  | Units | Level | Result    | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A05005 Extracted: 01/05/0    | <u>)6</u>    |           |      |       |       |           |         |        |     |       |            |
| Matrix Spike Dup Analyzed: 01/05/200 | 6 (6405005_M | ISD1)     |      |       | Son   | rce: IPA( | 1000_01 |        |     |       |            |
| * * *                                | •            | •         |      |       |       |           |         |        |     |       |            |
| Vinyl chloride                       | 17.3         | 5.0       | 0.26 | ug/l  | 25.0  | ND        | 69      | 40-135 | 6   | 30    |            |
| Surrogate: Dibromosluoromethane      | 26.6         |           |      | ug/l  | 25.0  |           | 106     | 80-120 |     |       |            |
| Surrogate: Toluene-d8                | 26.2         |           |      | ug/l  | 25.0  |           | 105     | 80-120 |     |       |            |
| Surrogate: 4-Bromofluorobenzene      | 26.2         |           |      | ug/l  | 25.0  |           | 105     | 80-120 |     |       |            |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0103

Attention: Bronwyn Kelly

Sampled: 01/03/06 Received: 01/03/06

### METHOD BLANK/QC DATA

### ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|                                      |            | Reporting |      |       | Spike | Source |           | %REC   |     | RPD   | Data       |
|--------------------------------------|------------|-----------|------|-------|-------|--------|-----------|--------|-----|-------|------------|
| Analyte                              | Result     | Limit     | MDL  | Units | Level | Result | %REC      | Limits | RPD | Limit | Qualifiers |
| Batch: 6A09061 Extracted: 01/09/0    | <u> 16</u> |           |      |       |       |        |           |        |     |       |            |
| Blank Analyzed: 01/11/2006 (6A09061- | BLK1)      |           |      |       |       |        |           |        |     |       |            |
| Bis(2-ethylhexyl)phthalate           | 2.20       | 5.0       | 1.1  | ug/l  |       |        |           |        |     |       | J          |
| 2,4-Dinitrotoluene                   | ND         | 9.0       | 0.23 | ug/l  |       |        |           |        |     |       |            |
| N-Nitrosodimethylamine               | ND         | 8.0       | 0.22 | ug/l  |       |        |           |        |     |       |            |
| Pentachlorophenol                    | ND         | 8.0       | 0.78 | ug/l  |       |        |           |        |     |       |            |
| 2,4,6-Trichlorophenol                | ND         | 6.0       | 0.10 | ug/l  |       |        |           |        |     |       |            |
| Surrogate: 2-Fluorophenol            | 12.7       |           |      | ug/l  | 20.0  |        | 64        | 30-120 |     |       |            |
| Surrogate: Phenol-d6                 | 15.4       |           |      | ug/l  | 20.0  |        | 77        | 35-120 |     |       |            |
| Surrogate: 2,4,6-Tribromophenol      | 17.5       |           |      | ug/l  | 20.0  |        | 88        | 45-120 |     |       |            |
| Surrogate: Nitrobenzene-d5           | 8.74       |           |      | ug/l  | 10.0  |        | 87        | 45-120 |     |       |            |
| Surrogate: 2-Fluorobiphenyl          | 8.20       |           |      | ug/l  | 10.0  |        | 82        | 45-120 |     |       |            |
| Surrogate: Terphenyl-d14             | 7.84       |           |      | ug/l  | 10.0  |        | <i>78</i> | 45-120 |     |       |            |
| LCS Analyzed: 01/11/2006 (6A09061-B  | S1)        |           |      |       |       |        |           |        |     |       | M-NR1      |
| Bis(2-ethylhexyl)phthalate           | 9.16       | 5.0       | 1.1  | ug/l  | 10.0  |        | 92        | 60-130 |     |       |            |
| 2,4-Dinitrotoluene                   | 7.54       | 9.0       | 0.23 | ug/l  | 10.0  |        | 75        | 60-120 |     |       | J          |
| N-Nitrosodimethylamine               | 6.72       | 8.0       | 0.22 | ug/l  | 10.0  |        | 67        | 40-120 |     |       | J          |
| Pentachlorophenol                    | 10.3       | 8.0       | 0.78 | ug/l  | 10.0  |        | 103       | 50-120 |     |       |            |
| 2,4,6-Trichlorophenol                | 7.32       | 6.0       | 0.10 | ug/l  | 10.0  |        | 73        | 60-120 |     |       |            |
| Surrogate: 2-Fluorophenol            | 11.7       |           |      | ug/l  | 20.0  |        | 58        | 30-120 |     |       |            |
| Surrogate: Phenol-d6                 | 13.8       |           |      | ug/l  | 20.0  |        | 69        | 35-120 |     |       |            |
| Surrogate: 2,4,6-Tribromophenol      | 16.3       |           |      | ug/l  | 20.0  |        | 82        | 45-120 |     |       |            |
| Surrogate: Nitrobenzene-d5           | 7.76       |           |      | ug/l  | 10.0  |        | 78        | 45-120 |     |       |            |
| Surrogate: 2-Fluorobiphenyl          | 7.22       |           |      | ug/l  | 10.0  |        | 72        | 45-120 |     |       |            |
| Surrogate: Terphenyl-d14             | 6.74       |           |      | ug/l  | 10.0  |        | 67        | 45-120 |     |       |            |
| LCS Dup Analyzed: 01/11/2006 (6A0906 | 51-BSD1)   |           |      |       |       |        |           |        |     |       |            |
| Bis(2-ethylhexyl)phthalate           | 7.56       | 5.0       | 1.1  | ug/l  | 10.0  |        | 76        | 60-130 | 19  | 20    |            |
| 2,4-Dinitrotoluene                   | 5.86       | 9.0       | 0.23 | ug/l  | 10.0  |        | 59        | 60-120 | 25  | 20    | J, R-2, L2 |
| N-Nitrosodimethylamine               | 5.38       | 8.0       | 0.22 | ug/l  | 10.0  |        | 54        | 40-120 | 22  | 20    | J, R-7     |
| Pentachlorophenol                    | 3.02       | 8.0       | 0.78 | ug/l  | 10.0  |        | 30        | 50-120 | 109 | 25    | J, L2, R-2 |
| 2,4,6-Trichlorophenol                | 6.24       | 6.0       | 0.10 | ug/l  | 10.0  |        | 62        | 60-120 | 16  | 20    |            |
| Surrogate: 2-Fluorophenol            | 9.70       |           |      | ug/l  | 20.0  |        | 48        | 30-120 |     |       |            |
| Surrogate: Phenol-d6                 | 11.4       |           |      | ug/l  | 20.0  |        | 57        | 35-120 |     |       |            |
| Surrogate: 2,4,6-Tribromophenol      | 14.0       |           |      | ug/l  | 20.0  |        | 70        | 45-120 |     |       |            |
| Surrogate: Nitrobenzene-d5           | 6.04       |           |      | ug/l  | 10.0  |        | 60        | 45-120 |     |       |            |
| Surrogate: 2-Fluorobiphenyl          | 5.76       |           |      | ug/l  | 10.0  |        | 58        | 45-120 |     |       |            |

Del Mar Analytical, Irvine

Michele Chamberlin Project Manager



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

Attention: Bronwyn Kelly

### METHOD BLANK/QC DATA

## ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

|                                    |          | Reporting |     |       | Spike | Source |      | %REC   |     | RPD   | Data       |
|------------------------------------|----------|-----------|-----|-------|-------|--------|------|--------|-----|-------|------------|
| Analyte                            | Result   | Limit     | MDL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 6A09061 Extracted: 01/09/00 | <u>5</u> |           |     |       |       |        |      |        |     |       |            |
|                                    |          |           |     |       |       |        |      |        |     |       |            |

LCS Dup Analyzed: 01/11/2006 (6A09061-BSD1)

Surrogate: Terphenyl-d14 10.0 53 45-120



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

### METHOD BLANK/QC DATA

## **ORGANOCHLORINE PESTICIDES (EPA 608)**

| Analyte                               | Result  | Reporting<br>Limit | MDL    | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---------------------------------------|---------|--------------------|--------|-------|----------------|------------------|------|----------------|-----|--------------|--------------------|
| Batch: 6A07025 Extracted: 01/07/06    | <u></u> |                    |        |       |                |                  |      |                |     |              |                    |
| Blank Analyzed: 01/09/2006 (6A07025-B | LK1)    |                    |        |       |                |                  |      |                |     |              |                    |
| alpha-BHC                             | ND      | 0.010              | 0.0010 | ug/l  |                |                  |      |                |     |              |                    |
| Surrogate: Decachlorobiphenyl         | 0.435   |                    |        | ug/l  | 0.500          |                  | 87   | 45-120         |     |              |                    |
| Surrogate: Tetrachloro-m-xylene       | 0.373   |                    |        | ug/l  | 0.500          |                  | 75   | 35-115         |     |              |                    |
| LCS Analyzed: 01/09/2006 (6A07025-BS) | 1)      |                    |        |       |                |                  |      |                |     |              | M-NR1              |
| alpha-BHC                             | 0.433   | 0.010              | 0.0010 | ug/l  | 0.500          |                  | 87   | 45-120         |     |              |                    |
| Surrogate: Decachlorobiphenyl         | 0.446   |                    |        | ug/l  | 0.500          |                  | 89   | 45-120         |     |              |                    |
| Surrogate: Tetrachloro-m-xylene       | 0.369   |                    |        | ug/l  | 0.500          |                  | 74   | 35-115         |     |              |                    |
| LCS Dup Analyzed: 01/09/2006 (6A07025 | S-BSD1) |                    |        |       |                |                  |      |                |     |              |                    |
| alpha-BHC                             | 0.426   | 0.010              | 0.0010 | ug/l  | 0.500          |                  | 85   | 45-120         | 2   | 30           |                    |
| Surrogate: Decachlorobiphenyl         | 0.460   |                    |        | ug/l  | 0.500          |                  | 92   | 45-120         |     |              |                    |
| Surrogate: Tetrachloro-m-xylene       | 0.373   |                    |        | ug/l  | 0.500          |                  | 75   | 35-115         |     |              |                    |



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

### METHOD BLANK/QC DATA

### **METALS**

|   |             | Reporting   |       |       | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|-------------|-------------|-------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit       | MDL   | Units | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04080 Extracted: 01/04/06      | -           |             |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04080-Bl  | LK1)        |             |       |       |       |           |        |        |     |       |            |
| Mercury                                 | ND          | 0.20        | 0.050 | ug/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/04/2006 (6A04080-BS1   | 1)          |             |       |       |       |           |        |        |     |       |            |
| Mercury                                 | 8.40        | 0.20        | 0.050 | ug/l  | 8.00  |           | 105    | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/04/2006 (6A04 | (080-MS1)   |             |       |       | Sou   | rce: IPA0 | 079-01 |        |     |       |            |
| Mercury                                 | 8.03        | 0.20        | 0.050 | ug/l  | 8.00  | ND        | 100    | 70-130 |     |       |            |
| Matrix Spike Dup Analyzed: 01/04/2006 ( | (6A04080-MS | <b>D</b> 1) |       |       | Sour  | rce: IPA0 | 079-01 |        |     |       |            |
| Mercury                                 | 8.17        | 0.20        | 0.050 | ug/l  | 8.00  | ND        | 102    | 70-130 | 2   | 20    |            |
| Batch: 6A04084 Extracted: 01/04/06      |             |             |       |       |       |           |        |        |     |       |            |
| Blank Analyzed: 01/05/2006 (6A04084-BI  | LK1)        |             |       |       |       |           |        |        |     |       |            |
| Copper                                  | 0.321       | 2.0         | 0.25  | ug/l  |       |           |        |        |     |       | J          |
| Lead                                    | ND          | 1.0         | 0.040 | ug/l  |       |           |        |        |     |       |            |
| LCS Analyzed: 01/05/2006 (6A04084-BS1   | )           |             |       |       |       |           |        |        |     |       |            |
| Copper                                  | 80.8        | 2.0         | 0.25  | ug/l  | 80.0  |           | 101    | 85-115 |     |       |            |
| Lead                                    | 78.3        | 1.0         | 0.040 | ug/i  | 80.0  |           | 98     | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A04 | 084-MS1)    |             |       |       | Sour  | ce: IOL2  | 694-49 |        |     |       |            |
| Copper                                  | 102         | 2.0         | 0.25  | ug/l  | 80.0  | 23        | 99     | 70-130 |     |       |            |
| Lead                                    | 84.3        | 1.0         | 0.040 | ug/l  | 80.0  | 2.7       | 102    | 70-130 |     |       |            |
| Matrix Spike Analyzed: 01/05/2006 (6A04 | 084-MS2)    |             |       |       | Sour  | ce: IOL2  | 694-50 |        |     |       |            |
| Copper                                  | 101         | 2.0         | 0.25  | ug/l  | 80.0  | 18        | 104    | 70-130 |     |       |            |
| Lead                                    | 87.5        | 1.0         | 0.040 | ug/l  | 80.0  | 1.8       | 107    | 70-130 |     |       |            |



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

### METHOD BLANK/QC DATA

### **METALS**

|                                       |            | Reporting |       |       | Spike | Source   |         | %REC   |     | RPD   | Data       |
|---------------------------------------|------------|-----------|-------|-------|-------|----------|---------|--------|-----|-------|------------|
| Analyte                               | Result     | Limit     | MDL   | Units | Level | Result   | %REC    | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04084 Extracted: 01/04/06    | <u>5</u>   |           |       |       |       |          |         |        |     |       |            |
| Matrix Spike Dup Analyzed: 01/05/2006 | (6A04084-M | SD1)      |       |       | Sou   | rce: IOL | 2694-49 |        |     |       |            |
| Copper                                | 101        | 2.0       | 0.25  | ug/l  | 80.0  | 23       | 98      | 70-130 | 1   | 20    |            |
| Lead                                  | 83.9       | 1.0       | 0.040 | ug/l  | 80.0  | 2.7      | 102     | 70-130 | 1   | 20    |            |



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Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

