Project:

SDG No.:

NPDES IOE0358

Analysis:

General Minerals

2.5 SURROGATES RECOVERY

DATA VALIDATION REPORT

Surrogate recovery is not applicable to the analyses presented in this SDG.

2.6 LABORATORY DUPLICATES

Laboratory duplicate analyses were performed on sample Outfall 002 for conductivity. The RPD was within the laboratory-established control limit of ≤5% and no qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

2.8 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analyses of this sample; therefore, furnace atomic absorption QC is not applicable.

2.9 ICP SERIAL DILUTION

ICP serial dilution is not applicable to the analyses presented in this data validation report.

2.10 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 I were verified against the raw data. No transcription errors or calculation errors were noted. No qualifications were required.

2.11 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:

2.11.1 Field Blanks and Equipment Rinsates

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

Project:

NPDES

SDG No.:

IOE0358

Analysis: General Minerals

DATA VALIDATION REPORT

2.11.2 Field Duplicates

There were no field duplicate pairs associated with this SDG.



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IOE0358

Sampled: 05/05/05

Received: 05/05/05

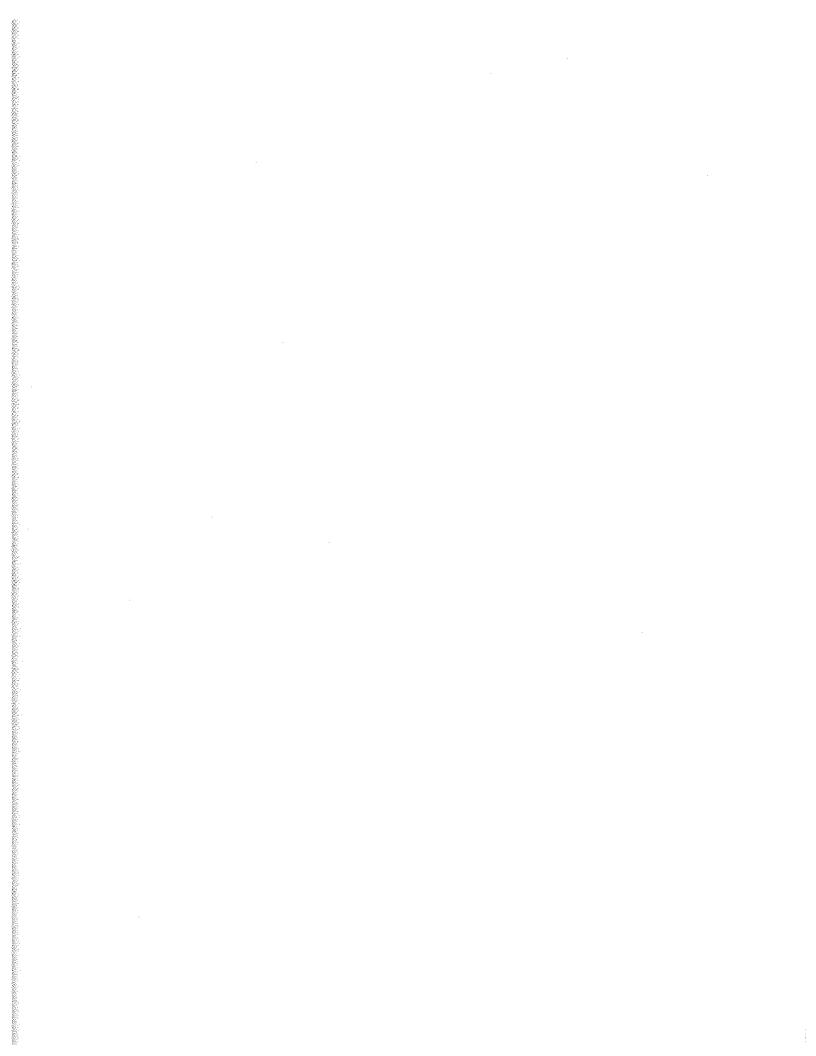
DRAFT: INORGANICS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | | n Date Extracted | Date Analyzi | Da ed Quali | |
|---|-------------------|---------|--------------|--------------------|------------------|----------|---------------------|-----------------|----------------|--------------|
| Sample ID: IOE0358-01 (DRAFT: Reporting Units: mg/l | : Outfall 002 - V | Vater) | | | Samp | oled: 05 | /05/05 | | Rev Qual | Qual Code |
| Ammonia-N (Distilled) | EPA 350.2 | 5E10082 | 0.30 | 0.50 | ND | 1 | 05/10/05 | 05/10/05 | U | |
| Sample ID: IOE0358-01 (DRAFT: Reporting Units: NTU | Outfall 002 - W | Vater) | | | Samp | oled: 05 | | | Ü | |
| Turbidity | EPA 180.1 | 5E06087 | 0.040 | 1.0 | 1.7 | 1 | 05/06/05 | 05/06/05 | | |
| Sample ID: IOE0358-01 (DRAFT: Reporting Units: umhos/cm | Outfall 002 - W | /ater) | | | Samp | led: 05 | | 90,00,00 | | |
| Specific Conductance | EPA 120.1 | 5E09096 | 1.0 | 1.0 | 960 | 1 | 05/09/05 | 05/09/05 | | |
| · · | | | | | | | | | - 1 | |

AMEC VALIDATED



DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE



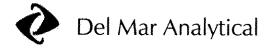
APPENDIX G

Section 3

Outfall 003

Del Mar Analytical Laboratory Reports

AMEC Data Validation Reports



17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297 1014 E. Coofey Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (838) 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. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project: Routine Outfall 003

Sampled: 04/28/05

Received: 04/28/05 Issued: 07/01/05 15:29

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

IOD2051-01

Outfall 003

Water

Reviewed By:

Del Mar Analytical, Irvine

Michell Harper

Michele Harper Project Manager



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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

| Sampled: 04/28/05 | Report Number: IOD2051 | Received: 04/28/05

Attention: Bronwyn Kelly

METALS

| | | | IVIE I A | ALS | | | | | |
|-----------------------------------|------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
| Sample ID: IOD2051-01 (Outfall 00 | 3 - Water) | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| Antimony | EPA 200.8 | 5D29095 | 0.18 | 2.0 | 0.30 | 1 | 04/29/05 | 05/03/05 | J |
| Cadmium | EPA 200.8 | 5D29095 | 0.015 | 1.0 | 0.17 | 1 | 04/29/05 | 05/03/05 | J |
| Copper | EPA 200.8 | 5D29095 | 0.49 | 2.0 | 12 | 1 | 04/29/05 | 05/03/05 | |
| Lead | EPA 200.8 | 5D29095 | 0.13 | 1.0 | 3.5 | 1 | 04/29/05 | 05/03/05 | |
| Mercury | EPA 245.1 | 5D29061 | 0.063 | 0.20 | ND | 1 | 04/29/05 | 04/29/05 | |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IOD2051

Sampled: 04/28/05

Received: 04/28/05

INORGANICS

| | 1 - 1 - 1 - 1 | AL 14 W. | | | | | | |
|-------|---------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|--|
| Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers | |
| | | | | | | | | |

| Analyte | Method | Batch | Limit | Limit | Result | Factor | Extracted | Analyzed | Qualifiers |
|----------------------------------|---------------------|---------|-------|-------|--------|--------|-----------|----------|------------|
| Sample ID: IOD2051-01 (Outfall 0 | 03 - Water) - cont. | | | | | | | | |
| Reporting Units: mg/I | | | | | | | | | |
| Chloride | EPA 300.0 | 5D28116 | 2.6 | 5.0 | 78 | 10 | 04/28/05 | 04/29/05 | |
| Nitrate/Nitrite-N | EPA 300.0 | 5D28116 | 0.072 | 0.26 | ND | 1 | 04/28/05 | 04/29/05 | |
| Oil & Grease | EPA 413.1 | 5E04036 | 0.94 | 5.0 | ND | 1 | 05/04/05 | 05/04/05 | |
| Sulfate | EPA 300.0 | 5D28116 | 1.8 | 5.0 | 180 | 10 | 04/28/05 | 04/29/05 | |
| Total Dissolved Solids | SM2540C | 5D29129 | 10 | 10 | 810 | 1 | 04/29/05 | 04/29/05 | |
| Total Suspended Solids | EPA 160.2 | 5E04071 | 10 | 10 | 160 | herrod | 05/04/05 | 05/04/05 | |