### METHOD BLANK/QC DATA

| Amalasta   | 30 u 14    | Reporting   | MDI   | <b>T</b> T 14 | Spike | Source    | 4/1010-0 | %REC   | *** | RPD   | Data       |
|--|------------|-------------|-------|---------------|-------|-----------|----------|--------|-----|-------|------------|
| Analyte  | Result     | Limit       | MDL   | Units         | Level | Result    | %REC     | Limits | RPD | Limit | Qualifiers |
| Batch: 6A03051 Extracted: 01/03/06                 | •          |             |       |               |       |           |          |        |     |       |            |
| Plank Applyard, 01/02/2006 (64 02051 D)            | (121)      |             |       |               |       |           |          |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03051-Bl<br>Chloride | •          | 0.00        | 0.00  | 68            |       |           |          |        |     |       |            |
|  | ND         | 0.50        | 0.26  | mg/l          |       |           |          |        |     |       |            |
| Nitrate/Nitrite-N                                  | ND         | 0.26        | 0.072 | mg/l          |       |           |          |        |     |       |            |
| Sulfate  | ND         | 0.50        | 0.18  | mg/l          |       |           |          |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03051-BS1              | .)         |             |       |               |       |           |          |        |     |       |            |
| Chloride   | 4.91       | 0.50        | 0.26  | mg/l          | 5.00  |           | 98       | 90-110 |     |       | M-3        |
| Sulfate  | 9.83       | 0.50        | 0.18  | mg/l          | 10.0  |           | 98       | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03            | 8051-MS1)  |             |       |               | Sour  | rce: IPA0 | 036-01   |        |     |       |            |
| Sulfate  | 342        | 5.0         | 1.8   | mg/l          | 100   | 240       | 102      | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006 (            | 6A03051-MS | <b>D</b> 1) |       |               | Sour  | rce: IPA0 | 036-01   |        |     |       |            |
| Sulfate  | 345        | 5.0         | 1.8   | mg/l          | 100   | 240       | 105      | 80-120 | 1   | 20    |            |
| Batch: 6A03114 Extracted: 01/03/06                 |            |             |       |               |       |           |          |        |     |       |            |
|  |            |             |       |               |       |           |          |        |     |       |            |
| Blank Analyzed: 01/03/2006 (6A03114-BI             | .K1)       |             |       |               |       |           |          |        |     |       |            |
| Surfactants (MBAS)                                 | ND         | 0.10        | 0.044 | mg/l          |       |           |          |        |     |       |            |
| LCS Analyzed: 01/03/2006 (6A03114-BS1              | )          |             |       |               |       |           |          |        |     |       |            |
| Surfactants (MBAS)                                 | 0.275      | 0.10        | 0.044 | mg/I          | 0.250 |           | 110      | 90-110 |     |       |            |
| Matrix Spike Analyzed: 01/03/2006 (6A03            | 114-MS1)   |             |       |               | Sour  | ce: IPA0  | 017-01   |        |     |       |            |
| Surfactants (MBAS)                                 | 0.377      | 0.10        | 0.044 | mg/l          | 0.250 | 0.096     | 112      | 50-125 |     |       |            |
| Matrix Spike Dup Analyzed: 01/03/2006 (            | 6A03114-MS | <b>D</b> 1) |       |               | Sour  | ce: IPA0  | 017-01   |        |     |       |            |
| Surfactants (MBAS)                                 | 0.342      | 0.10        | 0.044 | mg/l          | 0.250 | 0.096     | 98       | 50-125 | 10  | 20    |            |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

### METHOD BLANK/QC DATA

### **INORGANICS**

|   | ]           | Reporting |       |          | Spike | Source    |        | %REC   |     | RPD   | Data       |
|---|-------------|-----------|-------|----------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte                                 | Result      | Limit     | MDL   | Units    | Level | Result    | %REC   | Limits | RPD | Limit | Qualifiers |
| Batch: 6A04071 Extracted: 01/04/06      |             |           |       |          |       |           |        |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04071-Bl  | LK1)        |           |       |          |       |           |        |        |     |       |            |
| Turbidity                               | ND          | 1.0       | 0.040 | NTU      |       |           |        |        |     |       |            |
| Duplicate Analyzed: 01/04/2006 (6A0407) | I-DUP1)     |           |       |          | Sou   | rce: IPA0 | 017-01 |        |     |       |            |
| Turbidity                               | 55.5        | 5.0       | 0.20  | NTU      |       | 56        |        |        | 1   | 20    |            |
| Batch: 6A04078 Extracted: 01/04/06      |             |           |       |          |       |           |        |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04078-BI  | LK1)        |           |       |          |       |           |        |        |     |       |            |
| Perchlorate                             | ND          | 4.0       | 0.80  | ug/l     |       |           |        |        |     |       |            |
| LCS Analyzed: 01/04/2006 (6A04078-BS1   | )           |           |       |          |       |           |        |        |     |       |            |
| Perchlorate                             | 45.3        | 4.0       | 0.80  | ug/l     | 50.0  |           | 91     | 85-115 |     |       |            |
| Matrix Spike Analyzed: 01/04/2006 (6A04 | 1078-MS1)   |           |       |          | Sour  | ce: IPA0  | 121-01 |        |     |       |            |
| Perchlorate                             | 48.9        | 4.0       | 0.80  | ug/l     | 50.0  | 5.5       | 87     | 80-120 |     |       |            |
| Matrix Spike Dup Analyzed: 01/04/2006 ( | 6A04078-MSD | 1)        |       |          | Sour  | ce: IPA0  | 121-01 |        |     |       |            |
| Perchlorate                             | 51.8        | 4.0       | 0.80  | ug/l     | 50.0  | 5.5       | 93     | 80-120 | 6   | 20    |            |
| Batch: 6A04105 Extracted: 01/04/06      |             |           |       |          |       |           |        |        |     |       |            |
| Duplicate Analyzed: 01/04/2006 (6A04105 | -DUP1)      |           |       |          | Sour  | ce: IPA0  | 118-01 |        |     |       |            |
| Specific Conductance                    | 839         | 1.0       | 1.0   | umhos/cm |       | 810       |        |        | 4   | 5     |            |
| Batch: 6A04107 Extracted: 01/04/06      |             |           |       |          |       |           |        |        |     |       |            |
| Blank Analyzed: 01/04/2006 (6A04107-BL  | .K1)        |           |       |          |       |           |        |        |     |       |            |
| Total Dissolved Solids                  | ND          | 10        | 10    | mg/l     |       |           |        |        |     |       |            |



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300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Quarterly Outfall 011

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

### METHOD BLANK/QC DATA

### **INORGANICS**

| Analyte                                 | Result    | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC   | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---|-----------|--------------------|------|-------|----------------|------------------|--------|----------------|-----|--------------|--------------------|
| Batch: 6A04107 Extracted: 01/04/06      | -         |                    |      |       |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/04/2006 (6A04107-BS    | 1)        |                    |      |       |                |                  |        |                |     |              |                    |
| Total Dissolved Solids                  | 996       | 10                 | 10   | mg/l  | 1000           |                  | 100    | 90-110         |     |              |                    |
| Duplicate Analyzed: 01/04/2006 (6A0410  | 7-DUP1)   |                    |      |       | Sou            | rce: IPA0        | 094-06 |                |     |              |                    |
| Total Dissolved Solids                  | 956       | 10                 | 10   | mg/l  |                | 920              |        |                | 4   | 10           |                    |
| Batch: 6A05070 Extracted: 01/05/06      | -         |                    |      |       |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/10/2006 (6A05070-B   | LK1)      |                    |      |       |                |                  |        |                |     |              |                    |
| Biochemical Oxygen Demand               | ND        | 2.0                | 0.59 | mg/l  |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/10/2006 (6A05070-BS)   | 1)        |                    |      |       |                |                  |        |                |     |              |                    |
| Biochemical Oxygen Demand               | 212       | 100                | 30   | mg/l  | 198            |                  | 107    | 85-115         |     |              |                    |
| LCS Dup Analyzed: 01/10/2006 (6A05070   | )-BSD1)   |                    |      |       |                |                  |        |                |     |              |                    |
| Biochemical Oxygen Demand               | 208       | 100                | 30   | mg/l  | 198            |                  | 105    | 85-115         | 2   | 20           |                    |
| Batch: 6A05098 Extracted: 01/05/06      | •         |                    |      |       |                |                  |        |                |     |              |                    |
| Blank Analyzed: 01/05/2006 (6A05098-Bl  | LK1)      |                    |      |       |                |                  |        |                |     |              |                    |
| Ammonia-N (Distilled)                   | ND        | 0.50               | 0.30 | mg/l  |                |                  |        |                |     |              |                    |
| LCS Analyzed: 01/05/2006 (6A05098-BS1   | )         |                    |      |       |                |                  |        |                |     |              |                    |
| Ammonia-N (Distilled)                   | 10.9      | 0.50               | 0.30 | mg/l  | 10.0           |                  | 109    | 80-115         |     |              |                    |
| Matrix Spike Analyzed: 01/05/2006 (6A05 | 5098-MS1) |                    |      |       | Sour           | ce: IOL2         | 366-01 |                |     |              |                    |
| Ammonia-N (Distilled)                   | 11.5      | 0.50               | 0.30 | mg/l  | 10.0           | ND               | 115    | 70-120         |     |              |                    |



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

### METHOD BLANK/QC DATA

#### **INORGANICS**

| Analyte  | Result                      | Reporting<br>Limit | MDL    | Units | Spike<br>Level     | Source<br>Result | %REC            | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|--|-----------------------------|--------------------|--------|-------|--------------------|------------------|-----------------|----------------|-----|--------------|--------------------|
| Batch: 6A05098 Extracted: 01/05/06                           | •                           |                    |        |       |                    |                  |                 |                |     |              |                    |
| Matrix Spike Dup Analyzed: 01/05/2006 (Ammonia-N (Distilled) | ( <b>6A05098-MS</b><br>11.2 | <b>D1)</b><br>0.50 | 0.30   | mg/l  | <b>Sou</b><br>10.0 | rce: IOL2<br>ND  | 2 <b>366-01</b> | 70-120         | 3   | 15           |                    |
| Batch: 6A06111 Extracted: 01/06/06                           | •                           |                    |        |       |                    |                  |                 |                |     |              |                    |
| Blank Analyzed: 01/09/2006 (6A06111-Bl                       | LK1)                        |                    |        |       |                    |                  |                 |                |     |              |                    |
| Total Cyanide  | ND                          | 0.0050             | 0.0022 | mg/l  |                    |                  |                 |                |     |              |                    |
| LCS Analyzed: 01/09/2006 (6A06111-BS1                        | )                           |                    |        |       |                    |                  |                 |                |     |              |                    |
| Total Cyanide  | 0.183                       | 0.0050             | 0.0022 | mg/l  | 0.200              |                  | 92              | 90-110         |     |              |                    |
| Matrix Spike Analyzed: 01/09/2006 (6A06                      | 5111-MS1)                   |                    |        |       | Sou                | rce: IPA0        | 102-01          |                |     |              |                    |
| Total Cyanide  | 0.211                       | 0.0050             | 0.0022 | mg/l  | 0.200              | 0.0034           | 104             | 70-115         |     |              |                    |
| Matrix Spike Dup Analyzed: 01/09/2006 (                      | 6A06111-MS                  | D1)                |        |       | Sou                | rce: IPA0        | 102-01          |                |     |              |                    |
| Total Cyanide  | 0.213                       | 0.0050             | 0.0022 | mg/l  | 0.200              | 0.0034           | 105             | 70-115         | 1   | 15           |                    |
| Batch: 6A06118 Extracted: 01/06/06                           |                             |                    |        |       |                    |                  |                 |                |     |              |                    |
| Blank Analyzed: 01/06/2006 (6A06118-BI                       | .K1)                        |                    |        |       |                    |                  |                 |                |     |              |                    |
| Total Suspended Solids                                       | ND                          | 10                 | 10     | mg/l  |                    |                  |                 |                |     |              |                    |
| LCS Analyzed: 01/06/2006 (6A06118-BS1                        | )                           |                    |        |       |                    |                  |                 |                |     |              |                    |
| Total Suspended Solids                                       | 980                         | 10                 | 10     | mg/l  | 1000               |                  | 98              | 85-115         |     |              |                    |
| Duplicate Analyzed: 01/06/2006 (6A06118                      | 8-DUP1)                     |                    |        |       | Sour               | ce: IPA0         | 396-01          |                |     |              |                    |
| Total Suspended Solids                                       | 188                         | 10                 | 10     | mg/l  |                    | 180              |                 |                | 4   | 10           |                    |



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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

### METHOD BLANK/QC DATA

| Analyte  Batch: 6A09050 Extracted: 01/09/06           | Result                 | Reporting<br>Limit | MDL  | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Data<br>Qualifiers |
|---|------------------------|--------------------|------|-------|----------------|------------------|------|----------------|-----|--------------|--------------------|
| Blank Analyzed: 01/09/2006 (6A09050-B<br>Oil & Grease | LK1)<br>ND             | 5.0                | 0.94 | mg/l  |                |                  |      |                |     |              |                    |
| LCS Analyzed: 01/09/2006 (6A09050-BS<br>Oil & Grease  | <b>1)</b><br>19.1      | 5.0                | 0.94 | mg/l  | 20.0           |                  | 96   | 65-120         |     |              | M-NR1              |
| LCS Dup Analyzed: 01/09/2006 (6A0905)<br>Oil & Grease | <b>0-BSD1)</b><br>19.0 | 5.0                | 0,94 | mg/l  | 20.0           |                  | 95   | 65-120         | 1   | 20           |                    |



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-856 FAX (888) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

### **DATA QUALIFIERS AND DEFINITIONS**

B Analyte was detected in the associated Method Blank.

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.

K The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criteria of at least 2 mg/l.

Therefore the reported result is an estimated value only.

L2 Laboratory Control Sample recovery was below method control limits.

M-3 Results exceeded the linear range in the MS/MSD and therefore are not available for reporting. The batch was

accepted based on acceptable recovery in the Blank Spike (LCS).

M-NR1 There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike

Duplicate.

R-2 The RPD exceeded the method control limit.