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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 003

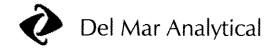
300 North Lake Avenue, Suite 1200

| Sampled: 04/28/05 | Report Number: IOD2051 | Received: 04/28/05

Attention: Bronwyn Kelly

SHORT HOLD TIME DETAIL REPORT

| | Hold Time (in days) | Date/Time Sampled | Date/Time Received | Date/Time Extracted | Date/Time Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 003 (IOD2051-01) - Water | er | | | | |
| EPA 300.0 | 2 | 04/28/2005 13:40 | 04/28/2005 18:15 | 04/28/2005 21:30 | 04/29/2005 01:07 |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IOD2051

Sampled: 04/28/05

Received: 04/28/05

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: 5D29061 Extracted: 04/29/05 | | | | | | | | | | | |
| | • | | | | | | | | | | |
| Blank Analyzed: 04/29/2005 (5D29061-Bl | LK1) | | | | | | | | | | |
| Mercury | ND | 0.20 | 0.063 | ug/l | | | | | | | |
| LCS Analyzed: 04/29/2005 (5D29061-BS) | | | | | | | | | | | |
| Mercury | 8.06 | 0.20 | 0.063 | ug/l | 8.00 | | 101 | 85-115 | | | |
| wording. | 0.00 | 0.20 | 0.003 | ng/i | 6.00 | | 101 | 03-113 | | | |
| Matrix Spike Analyzed: 04/29/2005 (5D29 | 9061-MS1) | | | | Sou | rce: IOD | 2033-03 | | | | |
| Mercury | 7.76 | 0.20 | 0.063 | ug/l | 8.00 | ND | 97 | 70-130 | | | |
| Matrix Spike Dup Analyzed: 04/29/2005 | 5D29061-MS | D1) | | | Sou | rce: IOD2 | 2033-03 | | | | |
| Mercury | 7.82 | 0.20 | 0.063 | ug/l | 8.00 | ND | 98 | 70-130 | 1 | 20 | |
| D.4.L. #D3000# E.4 4. 1. 04/30/0# | | | | _ | | | | | | | |
| Batch: 5D29095 Extracted: 04/29/05 | | | | | | | | | | | |
| Blank Analyzed: 05/03/2005 (5D29095-BI | .K1) | | | | | | | | | | |
| Antimony | ND | 2.0 | 0.18 | ug/l | | | | | | | |
| Cadmium | ND | 1.0 | 0.015 | ug/t | | | | | | | |
| Copper | ND | 2.0 | 0.49 | ug/l | | | | | | | |
| Lead | ND | 1.0 | 0.13 | ug/l | | | | | | | |
| LCS Analyzed: 05/03/2005 (5D29095-BS1 |) | | | | | | | | | | |
| Antimony | 87.8 | 2.0 | 0.18 | ug/l | 80.0 | | 110 | 85-115 | | | |
| Cadmium | 87.8 | 1.0 | 0.015 | ug/l | 80.0 | | 110 | 85-115 | | | |
| Copper | 78.5 | 2.0 | 0.49 | ug/l | 80.0 | | 98 | 85-115 | | | |
| Lead | 81.9 | 1.0 | 0.13 | ug/l | 80.0 | | 102 | 85-115 | | | |
| Matrix Spike Analyzed: 05/03/2005 (5D29 | 095-MS1) | | | | Sour | ce: IOD2 | 054-01 | | | | |
| Antimony | 98.9 | 2.0 | 0.18 | ug/l | 80.0 | 0.31 | 123 | 70-130 | | | |
| Cadmium | 86.7 | 1.0 | 0.015 | ug/l | 80.0 | 0.058 | 108 | 70-130 | | | |
| Copper | 79.4 | 2.0 | 0.49 | ug/I | 80.0 | 2.0 | 97 | 70-130 | | | |
| Lead | 80.9 | 1.0 | 0.13 | ug/l | 80.0 | 0.24 | 101 | 70-130 | | | |

Del Mar Analytical, Irvine Michele Harper

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 003

Report Number: IOD2051

Sampled: 04/28/05

Received: 04/28/05

METHOD BLANK/QC DATA

METALS

| Analyte | Result | Reporting Limit | MDL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|--|------------|--------------------|-------|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 5D29095 Extracted: 04/29/05 | ··· | | | | | | | | | | |
| Matrix Spike Analyzed: 05/03/2005 (5D2 | 9095-MS2) | | | | Sou | rce: IOD | 2149-03 | | | | |
| Antimony | 100 | 10 | 0.90 | ug/l | 80.0 | ND | 125 | 70-130 | | | |
| Cadmium | 76.0 | 5.0 | 0.075 | ug/l | 80.0 | 0.45 | 94 | 70-130 | | | |
| Copper | 90.1 | 10 | 2.4 | ug/l | 80.0 | 17 | 91 | 70-130 | | | |
| Lead | 73.5 | 5.0 | 0.65 | ug/l | 80.0 | 1.1 | 90 | 70-130 | | | |
| Matrix Spike Dup Analyzed: 05/03/2005 | (5D29095-M | SD1) | | | Sou | rce: IOD | 2054-01 | | | | |
| Antimony | 99.6 | 2.0 | 0.18 | ug/l | 80.0 | 0.31 | 124 | 70-130 | 1 | 20 | |
| Cadmium | 87.7 | 1.0 | 0.015 | ug/l | 80.0 | 0.058 | 110 | 70-130 | I | 20 | |
| Copper | 81.3 | 2.0 | 0.49 | ug/l | 80.0 | 2.0 | 99 | 70-130 | 2 | 20 | |
| Lead | 81.0 | 1.0 | 0.13 | ug/l | 80.0 | 0.24 | 101 | 70-130 | 0 | 20 | |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