R-7 LFB/LFBD RPD exceeded the method control limit. Recovery met acceptance criteria.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference



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MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Sampled: 01/03/06

Attention: Bronwyn Kelly

Report Number: IPA0103 Received: 01/03/06

### **Certification Summary**

### Del Mar Analytical, Irvine

| Method        | Matrix | Nelac | California |
|---------------|--------|-------|------------|
| 1613A/1613B   | Water  |       |            |
| EDD + Level 4 | Water  |       |            |
| EPA 120.1     | Water  | X     | X          |
| EPA 160.1     | Water  | X     | X          |
| EPA 160.2     | Water  | X     | X          |
| EPA 160.5     | Water  | X     | X          |
| EPA 180.1     | Water  | X     | X          |
| EPA 200.8     | Water  | X     | X          |
| EPA 245.1     | Water  | X     | X          |
| EPA 300.0     | Water  | X     | X          |
| EPA 314.0     | Water  | N/A   | x          |
| EPA 335.2     | Water  | X     | X          |
| EPA 350.2     | Water  |       | X          |
| EPA 405.1     | Water  | X     | X          |
| EPA 413.1     | Water  | X     | X          |
| EPA 425.1     | Water  | X     | X          |
| EPA 608       | Water  | X     | X          |
| EPA 624       | Water  | X     | X          |
| EPA 625       | 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.

#### **Subcontracted Laboratories**

Alta Analytical NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta

Samples: IPA0103-01

Analysis Performed: EDD + Level 4

Samples: IPA0103-01

CHAIN OF CUSTODY FORM Page 1 of 1

# 202

Comments Temp = 57.5 Field readings: 214 receion Done Nomal 10 Days Sample Integrity. (Check) Intact On Ice: Turn around Time: (check) 5 Days pentachlorophenol (EPA 625) Perchlorate Only 72 Hours, ethylhexyl)phthalate, NDMA Metals Only 72 Hours\_ × Dinitrotoluene, Bis(2-2,4,6 Trichlorophenol, 2,4 × (A1808) OHB BrigiA ANALYSIS REQUIRED 24 Hours 48 Hours 72 Hours × M-SINOMIMA Conductivity × Turbidity, TSS, Perchlorate × 1800 CF' 804' NO3+NO5-N' 525 × Surfactants (MBAS) BOD5(20 degrees C) Cyanide (total recoverable) × × Oil & Grease (EPA 413.1) 1/3/06 TCDD (and all congeners) Date/Time Date/Time Ett noe143 × × VOCs 624 + xylenes + Settleable Solids >< Total Rebverable Metals: Cu, Pb, Hg, × 13A, 13B 12A, 12B 14A, 14B, 10A, 10B 3A,3B,3C 5A, 5B 8A,8B 9A,9B 4A,4B \*--₹ <u>8</u> Bottle Received By Received By Preservative H2S04 N O None None Sone HN03 HNO3 Zone None None None None None 걸 皇 ᄗ Boeing-SSFL NPDES Quarterly Outfail 011 SES Fax Number: (626) 568-6515 52 Perimeter Pond (626) 568-6691 Phone Number Sampling Date/Time Date/Time: 01-03 ch 2/QC Date/Time Date/Time: Del Mar Analytical version 02/17/05 **Project**: Co# Project Manager: Bronwyn Kelly 300 North Lake Avenue, Suite 1200 Sampler. R & Barresc 1L Amber 1L. Amber Sample Container
Matrix Type 1L Amber 1L Amber Poly-500 Poly-500 Poly-500 Poly-500 Poly-500 Poly-11 Poly-1 Poly-1L Poly-1L VOAs VOAs E Client Name/Address MWH-Pasadena Pasadena, CA 91101 š ₹ ₹ ₹ \$ ₹ ₹ ₹ ₹ ₹ ₹ ₹ ₹ ₹ ₹ Relinquished By Relinquished By Description Outfall 011 Outfall 011-Outfall 011 Outfall 011 Outfall 011 Outfall 011 Trip Blank Outfall 011 Sample

**NPDES - 927** 



January 17, 2006

Alta Project I.D.: 27141

Ms. Michele Chamberlin
Del Mar Analytical, Irvine
17461 Derian Avenue, Suite 100
Irvine, CA 92614

Dear Ms. Chamberlin,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on January 05, 2006 under your Project Name "IPA0103". This sample was extracted and analyzed using EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Alta's current certifications, and copies of the raw data (if requested).

Alta Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-933-1640 or by email at mmaier@altalab.com. Thank you for choosing Alta as part of your analytical support team.

Sincerely,

Martha M. Maier

**Director of HRMS Services** 



Alta Analytical Laboratory certifies that the report havein meets all the requirements set forth by NELAC for those applicable test meetods. This report should not be reproduced except in full without the written approval—of ALTA.



Section I: Sample Inventory Report

Date Received:

1/5/2006

Alta Lab. ID

Client Sample ID

27141-001

IPA0103-01

### **SECTION II**

Project 27141 Page 3 of 282

| Method Blank         |              |                 |                   |   | EPA Method 1613                    |
|----------------------|--------------|-----------------|-------------------|---|------------------------------------|
| Matrix: Aqueous      |              | QC Batch No.:   | 7632              | Lab Sample: 0-MB001                           |                                    |
| Sample Size: 1,00 L  |              | Date Extracted: | : 8-Jan-06        | Date Analyzed DB-5: 11-Jan-06                 | Date Analyzed DB-225: NA           |
| Analyte Conc. (ug/L) | ng/L)        | DIT a           | EMPC b Qualifiers | Labeled Standard                              | %R LCL-UCL <sup>d</sup> Oualifiers |
| 2,3.7,8-TCDD         | QN           | 0,000000671     |                   | IS 13C-2,3,7,8-TCDD                           | 84.0 25 - 164                      |
| 1,2,3,7,8-PeCDD      | Q            | 0.000000560     |                   | 13C-1,2,3,7,8-PeCDD                           | 78.7 25 - 181                      |
| 1,2,3,4,7,8-HxCDD    | Ę            | 0.00000149      |                   | 13C-1,2,3,4,7,8-HxCDD                         | 81.9 32 - 141                      |
| 1,2,3,6,7,8-HxCDD    | <del>N</del> | 0.00000147      |                   | 13C-1,2,3,6,7,8-HxCDD                         | 74.4 28 - 130                      |
| 1,2,3,7,8,9-HxCDD    | Ð            | 0.00000145      |                   | 13C-1,2,3,4,6,7,8-HpCDD                       | 75.6 23 - 140                      |
| 1,2,3,4,6,7,8-HpCDD  | Q            | 0.00000146      |                   | 13C-OCDD                                      | 40.1 17 - 157                      |
| ocdd                 | Ð            | 0.00000535      |                   | 13C-2,3,7,8-TCDF                              | 82.6 24 - 169                      |
| 2,3,7,8-TCDF         | Q            | 0.000000546     |                   | 13C-1,2,3,7,8-PeCDF                           | 65.3 24 - 185                      |
| 1,2,3,7,8-PeCDF      | £            | 0.00000112      | \$ ( ) A          | 13C-2,3,4,7,8-PeCDF                           | 71.3 21 - 178                      |
| 2,3,4,7,8-PeCDF      | Q            | 0.000000885     |                   | 13C-1,2,3,4,7,8-HxCDF                         | 73.7 26 - 152                      |
| 1,2,3,4,7,8-HxCDF    | Ð            | 0.000000511     |                   | 13C-1,2,3,6,7,8-HxCDF                         | 70.0 26 - 123                      |
| 1,2,3,6,7,8-HxCDF    | S            | 0.000000518     |                   | 13C-2,3,4,6,7,8-HxCDF                         | 78.0 28 - 136                      |
| 2,3,4,6,7,8-HxCDF    | £            | 0.000000522     |                   | 13C-1,2,3,7,8,9-HxCDF                         | 79.2 29 - 147                      |
| 1,2,3,7,8,9-HxCDF    | NO           | 0.000000675     |                   | 13C-1,2,3,4,6,7,8-HpCDF                       | 64.7 28 - 143                      |
| 1,2,3,4,6,7,8-HpCDF  | 2            | 0.000000764     |                   | 13C-1,2,3,4,7,8,9-HpCDF                       | 76.3 26 - 138                      |
| 1,2,3,4,7,8,9-HpCDF  | 2            | 0.000000622     |                   | 13C-OCDF                                      | 49.6 17 - 157                      |
| OCDF                 | Q            | 0.00000360      |                   | CRS 37CI-2,3,7,8-TCDD                         | 88.7 35 - 197                      |
| Totals               |              |                 |                   | Footnotes                                     |                                    |
| Total TCDD           | S            | 0.000000671     |                   | a. Sample specific estimated detection limit. |                                    |
| Total PeCDD          |              | 0.000000560     |                   | b. Estimated maximum possible concentration.  |                                    |
| Total HxCDD          | Q.           | 0.00000147      | -                 | c. Method detection limit.                    |                                    |
| Total HpCDD          | Ð            | 0.00000146      |                   | d. Lower control limit - upper control limit. |                                    |
| Total TCDF           | R            | 0.000000546     |                   |   |                                    |
| Total PeCDF          | 2            | 0.000000997     |                   |   |                                    |
| Total HxCDF          | R            | 0.000000553     |                   |   |                                    |
| Total HpCDF          | QN           | 0.000000692     |                   |   |                                    |
| Analyst: JMH         |              |                 |                   | Approved By: Martha M. Maier                  | laier 17-Jan-2006 09:11            |

Project 27141

| OPR Results                         |             |                                  |                  |   |                          | EPA                   | EPA Method 1613 |
|-------------------------------------|-------------|----------------------------------|------------------|---|--------------------------|-----------------------|-----------------|
| Matrix: Aqueous Sample Size: 1.00 L |             | QC Batch No.:<br>Date Extracted: | 7632<br>8-Jan-06 | Lab Sample: 0-OPR001<br>Date Analyzed DB-5: 11-Jan-06 | 0-OPR001<br>5: 11-Jan-06 | Date Analyzed DB-225; | 1 DB-225; NA    |
| Analyte                             | Spike Conc. | Spike Conc. Conc. (ng/mL)        | OPR Limits       | Labeled Standard                                      | ırd                      | %R                    | ICF-NCT         |
| 2,3,7,8-TCDD                        | 10.0        | 8.44                             | 6.7 - 15.8       | IS 13C-2,3,7,8-TCDD                                   | DD                       | 66.2                  | 25 - 164        |
| 1,2,3,7,8-PeCDD                     | 50.0        | 48.8                             | 35 - 71          |   | eCDD                     | 70.5                  | 25 - 181        |
| 1,2,3,4,7,8-HxCDD                   | 50.0        | 48.8                             | 35 - 82          | 13C-1,2,3,4,7,8-HxCDD                                 | HxCDD                    | 68.7                  | 32 - 141        |
| 1,2,3,6,7,8-HxCDD                   | 50.0        | 46.7                             | 38 - 67          | 13C-1,2,3,6,7,8-HxCDD                                 | -HxCDD                   | 9:59                  | 28 - 130        |
| 1,2,3,7,8,9-HxCDD                   | 20.0        | 48.7                             | 32 - 81          | 13C-1,2,3,4,6,7,8-HpCDD                               | 8-HpCDD                  | 70.6                  | 23 - 140        |
| 1,2,3,4,6,7,8-HpCDD                 | 50.0        | 47.2                             | 35 - 70          | 13C-OCDD  |                          | 49.9                  | 17 - 157        |
| ОСДД                                | 100         | 95.4                             | 78 - 144         | 13C-2,3,7,8-TCDF                                      | DF                       | 67.9                  | 24 - 169        |
| 2,3,7,8-TCDF                        | 10.0        | 9.58                             | 7.5 - 15.8       | 13C-1,2,3,7,8-PeCDF                                   | eCDF                     | 63.1                  | 24 - 185        |
| 1,2,3,7,8-PeCDF                     | 50.0        | 46.6                             | 40 - 67          | 13C-2,3,4,7,8-PeCDF                                   | eCDF                     | 64.2                  | 21 - 178        |
| 2,3,4,7,8-PeCDF                     | 50.0        | 48.4                             | 34 - 80          | 13C-1,2,3,4,7,8-HxCDF                                 | -HxCDF                   | 65.4                  | 26 - 152        |
| 1,2,3,4,7,8-HxCDF                   | 50.0        | 47.6                             | 36 - 67          | 13C-1,2,3,6,7,8-HxCDF                                 | -HxCDF                   | 63.8                  | 26 - 123        |
| 1,2,3,6,7,8-HxCDF                   | 20.0        | 48.7                             | 42 - 65          | 13C-2,3,4,6,7,8-HxCDF                                 | -HxCDF                   | 6.1.9                 | 28 - 136        |
| 2,3,4,6,7,8-HxCDF                   | 20.0        | 47.3                             | 35 - 78          | 13C-1,2,3,7,8,9-HxCDF                                 | -HxCDF                   | 70.4                  | 29 - 147        |
| 1,2,3,7,8,9-HxCDF                   | 20.0        | 47.3                             | 39 - 65          | 13C-1,2,3,4,6,7,8-HpCDF                               | ,8-HpCDF                 | 63.1                  | 28 - 143        |
| 1,2,3,4,6,7,8-HpCDF                 | 20.0        | 48.5                             | 41 - 61          | 13C-1,2,3,4,7,8,9-HpCDF                               | ,9-HpCDF                 | 70.1                  | 26 - 138        |
| 1,2,3,4,7,8,9-HpCDF                 | 20.0        | 48.4                             | 39 - 69          | 13C-OCDF  |                          | 56.4                  | 17 - 157        |
| OCDF                                | 100         | 7.76                             | 63 - 170         | CRS 37CI-2,3,7,8-TCDD                                 | CDD                      | 81.7                  | 35 - 197        |

Approved By: Martha M. Maier 17-Jan-2006 09:11

Analyst: JMH

| Del Mar Analytical, Irvine   | Sample Data   Matrix:   Sample Size:   Sample Size:   O0000964   O.0000134   O.00000138   O.0000138   O.00000138   O.000000138   O.000000138   O.00000138   O.00000138   O.000000138   O.00000000138   O.000000138   O.00000000000000000000000000000000000 | ueous<br>0 L<br>Ialiffers | Lab Sample: 27141-001  OC Batch No. 7632  Date Analyzed DB-5: 12-Jan-06  Labeled Standard  Labeled Standard  13C-1,2,3,7,8-PeCDD  13C-1,2,3,4,7,8-HxCDD  13C-1,2,3,6,7,8-HxCDD  13C-1,2,3,6,7,8-HxCDD  13C-1,2,3,4,7,8-PeCDF  13C-2,3,7,8-PeCDF  13C-2,3,7,8-PeCDF  13C-2,3,4,7,8-PeCDF  13C-2,3,4,7,8-PeCDF   | Date Received:  Date Extracted:  Date Analyzed DB-225:  %R LCL-UCL <sup>d</sup> 79.8 25 - 164  80.9 25 - 181  82.2 32 - 141  75.2 28 - 130  78.3 23 - 140  48.2 17 - 157 | 5-Jan-06<br>8-Jan-06<br>NA<br>Oualifiers |
|--|---|---------------------------|--|--|--|
| Del Mar Analytical, Irvine   | a EMPC <sup>b</sup> 00000964 00000144 00000981  | o L  initifiers  j        | C Batch No.  Labeled Standard  13C-2,3,7,8-TCDD 13C-1,2,3,7,8-Hx 13C-1,2,3,4,7,8-Hx 13C-1,2,3,4,6,7,8-H 13C-2,3,7,8-TCDF 13C-2,3,4,6,7,8-H 13C-2,3,7,8-PECI 13C-2,3,4,7,8-PECI 13C-2,3,4,7,8-PECI 13C-2,3,4,7,8-PECI 13C-2,3,4,7,8-PECI  | DB-225: -UCL <sup>d</sup> -164 -181 -141 -130 -157   | 5-Jan-06<br>8-Jan-06<br>NA<br>Oualifiers |
| ected: 3-Jan-06 lected: 0845  TCDD ND ND 7,8-HxCDD ND 7,8-HxCDD 0.0000441 8,9-HxCDD 0.0000441 8,9-FCDF ND 8-PeCDF ND 7,8-HxCDF ND 7,8-H | a EMPC <sup>b</sup> 00000964 0000144 0.00000138   | ol. J                     | C Batch No.  Labeled Standard 13C-2,3,7,8-TCDD 13C-1,2,3,4,7,8-Hxt 13C-1,2,3,4,7,8-Hxt 13C-1,2,3,4,6,7,8-Hxt 13C-0CDD 13C-2,3,7,8-TCDF 13C-2,3,7,8-PeCD 13C-2,3,7,8-PeCD 13C-2,3,7,8-PeCD 13C-2,3,4,7,8-PeCD 13C-2,3,4,7,8-PeCD  | DB-225: -UCL <sup>d</sup> -164 -181 -130 -130 -157   | 8-Jan-06 NA Oualifiers                   |
| E Conc. (ug/L) I TCDD ND ND 7,8-HxCDD ND 0.0000441 7,8-HxCDD 0.0000313 6,7,8-HpCDD 0.000949 TCDF ND 8-PeCDF ND 7,8-HxCDF ND ND 7,8-HxCDF ND 7,8-HpCDF ND 7,8-HpCD | a EMPC <sup>b</sup> 00000964 0000144 0.00000139 00000981  | J                         |  | LCL-UCL <sup>d</sup> 8 25-164  9 25-181  2 32-141  2 28-130  3 23-140  | Oualiffers                               |
| R-PeCDD ND (1.8-PeCDD ND (1.8-PeCDD ND (1.8-PeCDD 0.0000041) (1.8-PeCDF ND (1.8-PecDF (1.8-PecDF ND (1.8-PecDF (1.8-Pe |   | <b>ا</b> س اسا            |  |  |  |
| 8-PeCDD ND 7,8-HxCDD 0.00000441 0.00000441 0.00000441 0.00000343 0.0000349 0.000949 0.000949 0.000949 0.000949 0.000949 0.000949 0.000949 0.000949 0.000949 0.000949 0.0000949 0.0000949 0.0000949 0.0000949 0.0000949 0.0000949 0.0000949 0.0000949 0.0000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000930 0.00000949 0.00000930 0.00000949 0.00000930 0.00000949 0.00000949 0.00000930 0.00000949 0.00000930 0.00000949 0.00000930 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.0000949 0.0000949 0.0000949 0.0000949 0.0000949 0.00000949 0.00000949 0.000000949 0.000000949 0.000000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.000000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.000000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000949 0.00000000949 0.00 |   | הייל בייל                 | 13C-1,2,3,7,8-PeCDD<br>13C-1,2,3,4,7,8-HxCDD<br>13C-1,2,3,4,6,7,8-HxCDD<br>13C-1,2,3,4,6,7,8-HpCDD<br>13C-0CDD<br>13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF   |  |  |
| 7,8-HxCDD ND 0.0000041 8,9-HxCDD 0.0000041 6,7,8-HpCDD 0.000100 6,7,8-HpCDD 0.000100 7,8-HxCDF ND  | <del>1774</del>   | وده وس <u>ا</u>           | 13C-1,2,3,4,7,8-HxCDD<br>13C-1,2,3,6,7,8-HxCDD<br>13C-1,2,3,4,6,7,8-IIpCDD<br>13C-0CDD<br>13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF   |  |  |
| 7,8-HxCDD 0.00000441 8,9-HxCDD 0.00000313 6,7,8-HpCDD 0.000949 TCDF ND 8-PeCDF ND ND 1,7,8-HxCDF ND ND ND 1,8-HxCDF ND ND ND 1,8-HxCDF ND  | .000000981  | פייל בייל                 | 13C-1,2,3,6,7,8-HxCDD<br>13C-1,2,3,4,6,7,8-HpCDD<br>13C-0CDD<br>13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF  |  |  |
| 8,9-HxCDD 0.00000313<br>6,7,8-HpCDD 0.000100<br>0.000949<br>TCDF ND 8-PeCDF ND ND 7,8-HxCDF ND   | .00000081   | <b>)</b>                  | 13C-1,2,3,4,6,7,8-IIpCDD<br>13C-0CDD<br>13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF  |  |  |
| 6,7,8-HpCDD 0.000100 TCDF ND 8-PeCDF ND ND 7,8-HxCDF ND ND 7,8-HxCDF ND ND 7,8-HxCDF ND ND 7,8-HxCDF ND ND ND 8,9-HxCDF ND   | .000000981  |                           | 13C-2,3,7,8-TCDF<br>13C-2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF  |  |  |
| 0.000949  8-PeCDF ND 7,8-HxCDF ND 7,8-HxCDF ND 7,8-HxCDF ND 8,9-HxCDF ND 8,9-HxCDF ND 6,7,8-HpCDF 0.00000230 0.0000761   | .00000081   |                           | 13C-2,3,7,8-TCDF<br>13C-1,2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF<br>13C-1,2,3,4,7,8-HxCDF  |  |  |
| ND   | ,000000981  |                           | 13C-1,2,3,7,8-PeCDF<br>13C-2,3,4,7,8-PeCDF<br>13C-1,2,3,4,7,8-HxCDF  | 79.1 24 - 169  |  |
| ND   | ,00000138   |                           | 13C-2,3,4,7,8-PeCDF<br>13C-1,2,3,4,7,8-HxCDF   | 81.9 24 - 185  |  |
| ND ND ND NP NP NP NP NP CDF 0.00000230 ND ND ND ND ND ND ND ND ND  |   |                           | 13C-1,2,3,4,7,8-HxCDF  | 82.1 21 - 178  |  |
| OF ND OF ND OF ND OF ND OF ND OF 0.0000183 CDF 0.0000761 ND ND ND  | 0.00000126  |                           |  | 77.2 26 - 152  |  |
| ND<br>ND<br>ND<br>NF 0.0000183<br>0.0000761<br>ND<br>ND  | 0.00000104  |                           | 13C-1,2,3,6,7,8-HxCDF  | 76.2 26 123  |  |
| ND<br>ND<br>0.0000183<br>0.00000230<br>ND<br>ND  | 0.000000978   |                           | 13C-2,3,4,6,7,8-HxCDF  | 78.7 28 - 136  |  |
| ND<br>9F 0.0000183<br>0.00000230<br>ND<br>ND   | 0.00000107  |                           | 13C-1,2,3,7,8,9-HxCDF  | 80.8 29 - 147  |  |
| 6,7,8-HpCDF 0.0000183<br>7,8,9-HpCDF 0.00000230<br>0.0000761<br>CDD ND CCDD  | 0.00000139  |                           | 13C-1,2,3,4,6,7,8-HpCDF  | 70.0 28 - 143  |  |
| 7,8,9-HpCDF 0.00000230 0.0000761 CDD ND CCDD ND  |   | <b>—</b>                  | 13C-1,2,3,4,7,8,9-HpCDF  | 79.6 26-138  |  |
| CDD ND CCDD ND N  |   | <b>,</b> —,               | 13C-OCDF   | 57.3 17 - 157  |  |
| DN<br>QN   |   |                           | CRS 37CI-2,3,7,8-TCDD  | 85.2 35-197  |  |
| NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>NO<br>N  |   |                           | Footnotes  |  |  |
| 00000000000000000000000000000000000000   | 0.00000964  |                           | Sample specific estimated detection limit.     Estimated maximum possible concentration.   |  |  |
| IOIZI FIXCUD   | 0.0000356   |                           | c. Method detection limit.   |  |  |
| 0.000210   |   |                           | d. Lower control limit - upper control limit.  |  |  |
| QN   | 0.000000981   |                           |  |  | -  |
| Total PeCDF 0.00000227   | 0,00000426  |                           |  |  | •  |
| Total HxCDF 0.0000146  | 0.0000162   |                           |  |  |  |
| Total HpCDF 0.0000615  |   |                           | And the second s |  |  |

Analyst: JMH

Approved By: Martha M. Maier 17-Jan-2006 09:11

### **APPENDIX**

Page 7 of 282

#### DATA QUALIFIERS & ABBREVIATIONS

B This compound was also detected in the method blank.

D The amount reported is the maximum possible concentration due to possible

chlorinated diphenylether interference.

E The reported value exceeds the calibration range of the instrument.

H The signal-to-noise ratio is greater than 10:1.

I Chemical interference

The amount detected is below the Lower Calibration Limit of the instrument.

See Cover Letter

Conc. Concentration

DL Sample-specific estimated Detection Limit

MDL The minimum concentration of a substance that can be measured and

reported with 99% confidence that the analyte concentration is greater

than zero in the matrix tested.

EMPC Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit - concentrations that corresponds to low calibration point

ND Not Detected

TEQ Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

### **CERTIFICATIONS**

| Accrediting Authority                       | Certificate Number     |
|---|------------------------|
| State of Alaska, DEC                        | CA413-02               |
| State of Arizona                            | AZ0639                 |
| State of Arkansas, DEQ                      | 05-013-0               |
| State of Arkansas, DOH                      | Reciprocity through CA |
| State of California - NELAP Primary AA      | 02102CA                |
| State of Colorado                           |                        |
| State of Connecticut                        | PH-0182                |
| State of Florida, DEP                       | E87777                 |
| Commonwealth of Kentucky                    | 90063                  |
| State of Louisiana, Health and Hospitals    | LA050001               |
| State of Louisiana, DEQ                     | 01977                  |
| State of Maine                              | CA0413                 |
| State of Michigan                           | 81178087               |
| State of Mississippi                        | Reciprocity through CA |
| Naval Facilities Engineering Service Center |                        |
| State of Nevada                             | CA413                  |
| State of New Jersey                         | CA003                  |
| State of New Mexico                         | Reciprocity through CA |
| State of New York, DOH                      | 11411                  |
| State of North Carolina                     | 06700                  |
| State of North Dakota, DOH                  | R-078                  |
| State of Oklahoma                           | D9919                  |
| State of Oregon                             | CA200001-002           |
| State of Pennsylvania                       | 68-00490               |
| State of South Carolina                     | 87002001               |
| State of Tennessee                          | 02996                  |
| State of Texas                              | TX247-2005A            |
| U.S. Army Corps of Engineers                |                        |
| State of Utah                               | 9169330940             |
| Commonwealth of Virginia                    | 00013                  |
| State of Washington                         | C1285                  |
| State of Wisconsin                          | 998036160              |
| State of Wyoming                            | 8TMS-Q                 |



Released By

Project 27141

# **SUBCONTRACT ORDER - PROJECT # IPA0103**

| SENDIN   | G LABORATORY:                                    |                            | B   | RECEIVING LABORAT                                 | ORY:                    |
|--|--|----------------------------|---|---|-------------------------|
| Del Mar Analytical, Irvine   |  |                            | Alta Analytical                                   | 27  | F 14-1                  |
| 7461 Derian Avenue. Suite  | 100  |                            | 1104 Windfield W                                  | ay  | 141<br>0°C              |
| rvine, CA 92614  | •  |                            | El Dorado Hills, C                                | A 95762   | 101                     |
| Phone: (949) 261-1022  |  |                            | Phone :(916) 933-                                 | 10.0  | $U \subset \mathcal{U}$ |
| fax: (949) 261-1228  |  |                            | Fax: (916) 673-01                                 | 06  |                         |
| Project Manager: Michele Ch  | namberlon .                                      |                            |   |   |                         |
| Standard TAT is requested  | unless specific du                               | e date is requested        | ⇒ Due Date:                                       |   | Initials:               |
| Analysis   | Expiration                                       |                            | Comments  |   |                         |
| Sample ID: IPA0103-01 Was<br>1613-Dioxin-HR-Alta<br>EDD + Level 4    | ter Sampled:<br>01/10/06 08:45<br>01/31/06 08:45 | 01/03/06 08:45             | J flags,17 congeners,no<br>Excel EDD email to pur | TEQ.ug/L,sub=Alta<br>,Include Std logs for Lvl IV | ,                       |
| Containers Supplied: 1 L Amber (IPA0103-01G) 1 L Amber (IPA0103-01H) |  |                            | ***   |   | •                       |
|  |  |                            |   |   |                         |
|  |  |                            |   |   |                         |
|  |  |                            |   |   |                         |
|  |  |                            |   |   |                         |
|  |  |                            |   |   |                         |
| •  |  | •                          |   |   |                         |
|  | •  |                            |   |   |                         |
|  |  |                            | · .   |   |                         |
|  |  |                            |   |   |                         |
|  |  |                            |   |   |                         |
|  |  |                            |   |   |                         |
|  |  |                            |   | •   |                         |
|  |  |                            |   |   | ·                       |
|  |  |                            |   | •   |                         |
|  |  |                            |   | •   |                         |
| •  |  |                            | •   | •   |                         |
|  |  |                            |   | · ·   |                         |
|  |  |                            |   | •   |                         |
|  |  | SAMPLE                     | INTEGRITY:  |   |                         |
| All containers intact:   Yes   | □ No Si  | ample labels/COC agree:    | ☐ Yes ☐ No  | Samples Received On Ice::                         | ☐ Yes ☐ No              |
| Custody Seals Present:  Yes  |  | amples Preserved Properly: | ☐ Yes ☐ No  | Samples Received at (temp):                       | ****                    |
|  | 1.4.6  |                            |   |   |                         |
|  |  | 1.700                      | Bettina H.  | Benedict 1/2                                      | 166 0905                |
| Released Rv  | Date   | Time                       | Received By                                       | Date  | Time ·                  |