Pasadena, CA 91101

Attention: Bronwyn Kelly

300 North Lake Avenue, Suite 1200

Report Number: IOD2051

Sampled: 04/28/05

Received: 04/28/05

METHOD BLANK/QC DATA

INORGANICS

| | | Reporting | | | Spike | Source | | %REC | | RPD | Data |
|---|--------------|--------------|-------|----------|-------|----------|--------|--------|-----|-------|------------|
| Analyte | Result | Limit | MDL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 5D28116 Extracted: 04/28/05 | - | | | | | | | | | | |
| Dianis Analysis J. 04/20/2005 (57/2011/ D) | . 774\ | | | | | | | | | | |
| Blank Analyzed: 04/28/2005 (5D28116-B) Chloride | | 0.50 | 0.26 | <i>a</i> | | | | | | | |
| Nitrate/Nitrite-N | ND ND | 0.50 | 0.26 | mg/l | | | | | | | |
| Sulfate | ND | 0.26 0.50 | 0.072 | mg/l | | | | | | | |
| Sanac | ND | 0.30 | 0.18 | mg/l | | | | | | | |
| LCS Analyzed: 04/28/2005 (5D28116-BS) |) | | | | | | | | | | |
| Chloride | 4.82 | 0.50 | 0.26 | mg/l | 5.00 | | 96 | 90-110 | | | M-3 |
| Sulfate | 9.63 | 0.50 | 0.18 | mg/l | 10.0 | | 96 | 90-110 | | | M-3 |
| Batch: 5D29129 Extracted: 04/29/05 | | | | | | | | | | | |
| | | | | | | | | | | | |
| Blank Analyzed: 04/29/2005 (5D29129-Bl | , | | | | | | | | | | |
| Total Dissolved Solids | ND | 10 | 10 | mg/l | | | | | | | |
| LCS Analyzed: 04/29/2005 (5D29129-BS1 |) | | | | | | | | | | |
| Total Dissolved Solids | 930 | 10 | 10 | mg/l | 1000 | | 93 | 90-110 | | | |
| Duplicate Analyzed: 04/29/2005 (5D29129 | -DUP1) | | | | Sour | ce: IOD2 | 033-01 | | | | |
| Total Dissolved Solids | 334 | 10 | 10 | mg/l | | 360 | | | 7 | 10 | |
| Batch: 5E04036 Extracted: 05/04/05 | | | | | | | | | | | |
| Blank Analyzed: 05/04/2005 (5E04036-BL | .K1) | | | | | | | | | | |
| Oil & Grease | ND | 5.0 | 0.94 | mg/l | | | | | | | |
| LCS Analyzed: 05/04/2005 (5E04036-BS1 |) | | | | | | | | | | M-NRI |
| Oil & Grease | 18.5 | 5.0 | 0.94 | mg/l | 20.0 | | 92 | 65-120 | | | |

Del Mar Analytical, Irvine Michele Harper

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: Routine Outfall 003

Report Number: IOD2051

Sampled: 04/28/05

Received: 04/28/05

METHOD BLANK/QC DATA

INORGANICS

| | | Reporting | | | Spike | Source | | %REC | | RPD | Data |
|---|---------|-----------|------|-------|-------|-----------|--------|--------|-----|-------|------------|
| Analyte | Result | Limit | MDL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 5E04036 Extracted: 05/04/05 | • | | | | | | | | | | |
| LCS Dup Analyzed: 05/04/2005 (5E04030 | 5-BSD1) | | | | | | | | | | |
| Oil & Grease | 18.9 | 5.0 | 0.94 | mg/l | 20.0 | | 94 | 65-120 | 2 | 20 | |
| Batch: 5E04071 Extracted: 05/04/05 | • | | | | | | | | | | |
| Blank Analyzed: 05/04/2005 (5E04071-Bl | .K1) | | | | | | | | | | |
| Total Suspended Solids | ND | 10 | 10 | mg/l | | | | | | | |
| LCS Analyzed: 05/04/2005 (5E04071-BS1 |) | | | | | | | | | | |
| Total Suspended Solids | 1000 | 10 | 10 | mg/l | 1000 | | 100 | 85-115 | | | |
| Duplicate Analyzed: 05/04/2005 (5E0407) | -DUP1) | | | | Sour | rce: IOD2 | 054-01 | | | | |
| Total Suspended Solids | ND | 10 | 10 | mg/l | | ND | | | | 10 | |

Del Mar Analytical, Irvine Michele Harper Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Sampled: 04/28/05
Report Number: IOD2051 Received: 04/28/05