Received By

Date

Time

Time

Pagagiolo6282

Date

## SAMPLE LOG-IN CHECKLIST

Alta Project #: 27/4/

| Samples Arrival: | Date/Time           | 0985     | Initials | 31B   | Location:<br>WR-2 | )-       |
|------------------|---------------------|----------|----------|-------|-------------------|----------|
| Logged In:       | Date/Time<br>1/5/06 | 1045     | Initials | SIB   | Location: WK      | 2-2-     |
| Delivered By:    | FedEx               | UPS      | Cal      | DHL   | Hand<br>Delivered | Other    |
| Preservation:    | Ice                 | Blu      | e Ice    | Dry I | lce None          |          |
| Temp °C 0°       |                     | Time: 09 | 15       | · ·   | Thermometer I     | D: DT-20 |

|  |           |            |              |             | YES           | NO         | NA       |
|--|-----------|------------|--------------|-------------|---------------|------------|----------|
| Adequate Sample Volume Received  | ?         | •          |              |             | · /           |            |          |
| Holding Time Acceptable?   |           |            |              |             | V             | ٠          |          |
| Shipping Container(s) Intact?  |           |            |              |             | V_            |            |          |
| Shipping Custody Seals Intact?   |           |            |              |             | V             |            |          |
| Shipping Documentation Present?  |           |            |              |             | W             |            |          |
| Airbill Trk# 79°   | 14 803    | 32418      | 14           |             | V             |            |          |
| Sample Container Intact?   |           |            |              |             | V             |            |          |
| Sample Custody Seals Intact?   |           |            |              |             |               |            | <b>V</b> |
| Chain of Custody / Sample Documentation Present?                       |           |            |              |             |               |            |          |
| COC Anomaly/Sample Acceptance F  | orm con   | npleted?   |              |             |               | <b>√</b> . |          |
| If Chlorinated or Drinking Water Sam                                   | iples, Ac | ceptable P | reservation? |             |               |            | <b>V</b> |
| Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Preservation Documented? |           |            | coc          | San<br>Cont | nple<br>ainer | No         | ne       |
| Shipping Container   | Alta      | Client     | Retain       | Æe1         | turn          | Disp       | ose      |

Comments:

# **APPENDIX G**

# **Section 38**

Outfall 011, January 03, 2006 AMEC Data Validation Reports

## CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| MEC*   | Package ID <u>B4PP3</u> |
|--|-------------------------|
| 12269 East Vassar Drive  | Task Order 1261,001D.01 |
| Aurora, CO 80014   | SDG No. IPA0103         |
|  | No. of Analyses 1       |
| Laboratory Del Mar Analytical  | Date: February 16, 2006 |
| Reviewer K. Shadowlight  | Reviewer's Signature    |
| Analysis/Method Pesticides by Method 608   |                         |
|  |                         |
| ACTION ITEMS <sup>a</sup>  |                         |
| . Case Narrative   |                         |
| Deficiencies   |                         |
|  |                         |
| 2. Out of Scope Analyses   |                         |
| **restrict Annual orbit commence or the control of  |                         |
|  |                         |
| 3. Analyses Not Conducted  |                         |
| gruppy projection to appropriate control and the control and t |                         |
| 4. Missing Hardcopy  |                         |
| Deliverables   |                         |
|  |                         |
| 5. Incorrect Hardcopy  |                         |
| Deliverables   |                         |
| And Anthony of the fine form of the Anthony of the  |                         |
| 6. Deviations from Analysis  |                         |
| Protocol, e.g.,  |                         |
| Holding Times  |                         |
| GC/MS Tune/Inst. Performance   |                         |
| Calibration  |                         |
| Method blanks  |                         |
| Surrogates   |                         |
| Matrix Spike/Dup LCS   |                         |
| Field QC   |                         |
| Internal Standard Performance  |                         |
| Compound Identification  Quantifation  |                         |
| System Performance   |                         |
| COMMENTS <sup>6</sup> Acceptable as review   |                         |
|  |                         |
|  |                         |
|  |                         |
|  |                         |
| * Subcontracted analytical laboratory is not meeting contract and/or met   | hod requirements.       |
| <sup>3</sup> Differences in restants have been adented by the laboratory but no ac   |                         |



# **DATA VALIDATION REPORT**

# NPDES Monitoring Program Routine Outfall 011

ANALYSIS: PESTICIDES

SAMPLE DELIVERY GROUP: IPA0103

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

**NPDES** 

SDG:

IPA0103

Analysis:

**Pesticides** 

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

DATA VALIDATION REPORT

1261.001.01

Sample Delivery Group:

**IPA0103** 

Project Manager:

P. Costa

Matrix:

Water

Analysis:

**Pesticides** 

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

Reviewer:

K. Shadowlight

Date of Review:

February 16, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Volatile Organics (DVP-4, Rev. 2), EPA Method 608, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

NPDES

SDG: Analysis:

IPA0103 Pesticides

DATA VALIDATION REPORT

### Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 011 | IPA0103-01    | Water  | 608        |

NPDES

SDG: Analysis: IPA0103 Pesticides

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory above the temperature limits of 4°C ±2°C, at 9°C. Due to the nonvolatile nature of the analyte, no qualification was required for the elevated temperature. According to the case narrative for this SDG, the sample was received intact and on ice. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the sample was couriered directly to the laboratory, custody seals were not required. No qualifications were required.

#### 2.1.3 Holding Times

The water sample was extracted within seven days of sample collection and analyzed within 40 days of extraction. No qualifications were required.

#### 2.2 PESTICIDES INSTRUMENT PERFORMANCE

No resolution check standards or breakdown check standards are required by Method 608 for pesticides, and according to the raw data provided, a resolution check standard was not analyzed by the laboratory. The laboratory did analyze a breakdown check standard with the breakdown for individual components (4,4-DDT and endrin) ≤20% and for the total ≤30%, as suggested in the National Functional Guidelines. A review of the raw data indicated that the analytical run time was of sufficient length to provide adequate standard separation. The two analytical columns used in the analyses were within the guidelines specified in the methods.

According to the laboratory SOP and the initial calibration raw data, the retention time windows are  $\pm 0.10$  minutes for both surrogates and target compound calibration standards. A review of the raw data indicated that the laboratory retention time criteria were met for the surrogates and pesticide calibration standards. No qualifications were required.

#### 2.3 CALIBRATION

#### 2.3.1 Analytical Sequence

Based on the data provided, the analytical sequences were in accordance with the requirements of Method 608. No qualifications were required.

NPDES

SDG: Analysis: IPA0103 Pesticides

DATA VALIDATION REPORT

#### 2.3.2 Initial Calibration

There was one initial calibration dated 12/29/05 associated with site sample in this SDG. The initial calibration consisted of six point calibrations for all pesticide target compounds on two analytical columns. The laboratory provided an overlay of the sample chromatogram and the pesticide standard for identification purposes. For this SDG, alpha-BHC was the only target compound of interest. The %RSD for alpha-BHC was within the EPA Method 608 QC limit of ≤10% on the primary analytical column (Channel A) and the r² value was ≥0.995 on the secondary column (Channel B). As alpha-BHC was not detected in the sample and all results were reported from Channel A, the secondary column was not further evaluated. An ICV was analyzed immediately following the initial calibration and the %D for target compound alpha-BHC was within the QC limits of ≤15% on the primary analytical column. The %RSD and ICV %D were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

#### 2.3.3 Continuing Calibration

Sample Outfall 011 was bracketed by two continuing calibrations. The %Ds for alpha-BHC were within the Method QC limit of ≤15% for both calibrations. The %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

#### 2.4 BLANKS

#### 2.4.1 Instrument Blanks

An instrument blank was analyzed at the beginning of the analytical sequence. There was no evidence of cross-contamination in the instrument blank or sample. No qualifications were necessary.

#### 2.4.2 Method Blanks

One water method blank (6A07025-BLK1) was extracted and analyzed with this SDG. Target compound alpha-BHC was not detected in the method blank. Review of the chromatograms for both channels showed no false negative. No qualifications were required.

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6A07025-BS1/BSD1) was extracted and analyzed with this SDG. The recoveries for alpha-BHC were within the laboratory-established QC limits and the RPD was ≤30%. The recoveries and RPD for alpha-BHC were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

Project: **NPDES** SDG:

DATA VALIDATION REPORT

IPA0103 Analysis: **Pesticides** 

#### 2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory-established QC limits for the sample in this SDG. The recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

#### 2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision were based on the blank spike/blank spike duplicate results. No qualifications were required.

#### 2.8 SAMPLE CLEANUP PERFORMANCE

According to the laboratory extraction benchsheets, no cleanups were performed on the water sample. No qualifications were required.

#### 2.9 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

### Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. qualifications were required.

#### 2.9.2 Field Duplicates

There were no field duplicate samples identified for this SDG.

#### 2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for pesticide target compound alpha-BHC by EPA Method 608. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the sample in this SDG. No qualifications were required.

NPDES

SDG: Analysis: IPA0103 Pesticides

DATA VALIDATION REPORT

#### 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

B4PP3



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. ∉3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

Analyte

ORGANOCHLORINE PESTICIDES (EPA 608)

MDL Reporting Sample Dilution Date Data

Method Batch Limit Limit Result Factor Extracted Analyzed Qualifiers

Sample ID: IPA0103-01 (Outfall 011 - Water) - cont.

Reporting Units: ug/l

alpha-BHC EPA 608

Surrogate: Decachlorobiphenyl (45-120%)

Surrogate: Tetrachloro-m-xylene (35-115%)

4 608 6A07025 0.00095 0.0095

ND 0.952 69 %

0.952 01/07/06 01/09/06

57%

Del Mar Analytical, Irvine Michele Chamberlin Project Manager LevelI

|  | CONTRACT COMP                 | LIANCE SCREENING FORM FOR HARDCOPY DATA   |
|--|-------------------------------|---|
| ME                                     | CX, LLC                       | Package ID BUMTIU   |
| 122                                    | 60 East Vassar Drive          | Task Order 1261.0010,01   |
| Suit                                   | e 500                         | SDG No. IPA 0103  |
| Lak                                    | ewood, CO 80226               | No. of Analyses   |
|  | Laboratory De M               | ar Analytical Date: February 17, 2006   |
|  | Reviewer P. Muk               | Reviewer's Signature  |
|  | Analysis/Method Metal         |   |
|  |                               |   |
| ACI                                    | TION ITEMS <sup>4</sup>       |   |
|  | Case Narrative                |   |
| •                                      | Deficiencies                  |   |
|  |                               |   |
| 2.                                     | Out of Scope                  |   |
|  | Analyses                      |   |
|  | Anaryses                      |   |
|  |                               |   |
| 3.                                     | Analyses Not Conducted        |   |
| э.                                     | Analyses Not Conducted        |   |
|  |                               |   |
| A                                      | 365                           |   |
| 4.                                     | Missing Hardcopy Deliverables |   |
|  | Denverables                   |   |
|  |                               |   |
| ~                                      | Y                             |   |
| 5.                                     | Incorrect Hardcopy            |   |
|  | Deliverables                  |   |
|  |                               |   |
| ~                                      |                               | 0.350   |
| 6.                                     | Deviations from Analysis      | Qualifications were assigned for the following:   |
|  | Protocol, e.g.,               |   |
|  | Holding Times                 |   |
|  | GC/MS Tune/Inst. Performance  |   |
|  | Calibration                   |   |
|  | Method blanks                 |   |
|  | Surrogates                    |   |
|  | Matrix Spike/Dup LCS          |   |
|  | Field QC                      |   |
|  | Internal Standard Performance |   |
|  | Compound Identification       |   |
|  | Quantitation                  |   |
|  | System Performance            |   |
| CON                                    | MMENTS <sup>b</sup>           | Acceptable as reviewed  |
|  |                               |   |
|  |                               |   |
| ······································ |                               | ***************************************   |
|  | *                             | neeting confract and/or method requirements.  by the laboratory but no action against the laboratory is required. |
|  |                               |   |



# **DATA VALIDATION REPORT**

# NPDES Sampling Outfall 011

**ANALYSIS: METALS** 

**SAMPLE DELIVERY GROUP IPA0103** 

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

**NPDES** IPA0103

Analysis:

Metals

#### 1. INTRODUCTION

Task Order Title:

**NPDES Sampling** 

MEC<sup>X</sup> Project Number:

DATA VALIDATION REPORT

1261.001D.01

Sample Delivery Group:

**IPA0103** 

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Metals

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

0 P. Meeks

Reviewer: Date of Review:

February 17, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for ICP-MS Metals (DVP-5, Rev. 0), EPA Methods 200.8 and 245.1, and validation guidelines outlined in the USEPA CLP National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

**B4MT14** 

Revision 0

NPDES

SDG: Analysis: IPA0103 Metals

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method   |
|-------------|---------------|--------|--------------|
| Outfall 011 | IPA0103-01    | Water  | 200.8, 245.1 |

**NPDES** 

SDG: Analysis IPA0103 Metals

#### DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory above the temperature limits of  $4^{\circ}$ C  $\pm 2^{\circ}$ C, at  $9^{\circ}$ C; however, due to the nonvolatile nature of the analytes, no qualifications were required. No sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the sample and analyses presented in this SDG. No sample qualifications were required.

#### 2.1.3 Holding Times

The date of collection recorded on the COC and the dates of analyses recorded in the raw data documented that the sample analyses were performed within the specified holding times of six months for the ICP-MS metals and 28-days for mercury. No qualifications were required.

#### 2.2 ICP-MS TUNING

The method-specified tune criteria were met and no qualifications were required.

#### 2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for ICP-MS metals and 80-120% for mercury. The laboratory analyzed reporting limit check standards in association with the sample in this SDG and all recoveries were acceptable. No qualifications were required.

#### 2.4 BLANKS

The method blank and CCB results were nondetects at the reporting limit or were at concentrations insufficient to qualify the site sample. No qualifications were required.

**B4MT14** 

3

Revision 0

Project: NPDES SDG: IPA0103 Analysis: Metals

DATA VALIDATION REPORT

2.5 ICP INTERFERENCE CHECK SAMPLE (ICS A/AB)

ICSA and ICSAB analyses were included in the raw data for the ICP-MS analyses. Lead, which is not present in the ICSA or ICSAB, was detected in both the ICSA and the ICSAB; however, as the wastewater method (EPA SW-846 6020) lists no known interferents for lead, no qualifications were required. The recoveries were within the control limits and no qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP-MS and mercury LCS recoveries were within the laboratory-established control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

No MS/MSD or laboratory duplicate analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.8 MATRIX SPIKES

No MS/MSD analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was evaluated based on LCS results. No qualifications were required.

2.9 ICP/MS AND ICP SERIAL DILUTION

No serial dilution analyses were performed in association with the sample in this SDG; therefore, no assessment was made with respect to this criterion.

2.10 INTERNAL STANDARDS PERFORMANCE

For the target compounds analyzed by ICP-MS, the ICP-MS internal standards were within established control limits. No qualifications were required.

B4MT14

Project: SDG: NPDES

DATA VALIDATION REPORT

SDG: IPA0103 Analysis: Metals

#### 2.11 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. No transcription errors or calculation errors were noted. No qualifications were required.

#### 2.12 FIELD QC SAMPLES

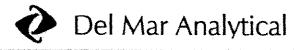
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated samples.

#### 2.12.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

#### 2.12.2 Field Duplicates

There were no field duplicate analyses performed in association with the site sample.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPA0103

Sampled: 01/03/06

Pasadena, CA 91101 Attention: Bronwyn Kelly Received: 01/03/06

#### **METALS**

| Analyte   | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | -   |   | Date<br>Extracted | Date<br>Analyzed | Data<br>Qualifi |      |
|---|------------------|---------|--------------|--------------------|-----|---|-------------------|------------------|-----------------|------|
| Sample ID: IPA0103-01 (Outfall 011<br>Reporting Units: ug/l | - Water) - cont. |         |              |                    |     |   |                   |                  | Rew<br>Qual     | Code |
| Copper  | EPA 200.8        | 6A04084 | 0.49         | 2.0                | 8.3 | 1 | 01/04/06          | 01/05/06         |                 |      |
| Lead  | EPA 200.8        | 6A04084 | 0.13         | 1.0                | 8.8 | 1 | 01/04/06          | 01/05/06         |                 |      |
| Mercury   | EPA 245.1        | 6A04080 | 0.063        | 0.20               | ND  | 1 | 01/04/06          | 01/04/06         | U               | l    |

LEVEL IV

# CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX

|                         | C^   |                        | Package ID B4PC3        |
|-------------------------|--|------------------------|-------------------------|
| 12269 East Vassar Drive |  |                        | Task Order 1261.001D.01 |
| Au                      | rora, CO 80014                             |                        | SDG No. IPA0103         |
|                         |  | N                      | lo. of Analyses 1       |
|                         | Laboratory Del Mar A                       | nalytical              | Date: February 18, 2006 |
|                         | Reviewer K. Shadov                         |                        | Reviewer's Signature    |
| ,                       | Analysis/Method Perchlorat                 | es by Method 314       | - KSchadzect            |
|                         |  |                        | 8                       |
| AC                      | TION ITEMS                                 |                        |                         |
|                         | Case Narrative                             |                        |                         |
|                         | Deficiencies                               |                        |                         |
|                         |  |                        |                         |
| 2.                      | Out of Scope Analyses                      |                        |                         |
|                         |  |                        |                         |
|                         |  |                        |                         |
| 3.                      | Analyses Not Conducted                     |                        |                         |
|                         |  |                        |                         |
| · ·                     |  |                        |                         |
| 4.                      | Missing Hardcopy                           |                        |                         |
|                         | Deliverables                               |                        |                         |
| <i>E</i>                |  |                        |                         |
| 5.                      | Incorrect Hardcopy Deliverables            |                        |                         |
|                         | Deliverables                               |                        |                         |
| 6.                      | Deviations from Analysis                   |                        |                         |
| <b>.</b>                | Protocol, e.g.,                            |                        |                         |
|                         | Holding Times                              |                        |                         |
|                         | GC/MS Tune/Inst. Performance               |                        |                         |
|                         | Calibration                                |                        |                         |
|                         | Method blanks                              |                        |                         |
|                         | Surrogates                                 |                        |                         |
|                         | Matrix Spike/Oup LCS                       |                        |                         |
|                         | Field QC                                   |                        |                         |
|                         | Internal Standard Performance              |                        |                         |
|                         | Compound Identification                    |                        |                         |
|                         | Quantitation                               |                        |                         |
|                         | System Performance                         |                        |                         |
| COL                     | MENTS <sup>3</sup>                         | Acceptable as reviewed |                         |
|                         |  |                        |                         |
| *****************       |  |                        |                         |
| ·······                 |  |                        |                         |
|                         | **************************************     |                        |                         |
|                         | bcontracted analytical laboratory is not n |                        |                         |



# DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 011

**ANALYSIS: GENERAL MINERALS** 

SAMPLE DELIVERY GROUP: IPA0103

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

NPDES

SDG: Analysis: IPA0103 Perch.

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

1261.001D.01

Sample Delivery Group:

IPA0103

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Perchlorate

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

K. Shadowlight

Reviewer: Date of Review:

February 18, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for Perchlorate (DVP-14, Rev. 0), USEPA Methods for Chemical Analysis of Water and Wastes Methods 314.0, and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: NPDES SDG: IPA0103 Analysis: Perch.

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 011 | IPA0103-01    | Water  | 314.0      |

Project: SDG: NPDES

Analysis:

IPA0103 Perch.

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory within the temperature limits of  $4^{\circ}$ C  $\pm$   $2^{\circ}$ C. The analysis does not require preservation and no preservation was noted by the field. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and analysis presented in this SDG. As the sample was couriered directly from the site to the laboratory, custody seals were not necessary. No sample qualifications were required.

#### 2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the date of analysis. The 28-day analytical holding time for perchlorate was met. No qualifications were required.

#### 2.2 CALIBRATION

The initial calibration correlation coefficients were ≥ 0.995. The ICV, ICCS, and CCVs had acceptable recoveries within the control limits of 90-110%. The IPC-MA was recovered within the method control limits of 80-120%. No qualifications were required.

#### 2.3 BLANKS

There were no detects in the associated method blank or CCBs. Raw data was reviewed to verify the blank data. No qualifications were required.

#### 2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The laboratory control sample recovery was within the method-established control limits of 85-115%. Raw data was reviewed to verify the values reported for the LCS recovery. No qualifications were required.

3

B4PC3

Revision 0

NPDES

DATA VALIDATION REPORT

SDG: Analysis: IPA0103 Perch.

#### 2.5 LABORATORY DUPLICATES

No MS/MSD or duplicate analyses were performed in association with this SDG; therefore, no assessment was made with respect to this criterion.

#### 2.6 MATRIX SPIKES

No MS/MSD analyses were performed in association with this SDG; therefore, no assessment was made with respect to this criterion. Method accuracy was based on LCS results. No qualifications were required.

#### 2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample result reported on the Form I was verified against the raw data. No transcription errors or calculation errors were noted. No qualifications were required.

#### 2.8 FIELD QC SAMPLES

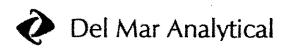
Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

#### 2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

#### 2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A., Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite 8-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 011

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

#### **INORGANICS**

MDL Reporting Sample Dilution Date Analyte Method Limit Limit Result Factor Extracted Analyzed Qualifiers Batch Sample ID: IPA0103-01 (Outfall 011 - Water) - cont.

Reporting Units: ug/i

Perchlorate

EPA 314.0

6A04078 0.80

4.0

ND

01/04/06 01/04/06 LL

level III

### CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

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| MEC <sup>X</sup>  | P  | ackage ID B4SV4         |  |  |  |  |  |
|---|--|-------------------------|--|--|--|--|--|
| 12269 East Vassar Drive   |  | ask Order 1261.001D.01  |  |  |  |  |  |
| Aurora, CO 80014  | SDG No. IPA0103  |                         |  |  |  |  |  |
|   | No. of   | Analyses 1              |  |  |  |  |  |
| Laboratory Del Mar An   |  | Date: February 16, 2006 |  |  |  |  |  |
| Reviewer K. Shadowl   | Reviewer's Signature,  |                         |  |  |  |  |  |
| Analysis/Method Semivolatile  | <del></del>  | Shadrut                 |  |  |  |  |  |
| We send the challenge and the character of the character | J  |                         |  |  |  |  |  |
| ACTION ITEMS*   |  |                         |  |  |  |  |  |
| Case Narrative  |  |                         |  |  |  |  |  |
| Deficiencies  |  |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
| 2. Out of Scope Analyses  |  |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
| 3. Analyses Not Conducted   |  |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
|   | ikk dali kaka kati pinininining ilining kipining kati pining kati pining kati panahan kati panahan kati panahan  |                         |  |  |  |  |  |
| 4. Missing Hardcopy   |  |                         |  |  |  |  |  |
| Deliverables  |  |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
| 5. Incorrect Hardcopy   |  |                         |  |  |  |  |  |
| Deliverables  |  |                         |  |  |  |  |  |
| 6. Deviations from Analysis   | Qualification were assigned  | Seath a Sellandia       |  |  |  |  |  |
| · ·   | -Method blank contamination  |                         |  |  |  |  |  |
| Protocol, e.g.,<br>Holding Times  | -Method blank contamination -RPD outliers in the BS/BSI  |                         |  |  |  |  |  |
| GC/MS Tune/Inst. Performance  | -RFU dutilets in the 65/65   |                         |  |  |  |  |  |
| Calibration   | ad the shallow in the state of  |                         |  |  |  |  |  |
| Method blanks   |  |                         |  |  |  |  |  |
| Surrogates  |  |                         |  |  |  |  |  |
| Matrix Spike/Dup LCS  |  |                         |  |  |  |  |  |
| Field QC  | ek da dinamana nya mpanja nya nya   |                         |  |  |  |  |  |
| Internal Standard Performance   |  |                         |  |  |  |  |  |
| Compound Identification   |  |                         |  |  |  |  |  |
| Quantitation  |  |                         |  |  |  |  |  |
| System Performance  |  |                         |  |  |  |  |  |
| COMMENTS  |  |                         |  |  |  |  |  |
| H 1995-hard Barbar de Amerika da palagun de managam da  |  |                         |  |  |  |  |  |
|   | $q^{\frac{1}{2}} e^{-\frac{1}{2}(\frac{1}{2} + \frac{1}{2} + $ |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
|   |  |                         |  |  |  |  |  |
| <ul> <li>Subcontracted analytical laboratory is not meeting contract and/or method requirements.</li> <li>Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.</li> </ul>  |  |                         |  |  |  |  |  |



## DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 011

**ANALYSIS: SEMIVOLATILES** 

**SAMPLE DELIVERY GROUP IPA0103** 

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project:

**NPDES** 

SDG: Analysis: IPA0103 **SVOCs** 

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

1261.001.01

Sample Delivery Group:

IPA0103

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Semivolatiles

QC Level:

Level IV

No. of Samples:

1

0

No. of Reanalyses/Dilutions:

Reviewer:

K. Shadowlight

Date of Review:

February 16, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Semivolatile Organics (DVP-3, Rev. 0), EPA Method 625, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: NPDES SDG: IPA0103 Analysis: SVOCs

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 011 | IPA0103-01    | Water  | 625        |

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory above the temperature limits of  $4^{\circ}$ C  $\pm 2^{\circ}$ C at  $9^{\circ}$ C. Due to the nonvolatile nature of the analytes, no qualification was required for the elevated temperature. No other sample preservation, handling, or transport problems were noted, and no qualifications were necessary.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel. The COC accounted for the analysis presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary. No qualifications were required.

#### 2.1.3 Holding Times

The water sample was extracted within seven days of collection and analyzed within 40 days of extraction. No qualifications were required.

#### 2.2 GC/MS TUNING

The DFTPP tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 625. No qualifications were required.

#### 2.3 CALIBRATION

One initial calibration was associated with the sample, dated 12/29/05. The average RRFs were  $\geq 0.05$  for all target compounds. The %RSDs were  $\leq 35\%$  or  $r^2$  values  $\geq 0.995$  for all target compounds listed on the sample summary report. The continuing calibration associated with the sample in this SDG was dated 01/05/06. The RRFs for all target compounds were  $\geq 0.05$  and the %Ds were  $\leq 20\%$ . A representative number of average RRFs and %RSDs in the initial calibration and RRFs and %Ds in the continuing calibration were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

**B45V4** 

Project: NPDES SDG: IPA0103 Analysis: SVOCs

DATA VALIDATION REPORT

#### 2.4 BLANKS

One method blank (6A09061-BLK1) was extracted and analyzed with this SDG. Target compounds bis(2-ethylhexyl)phthalate was detected between the MDL and the reporting limit in the method blank. Target compound bis(2-ethylhexyl)phthalate was also detected in the site sample. The result for bis(2-ethylhexyl)phthalate, was qualified as a nondetect, "U," at the reporting limit. Review of the method blank raw data indicated no false positives or false negatives. No further qualifications were required.

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike/blank spike duplicate pair (6A09061-BS1/BSD1) was extracted and analyzed with this SDG. The recoveries for 2,4-dinitrotoluene and pentachlorophenol were below QC limits but ≥10% in the blank spike duplicate only. The RPDs for 2,4-dinitrotoluene, n-nitrosodimethylamine, and pentachlorophenol exceeded the QC limit of 20%; therefore, the nondetect results for the aforementioned target compounds were qualified as estimated, "UJ," in the site sample. The remaining recoveries and RPDs were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No further qualifications were required.

#### 2.6 SURROGATE RECOVERY

Surrogate recoveries for the sample were within the laboratory QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

#### 2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy and precision was based on the blank spike/blank spike duplicate results. No qualifications were required.