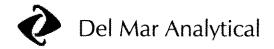
Attention: Bronwyn Kelly

Pasadena, CA 91101

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 Limit |
|------------|----------------------|------------------------|-------|--------|------|---------------------|
| IOD2051-01 | 413.1 Oil and Grease | Oil & Grease | mg/l | 0.29 | 5,0 | 15 |
| IOD2051-01 | Antimony-200.8 | Antimony | ug/l | 0.30 | 2.0 | 6.00 |
| IOD2051-01 | Cadmium-200.8 | Cadmium | ug/l | 0.17 | 1.0 | 4.00 |
| IOD2051-01 | Chloride - 300.0 | Chloride | mg/l | 78 | 5.0 | 150 |
| IOD2051-01 | Copper-200.8 | Copper | ug/l | 12 | 2.0 | 14 |
| IOD2051-01 | Mercury - 245.1 | Mercury | ug/l | 0.062 | 0.20 | 0.20 |
| IOD2051-01 | Nitrogen, NO3+NO2 -N | Nitrate/Nitrite-N | mg/l | 0 | 0.26 | 10.00 |
| IOD2051-01 | Sulfate-300.0 | Sulfate | mg/l | 180 | 5.0 | 250 |
| IOD2051-01 | TDS - SM 2540C | Total Dissolved Solids | mg/l | 810 | 10 | 850 |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Sampled: 04/28/05 Pasadena, CA 91101 Report Number: IOD2051 Received: 04/28/05

Attention: Bronwyn Kelly

DATA QUALIFIERS AND DEFINITIONS

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.

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

Attention: Bronwyn Kelly

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IOD2051

Sampled: 04/28/05

Received: 04/28/05

Certification Summary

Del Mar Analytical, Irvine

| Method | Matrix | Nelac | California |
|-----------|--------|-------|------------|
| 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 California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR Samples: 10D2051-01

Sumpres.

Analysis Performed: EDD + Level 4

Samples: IOD2051-01

(20 100305) Page 1 of 1 CHAIN OF CUSTODY FORM

| O TOTAL | All and the second of the seco | | | | | | ANY | ANALYSIS REQUIRED | RED | | |
|--|--|--|---|--|------------|------------|------------------------|--|--|---|---|
| | Boeing-SSFL NPDES | PDES | <u>]</u> | | - | | | 8 | | Ejold roadings. | |
| MWH-Pasadena 300 North Lake Avenue, Suite 1200 Sipasadena CA 91101 | Routine Outfall 003 Stormwater at RMHF | I 003 | | 6) | | N-SOI | st98 sa | 06-1 pəuiqui | | Temp = 70, 8 | , |
| sronwyn Kelly | Phone Number. (626) 568-6691 Fax Number: (626) 568-6515 | | | l Recoverable Cd, Cu, Pb, H | Gresse (EP | N+60N ,408 | 5, TSS S Alpha, Gro | um (906.0), S 5.0), Total Col ium 226 & Re | ************************************** | pH= 7,0 | žŧ. |
| Sample Container # of | Sampling Date/Time | Preservative | Bottle * | · ' q S | | CI-' | | 13i-T 30e) | | | *************************************** |
| 1L Poly 1 | 2. 200 (1) to | HNO3 | 1A | × | | | | | | AMMANYANANANANANANANANANANANANANANANANAN | *************************************** |
| W 1L Poly 1 | And the same of th | HN03 | 2 | × | | | | | | | *************************************** |
| W 1L Amber 2 | A PRINCIPAL OF THE PRIN | None | 2A, 28 | × | | | | | | A THE PARTY OF THE PROPERTY OF THE PARTY OF | *************************************** |
| W 1L Amber 2 | | HCI | 3A, 3B | | × | | | | | Water and the second | *************************************** |
| | Annual Annua | None | 4A, 4B | | | × | | | | | *************************************** |
| W Poly-500 2 | | None | 5A, 5B | | | | × | | | | *************************************** |
| W Foly-1 gal 2 | | None | | 9/20/6 | 8 | | | * | | Analyze for Total Combined RA-2268228 only if Gross Alpha > 15pCi/L | only if Gross 15pCVL |
| | | | | | | | | | | Villiand de la companya de la compa | |
| | emperatura de la companya de la comp | | | | - | | | | | | |
| | Verregioner debelok de Velocies, del proprieta de Colonia de Laborario en Colonia de Laborario en Colonia de C | | *************************************** | THE PARTY OF THE P | + | | | | | | |
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| And the second s | Andrew and the second s | The second secon | | | - | | | | | | M |
| | AND THE REAL PROPERTY AND THE PROPERTY A | | | - | + | | | | The state of the s | | |
| Relinquished By Malinquished By | Bate/Time: | Received By | | Date | Date/Time: | | | | Turn around Time: 24 Hours | Time: (check) 5 Days | |
| m Charles | 433 | スな | 3 | 97 | | 27 /2 | 5.8.3 | THE PROPERTY OF THE PROPERTY O | 48 Hours | 10 Days | *************************************** |
| Relinquished By Dat | te/Time: | Acceived By | 0 | . | | 1/28/03 | | 8/8 | 72 Hours | Normal | 1 |
| Relinquished By C Dat | Date/Time: | Received By | | | Dete/Time. | | | The state of the s | Perchlorate Only 72 H | Perchlorate Only 72 Hours | |
| | | | | | | | | | Samole Inte | Sample Integrity: (Check) | ð |
| | | | | | | | | | | | (|