#### 2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

B4SV4 4 Revision 0

| Project: | NPDES   |
|----------|---------|
| SDG:     | IPA0103 |
| Annhinin | SIMOCA  |

#### DATA VALIDATION REPORT

#### 2.8.1 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

#### 2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

#### 2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times for the sample were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times. A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

#### 2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for five semivolatile target compounds by EPA Method 625. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

#### 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

#### 2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

#### 2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.

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|-----|----|------|-------|
| į   | OΠ | on 0 | ion 0 |



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st SL, Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

#### **ACID & BASE/NEUTRALS BY GC/MS (EPA 625)**

| Analyte  | Method          | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result | Dilution<br>Factor |          | Date Data<br>Analyzed Qualifie | rs   |
|--|-----------------|---------|--------------|--------------------|------------------|--------------------|----------|--------------------------------|--|
| Sample ID: IPA0103-01 (Outfall 01) Reporting Units: ug/l | - Water) - cont | •       |              |                    |                  |                    |          | <b>E</b> tral                  | Que  |
| Bis(2-ethylhexyl)phthalate                               | EPA 625         | 6A09061 | 1.1          | 5.0                | 2.2              | MO 1               | 01/09/06 | 01/12/06 (S, B, J              | В  |
| 2,4-Dinitrotoluene                                       | EPA 625         | 6A09061 | 0.23         | 9.0                | ND               | 1                  | 01/09/06 | 01/12/06 4J L2                 | <del>×-</del> 5  |
| N-Nitrosodimethylamine                                   | EPA 625         | 6A09061 | 0.22         | 8.0                | ND               | 1                  | 01/09/06 | 01/12/06                       | 1  |
| Pentachlorophenol  | EPA 625         | 6A09061 | 0.78         | 8.0                | ND               | 1                  | 01/09/06 | 01/12/06 - L2                  | $\downarrow$   |
| 2,4,6-Trichlorophenol                                    | EPA 625         | 6A09061 | 0.10         | 6.0                | ND               | 1                  | 01/09/06 | 01/12/06 CL                    |  |
| Surrogate: 2-Fluorophenol (30-120%)                      | )               |         |              |                    | 61 %             |                    |          |                                |  |
| Surrogate: Phenol-d6 (35-120%)                           |                 |         |              |                    | 73 %             |                    |          |                                | The second of th |
| Surrogate: 2,4,6-Tribromophenol (45-                     | 120%)           |         |              |                    | 84 %             |                    |          |                                | Ť  |
| Surrogate: Nitrobenzene-d5 (45-120%                      | 6)              |         |              |                    | 81%              |                    |          |                                |  |
| Surrogate: 2-Fluorobiphenyl (45-120)                     | %)              |         |              |                    | 73 %             |                    |          |                                |  |
| Surrogate: Terphenyl-d14 (45-120%)                       |                 |         |              |                    | 74 %             |                    |          |                                |  |

level III.
Ks or/16/06

Del Mar Analytical, Irvine Michele Chamberlin Project Manager

#### CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

MECX

| MECX   |   | Package ID B4VO14                                   |
|--|---|---|
| 12269 East Vassar [  | Orive   | Task Order 1261.001D.01                             |
| Aurora, CO 80014   |   | SDG No. IPA0103                                     |
|  |   | No. of Analyses 1                                   |
| Laboratory I   | Del Mar Analytical  | Date: February 16, 2006                             |
| Reviewer   | K. Shadowlight  | Reviewer's Signature                                |
| Analysis/Method  | Volatiles by Method 624   | KShader It  |
| XVVA   |   |   |
| ACTION ITEMS   |   |   |
| . Case Narrative   |   |   |
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| 3. Analyses Not Co   | nducted   |   |
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| A RAI on The on A Section Assessment   |   |   |
| 4. Missing Hardcop Deliverables  | 1 <b>y</b>  |   |
| Jenverabies  |   |   |
| 5. Incorrect Hardco  | teriorina di managana di managan d<br>Managan di managan d |   |
| Deliverables   | Compared to a communication of the communication of    |   |
|  |   |   |
| 6. Deviations from   | Analysis Sample was rece  | eived above temperature limits and all results were |
| Protocol, e.g.,  | qualified as estim  |   |
| Holding Times  |   |   |
| GC/MS Tune/Inst. F   | Performance   |   |
| Calibration  |   |   |
| Method blanks  |   |   |
| Surrogates   |   |   |
| Matrix Spike/Dup Lo  | <u> </u>  |   |
| Field QC   |   |   |
| Internal Standard P  |   |   |
| Compound Identific   | ation   |   |
| Quantitation<br>System Performand  |   |   |
| COMMENTS   |   |   |
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| والمراجعة والمرا |   |   |
| * Subcontracted analytical la  | boratory is not meeting contract and/or m   | nethod requirements.                                |
|  | e been adopted by the laboratory but no   |   |



## DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 011

**ANALYSIS: VOLATILES** 

SAMPLE DELIVERY GROUP: IPA0103

Prepared by

MEC<sup>x</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

**NPDES** 

Analysis:

IPA0103 VOCs

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

MEC<sup>X</sup> Project Number:

1261.001.01

Sample Delivery Group:

DATA VALIDATION REPORT

**IPA0103** 

Project Manager:

P. Costa Water

Matrix:

Volatiles

Analysis:

QC Level:

Level IV

No. of Samples:

1

No. of Reanalyses/Dilutions:

K. Shadowlight Reviewer:

Date of Review:

February 16, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Volatile Organics (DVP-2, Rev. 0), EPA Method 624, and the National Functional Guidelines for Organic Data Review (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Project: NPDES SDG: IPA0103

SDG: I Analysis: VOCs

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method |
|-------------|---------------|--------|------------|
| Outfall 011 | IPA0103-01    | Water  | 624        |

Project: NPDES SDG: IPA0103 Analysis: VOCs

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

The sample in this SDG was received at the laboratory above the temperature limits of 4°C ±2°C, at 9°C. According to the case narrative for this SDG, the sample was received intact, on ice, and properly preserved. Because the sample was shipped via courier direct to the laboratory on ice and received the day of sampling, the sample had not had sufficient time to cool to the appropriate temperature. No qualification was deemed necessary by the reviewer. Information regarding lack of headspace in the VOA vials was not provided. No further qualifications were required.

#### 2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. As the sample was couriered directly to the laboratory, custody seals were not required. No qualifications were required.

#### 2.1.3 Holding Times

The water sample was analyzed within 14 days of collection. No qualifications were required.

#### 2.2 GC/MS TUNING

The BFB tune performed at the beginning of each daily analytical sequence met the abundance criteria specified in EPA Method 624. No qualifications were required.

#### 2.3 CALIBRATION

Two initial calibrations were associated with the sample in this SDG, dated 10/19/05 (Freon 113 only) and 12/29/05. The average RRFs were ≥0.05 for all target compounds. The %RSDs were ≤35% for the target compounds listed on the sample summary forms. The continuing calibration associated with the sample in this SDG was dated 01/05/05. The RRFs for all target compounds were ≥0.05 and all %Ds were within the QC limit of ≤20%. A representative number of average RRFs and %RSDs in the initial calibration and RRFs and %Ds in the continuing calibration were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

#### 2.4 BLANKS

One method blank (6A05005-BLK1) was analyzed with this SDG. No target compounds were detected in the method blank. Review of the method blank raw data indicated no false negatives. No qualifications were required.

B4V014 3 Revision 0

Project: NPDES SDG: IPA0103 Analysis: VOCs

#### DATA VALIDATION REPORT

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (6A05005-BS1) was analyzed with this SDG. The recoveries for the blank spike were within the laboratory-established QC limits. A representative number of recoveries were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

#### 2.6 SURROGATE RECOVERY

Surrogate recoveries were within the laboratory QC limits of 80-120% for this SDG. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

#### 2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the sample of this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

#### 2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site samples. Following are findings associated with field QC samples:

#### 2.8.1 Trip Blanks

According to a notation on the COC, a trip blank was not received by the laboratory for the sample in this SDG; therefore, possible trip blank contamination could not be assessed by the reviewer. No qualifications were required.

#### 2.8.2 Field Blanks and Equipment Rinsates

There were no field blank or equipment rinsate samples identified for this SDG. No qualifications were required.

#### 2.8.3 Field Duplicates

There were no field duplicate samples identified for this SDG.

Project: NPDES SDG: IPA0103 Analysis: VOCs

#### DATA VALIDATION REPORT

#### 2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times. A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

#### 2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for volatile target compounds by EPA Method 624. Review of the sample chromatograms, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

#### 2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

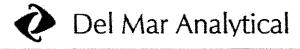
Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low point of the initial calibration and the laboratory MDLs. No qualifications were required.

#### 2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for this SDG. No qualifications were required.

#### 2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

#### **PURGEABLES BY GC/MS (EPA 624)**

|   |          |         | MDL   | Reporting | Sample |        |           | Date     | Data   |  |
|---|----------|---------|-------|-----------|--------|--------|-----------|----------|--|--|
| Analyte   | Method   | Batch   | Limit | Limit     | Result | Factor | Extracted | Analyzed | Qualifi  |  |
| Sample ID: IPA0103-01 (Outfall 011<br>Reporting Units: ug/l | - Water) |         |       |           |        |        |           |          |  |  |
| Benzene   | EPA 624  | 6A05005 | 0.28  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | ų  | The state of the s |
| Trichlorotrifluoroethane (Freon 113)                        | EPA 624  | 6A05005 | 1.2   | 5.0       | ND     | 1      | 01/05/06  | 01/05/06 | ***************************************  | ×. (0.600 ppg)   |
| Carbon tetrachloride  | EPA 624  | 6A05005 | 0.28  | 5.0       | ND     | 1      | 01/05/06  | 01/05/06 |  | 3000 PM  |
| Chloroform  | EPA 624  | 6A05005 | 0.33  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | 24   | a-xvovanis.  |
| 1,1-Dichloroethane  | EPA 624  | 6A05005 | 0.27  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | CAN AND AND AND AND AND AND AND AND AND A  | ACT-TOTAL CONTRACTOR C |
| 1,2-Dichloroethane  | EPA 624  | 6A05005 | 0.28  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | and the second   | Pyrot sanger   |
| 1,1-Dichloroethene  | EPA 624  | 6A05005 | 0.42  | 3.0       | ND     | 1      | 01/05/06  | 01/05/06 | applica estim  | ALTONO PART OF THE |
| Ethylbenzene  | EPA 624  | 6A05005 | .0.25 | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 |  | anacopolica de la compansa de la com |
| Tetrachloroethene   | EPA 624  | 6A05005 | 0.32  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | <sub>D</sub> arjimensish   | e de la company  |
| Toluene   | EPA 624  | 6A05005 | 0.36  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | • Activity   | n n n n n n n n n n n n n n n n n n n  |
| 1,1,1-Trichloroethane                                       | EPA 624  | 6A05005 | 0.30  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | 4000   | фермониция (   |
| 1,1,2-Trichloroethane                                       | EPA 624  | 6A05005 | 0.30  | 2.0       | ND     | 1      | 01/05/06  | 01/05/06 | - Anna Aire  | aucosoppide.   |
| Trichloroethene   | EPA 624  | 6A05005 | 0.26  | 5.0       | ND     | 1      | 01/05/06  | 01/05/06 | Security Sec |  |
| Trichlorofluoromethane                                      | EPA 624  | 6A05005 | 0.34  | 5.0       | ND     | 1      | 01/05/06  | 01/05/06 | 90   | o de la constante de la consta |
| Vinyl chloride  | EPA 624  | 6A05005 | 0.26  | 5.0       | ND     | 1      | 01/05/06  | 01/05/06 | The same of the sa | AMilane  |
| Xylenes, Total  | EPA 624  | 6A05005 | 0.52  | 4.0       | ND     | 1      | 01/05/06  | 01/05/06 | 4  | n de la company  |
| Surrogate: Dibromofluoromethane (8)                         | 0-120%)  |         |       |           | 110%   |        |           |          |  | ì  |
| Surrogate: Toluene-d8 (80-120%)                             |          |         |       |           | 103 %  |        |           |          |  |  |
| Surrogate: 4-Bromoftuorobenzene (80                         | 0-120%)  |         |       |           | 104 %  |        |           |          |  |  |



### CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA MECX, LLC Package ID <u>B4WC6</u> 12260 East Vassar Drive Task Order 1261.001D.01 SDG No. IPA0103 Suite 500 Lakewood, CO 80226 No. of Analyses 1 Laboratory Del Mar - Irvine Date: February 17, 2006 Reviewer's Signature Reviewer E. Wessling Analysis/Method General Minerals **ACTION ITEMS**\* Case Narrative Deficiencies 2. Out of Scope Analyses 3. Analyses Not Conducted 4. Missing Hardcopy **Deliverables** 5. Incorrect Hardcopy **Deliverables** 6. Deviations from Analysis Qualifications were assigned for the following: - results between the RL and the MDL were estimated Protocol, e.g., - BOD results did not meet method specific oxygen depletion criterion **Holding Times** GC/MS Tune/Inst. Performance - CCV for conductivity Calibration - negative blank for MBAS Method blanks Surrogates Matrix Spike/Dup LCS Field QC Internal Standard Performance Compound Identification Quantitation System Performance COMMENTS<sup>b</sup> Subcontracted analytical laboratory is not meeting contract and/or method requirements.

Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.



### DATA VALIDATION REPORT

## NPDES Sampling Outfall 011

**ANALYSIS: GENERAL MINERALS** 

SAMPLE DELIVERY GROUP: IPA0103

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

DATA VALIDATION REPORT

#### 1. INTRODUCTION

Task Order Title: NPDES Sampling MEC<sup>x</sup> Project Number: 1261.001D.01

Sample Delivery Group: IPA0103

Project Manager: P. Costa Matrix: Water

Analysis: General Minerals

QC Level: Level IV

No. of Samples: 1

No. of Reanalyses/Dilutions: 0

Reviewer: E. Wessling

Date of Review: February 17, 2006

The sample listed in Table 1 was validated based on the guidelines outlined in the MEC<sup>X</sup> Data Validation Procedure for General Minerals (DVP-6, Rev. 0), USEPA Methods for Chemical Analysis of Water and Wastes Methods 120.1, 160.1, 160.2, 160.5, 180.1, 300.0, 335.2, 350.2, 405.1, and 413.1 and Standard Methods for the Examination of Water and Wastewater Method SM2550-C, and validation guidelines outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form Is as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

B4WC6 1 Revision 0

DATA VALIDATION REPORT

Table 1. Sample Identification

| Client ID   | Laboratory ID | Matrix | COC Method       |
|-------------|---------------|--------|------------------|
| Outfall 011 | IPA0103-01    | Water  | General Minerals |

DATA VALIDATION REPORT

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the laboratory above the temperature limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ; however the sample was shipped direct to the laboratory on ice and had not yet cooled to the specified temperature. No qualifications were deemed necessary by the reviewer. No preservation problems were noted by the laboratory. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC was signed and dated by field and laboratory personnel and accounted for the sample and all analyses presented in this SDG. As the sample was couriered directly from the field to the laboratory, custody seals were not necessary.

#### 2.1.3 Holding Times

The holding times were assessed by comparing the date of collection with the dates of analysis. All samples were analyzed within the method specified holding times. No qualifications were required.

#### 2.2 CALIBRATION

For all applicable analyses, the initial calibration correlation coefficients were ≥0.995 and the ICV and CCV recoveries were within the control limits of 90-110%, with the exception of conductivity. The CCV was below the control limit and the sample result was qualified as estimated, "J." For those methods requiring weight determinations, balance calibration logs were reviewed and found to be acceptable. No further qualifications were required.

#### 2.3 BLANKS

There were no detects in the method blanks or CCBs associated with the sample analyses. The blanks in the MBAS analysis associated with sample Outfall 011 demonstrated negative results. The MBAS result for Outfall 011 was therefore qualified as an estimated nondetect, "UJ." Raw data was reviewed to verify the blank data. No further qualifications were required.

B4WC6 3 Revision 0

#### DATA VALIDATION REPORT

#### 2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The reported LCS recoveries were within the laboratory-established control limits. No LCS recovery was listed for nitrate; however, the reviewer checked the raw data and found that nitrate was spiked into the LCS and was recovered acceptably. No qualifications were required.

#### 2.5 LABORATORY DUPLICATES

No MS/MSD or duplicate analyses were performed in association with this SDG; therefore, no assessment was made with respect to this criterion. No qualifications were required.

#### 2.6 MATRIX SPIKES

No MS/MSD analyses were performed in association with this SDG; therefore, no assessment was made with respect to this criterion. Evaluation of method accuracy was based on LCS results. No qualifications were required.

#### 2.7 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the sample in this data package. Calculations were verified, and the sample results reported on the Form Is were verified against the raw data. Sample Outfall 011 did not meet the BOD method specified oxygen depletion rate; therefore, the sample result was qualified as estimated, "J." Results reported by the laboratory between the MDL and reporting limit were qualified as estimated, "J," and annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit.

#### 2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based only on laboratory blanks. Any remaining detects are used to evaluate the associated sample. The following are findings associated with field QC samples:

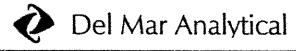
#### 2.8.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no associated field QC samples. No qualifications were required.

#### 2.8.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.

B4WC6 4 Revision 0



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06

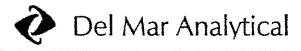
Report Number: IPA0103

Received: 01/03/06

#### **INORGANICS**

| Analyte  | Method           | Batch   | MDL<br>Limit | Reporting<br>Limit | Sample<br>Result |   | Date<br>Extracted | -        |                 | Tourist . |
|--|------------------|---------|--------------|--------------------|------------------|---|-------------------|----------|-----------------|-----------|
| Sample ID: IPA0103-01 (Outfall 011 Reporting Units: mg/l | - Water) - cont. |         |              |                    |                  |   |                   |          | and             | G: 88     |
| Ammonia-N (Distilled)                                    | EPA 350.2        | 6A05098 | 0.30         | 0.50               | ND               | 1 | 01/05/06          | 01/05/06 | Ų.              |           |
| Biochemical Oxygen Demand                                | EPA 405.1        | 6A05070 | 0.59         | 2.0                | 2.7              | 1 | 01/05/06          | 01/10/06 | J K             | * t       |
| Chloride   | EPA 300.0        | 6A03051 | 0.26         | 0.50               | 24               | 1 | 01/03/06          | 01/03/06 |                 |           |
| Total Cyanide  | EPA 335.2        | 6A06111 | 0.0022       | 0.0050             | ND               | I | 01/06/06          | 01/09/06 | Ú               |           |
| Nitrate/Nitrite-N  | EPA 300.0        | 6A03051 | 0.080        | 0.15               | 1.5              | 1 | 01/03/06          | 01/03/06 |                 |           |
| Oil & Grease   | EPA 413.1        | 6A09050 | 0.99         | 5.3                | 2.7              | 1 | 01/09/06          | 01/09/06 | $\rightarrow y$ | BURK      |
| Sulfate  | EPA 300.0        | 6A03051 | 0.18         | 0.50               | 41               | 1 | 01/03/06          | 01/03/06 | ,               | 1         |
| Surfactants (MBAS)                                       | EPA 425.1        | 6A03114 | 0.044        | 0.10               | ND               | 1 | 01/03/06          | 01/03/06 | L 1             | 13        |
| Total Dissolved Solids                                   | EPA 160.1        | 6A04107 | 10           | 10                 | 220              | 1 | 01/04/06          | 01/04/06 | •               |           |
| Total Suspended Solids                                   | EPA 160.2        | 6A06118 | 10           | 10                 | 48               | 1 | 01/06/06          | 01/06/06 |                 |           |





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MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Sampled: 01/03/06

Report Number: IPA0103

Received: 01/03/06

#### **INORGANICS**

MDL Reporting Sample Dilution Date Date Analyte Result Factor Extracted Analyzed Qualifiers Method Batch Limit Sample ID: IPA0103-01 (Outfall 011 - Water) - cont. Reporting Units: mi/l/hr **Total Settleable Solids** EPA 160.5 6A04072 0.10 0.10 0.50 01/04/06 01/04/06





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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Quarterly Outfall 011

300 North Lake Avenue, Suite 1200

Report Number: IPA0103

Sampled: 01/03/06 Received: 01/03/06

Attention: Bronwyn Kelly

**INORGANICS** 

MDL Reporting Sample Dilution Date Data

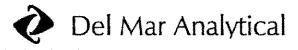
Analyte Method Batch Limit Limit Result Factor Extracted Analyzed Qualifiers

Sample ID: IPA0103-01 (Outfall 011 - Water) - cont.

Reporting Units: NTU

Turbidity EPA 180.1 6A04071 0.20 5.0 72 5 01/04/06 01/04/06





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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 011

Report Number: IPA0103

Sampled: 01/03/06

Received: 01/03/06

#### **INORGANICS**

MDL Reporting Sample Dilution Date Result Factor Extracted Analyzed Qualifiers Analyte Method Limit Batch Limit Sample ID: IPA0103-01 (Outfall 011 - Water) - cont. Reporting Units: umhos/cm 01/04/06 01/04/06 Specific Conductance EPA 120.1 6A04105



### CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| MEC <sup>X</sup>   | Package ID B4DF11   |
|--|---|
| 12269 East Vassar Drive  | Task Order 1261.001D.01   |
| Aurora, CO 80014   | SDG No. IPA0103   |
| ,  | No. of Analyses 1   |
| Laboratory Alta  | Date: February 14, 2006   |
| Reviewer K. Shadow   |   |
| Analysis/Method Dioxin/Fura  |   |
|  |   |
| ACTION ITEMS   |   |
| . Case Narrative   |   |
| Deficiencies   |   |
|  |   |
| 2. Out of Scope Analyses   |   |
|  |   |
|  |   |
| 3. Analyses Not Conducted  |   |
|  |   |
|  |   |
| 4. Missing Hardcopy Deliverables   |   |
| Deliverables   |   |
| 5. Incorrect Hardcopy  |   |
| Deliverables   |   |
|  |   |
| 6. Deviations from Analysis  | Detects below the laboratory lower calibration level were qualified |
| Protocol, e.g.,  | as estimated.   |
| Holding Times  | Qualification was assigned for an EMPC.                             |
| GC/MS Tune/Inst. Performance   |   |
| Calibration  |   |
| Method blanks  |   |
| Surrogates   |   |
| Matrix Spike/Dup LCS   |   |
| Field QC   |   |
| Internal Standard Performance  |   |
| Compound Identification  Quantitation  |   |
|  |   |
| System Performance COMMENTS <sup>b</sup>   |   |
| Man Man Andrews (大変なない Andrews Andre |   |
|  |   |
|  |   |
|  |   |
| <sup>2</sup> Subcontracted analytical laboratory is not  | meeting contract and/or method requirements.                        |
| t  | by the laboratory but no action against the laboratory is required. |



## DATA VALIDATION REPORT

# NPDES Monitoring Program Routine Outfall 011

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUP: IPA0103

Prepared by

MEC<sup>X</sup>, LLC 12269 East Vassar Drive Aurora, CO 80014

Project: SDG:

**NPDES** IPA0103 D/F

DATA VALIDATION REPORT

Analysis:

#### 1. INTRODUCTION

Task Order Title:

**NPDES** 

Contract Task Order:

1261.001.01

Sample Delivery Group:

IPA0103

Project Manager:

P. Costa

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

O

1

Reviewer:

K. Shadowlight

Date of Review:

February 14, 2006

The samples listed in Table 1 were validated based on the guidelines outlined in the MECX Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 0), USEPA Method 1613, and the National Functional Guidelines for Chlorinated Dioxin/Furan Data Review (8/02). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

DATA VALIDATION REPORT

Project: SDG: Analysis:

**NPDES** IPA0103 D/F

Table 1. Sample Identification

| Client ID   | Laboratory ID<br>(Del Mar) | Laboratory ID<br>(Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 011 | IPA0103-01                 | 27141-001               | Water  | 1613       |

Analysis

#### 2. DATA VALIDATION FINDINGS

#### 2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

#### 2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at Del Mar Analytical above the temperature limits of 4°C ±2°C; at 9°C. Due to the nonvolatile nature of dioxin/furans, no qualifications were required for the elevated temperature. The sample was shipped to Alta for dioxin/furan analysis and was received below the temperature limits at 0°C. As the sample was not noted to be damaged or frozen, no qualifications were required. According to the case narrative and laboratory login sheet, the sample was received intact and in good condition at both laboratories. No qualifications were required.

#### 2.1.2 Chain of Custody

The COC and transfer COC were legible and signed by the appropriate field and laboratory personnel, and accounted for the analysis presented in this SDG. As the samples were couriered directly to Del Mar Analytical-Irvine, custody seals were not required. Custody seals were present on the coolers from Del Mar to Alta; however no sample custody seals were present. The Client ID was added to the sample result summary by the reviewer. No qualifications were required.

#### 2.1.3 Holding Times

The samples were extracted and analyzed within a year of collection. No qualifications were required.

#### 2.2 **INSTRUMENT PERFORMANCE**

Following are findings associated with instrument performance:

#### 2.2.1 GC Column Performance

A Windows Defining Mix (WDM) containing the first and last eluting congeners of each descriptor and isomer specificity compounds was not analyzed prior to the initial calibration sequence or at the beginning of each analytical sequence; however, the first and last eluting congeners and isomer specificity compounds were added to the midpoint of the initial calibration and to the continuing calibration standards (see section 2.3.2). The GC column performance in the calibrations was acceptable, with the height of the valley between the closely eluting isomers and 2,3,7,8-TCDD reported as less than 25%. No qualifications were required.

Project: NPDES SDG: IPA0103 Analysis: D/F

#### DATA VALIDATION REPORT

#### 2.2.2 Mass Spectrometer Performance

The mass spectrometer performance was acceptable with the static resolving power greater than 10,000. No qualifications were required.

#### 2.3 CALIBRATION

#### 2.3.1 Initial Calibration

The initial calibration was analyzed 12/30/2005 on instrument VG-7. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibrations were acceptable with %RSDs ≤20% for the 16 native compounds (calibration by isotope dilution) and ≤35% for the one native and all labeled compounds (calibration by internal standard). The relative retention times and ion abundance ratios were within the QC limits listed in Method 1613 for all standards. A representative number of %RSDs were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

#### 2.3.2 Continuing Calibration

Calibration verification (VER) consisted of a mid-level standard (CS3) analyzed at the beginning of each analytical sequence. The VERs were acceptable with the concentrations within the acceptance criteria listed in Table 6 of EPA Method 1613. The ion abundance ratios and relative retention times were within the method QC limits. A representative number of %Ds were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

WDM and isomer specificity compounds were added to the VER standard instead of being analyzed separately, as noted in section 2.2.1 of this report. No adverse effect was observed with this practice.

#### 2.4 BLANKS

One method blank (0-7632-MB001) was extracted and analyzed with the sample in this SDG. No compounds were reported in the method blank associated with the site sample. A review of the method blank raw data and chromatograms indicated no false negatives. No qualifications were required.

#### 2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One blank spike (0-7632-OPR001) was extracted and analyzed with the sample in this SDG. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. A review of the raw data and chromatograms indicated no transcription or calculation errors. No qualifications were required.

#### 2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Revision 0

Project: NPDES SDG: IPA0103 Analysis: D/F

DATA VALIDATION REPORT

MS/MSD analyses were not performed in this SDG. Evaluation of method accuracy was based on the OPR results. No qualifications were required.

#### 2.7 FIELD QC SAMPLES

Following are findings associated with field QC:

#### 2.7.1 Field Blanks and Equipment Rinsates

The sample in this SDG had no field blank or equipment rinsate identified. No qualifications of the site samples were required.

#### 2.7.2 Field Duplicates

No field duplicates were identified in association with the sample in this SDG.

#### 2.8 INTERNAL STANDARDS

The labeled standard recoveries were within the acceptance criteria listed in Table 7 of Method 1613. No qualifications were required.

#### 2.9 COMPOUND IDENTIFICATION

The laboratory analyzed for polychlorinated dioxins/furans by EPA Method 1613. The compound identifications were verified from the raw data and no false negatives or positives were noted. No qualifications were required.

#### 2.10 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantitation was verified from the raw data. The laboratory calculated and reported compound-specific detection limits. Any detects below the laboratory lower calibration level were qualified as estimated, "J," by the laboratory. These "J" values were annotated with the qualification code of "DNQ" to comply with the reporting requirements of the NPDES permit. Any reported estimated maximum possible concentration (EMPC) was qualified as an estimated nondetect, "UJ." No further qualifications were required.