17461 Derian Ave., (rvine CA 92606 (949) 261-1022 FAX (949) 261-1228 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (888) 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

June 17, 2005

MWH- Pasadena / Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Attention:

Bronwyn Kelly

Project:

Routine Outfall 003 Sampled: 04/28/05

Del Mar Analytical Number: IOD2051

Dear Ms. Kelly:

Alta Analytical Laboratories performed the EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans for the project referenced above. Please use the following cross-reference table when reviewing your results.

| MWH ID | Del Mar ID | Alta ID |
|-------------|------------|-----------|
| Outfall 003 | IOD2051-01 | 26119-001 |

Attached is the original report from the subcontract laboratory. If you have any questions or require further assistance, please do not hesitate to contact me at (949) 261-1022, extension 215.

Sincerely yours,

DEL MAR ANALYTICAL

Michele Harper Project Manager

Enclosure



May 20, 2005

Alta Project I.D.: 26119

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

Dear Ms. Harper,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on April 30, 2005 under your Project Name "IOD2051". 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.

An "A" qualifier indicates that the result is greater than the low point in the calibration curve, but lower than the EPA Method 1613 Minimum Level.

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

Marina Muier



The Analytical Entergraph exemple than his regiments or more all the requirements of fine he of LAC for thins applied his restriction to the copies should not be regional entereries of the full authorism to written approval of \$1.13.





Section I: Sample Inventory Report 4/30/2005 Date Received:

Alta Lab. ID

Client Sample ID

26119-001

IOD2051-01

Project 26119 Page 2 of 235



SECTION II

Project 26119 Page 3 of 235



| Matrix: Aqueous Sample Size: 1.000 L | | | | | |
|---|----------|-----------------|------------|---|------------------------------------|
| *************************************** | | QC Batch No.: | 6829 | Lab Sample: 0-MB001 | |
| | | Date Extracted: | 17-May-05 | Date Analyzed DB-5: 19-May-05 | Date Analyzed DB-225: NA |
| Analyte Conc. (ug/L) | g/L) | DL a EMPC b | Qualifiers | Labeled Standard | %R LCL-UCL ^d Qualifiers |
| 2,3,7,8-TCDD | QN | 0.00000124 | | <u>IS</u> 13C-2,3,7,8-TCDD | 69.9 25 - 164 |
| 00 | £ | 0.00000166 | | 13C-1,2,3,7,8-PeCDD | 84.1 25 - 181 |
| Q | Q. | 0.00000186 | | 13C-1,2,3,4,7,8-HxCDD | 72.5 32 - 141 |
| | S | 0.00000179 | | 13C-1,2,3,6,7,8-HxCDD | 75.3 28 - 130 |
| 1,2,3,7,8,9-HxCDD | S | 0.00000186 | | 13C-1,2,3,4,6,7,8-HpCDD | 65.8 23 - 140 |
| 1,2,3,4,6,7,8-HpCDD | Q. | 0.00000303 | | 13C-OCDD | 58.4 17 - 157 |
| OCDD | Q. | 0.00000677 | | 13C-2,3,7,8-TCDF | 81.1 24 - 169 |
| 2,3,7,8-TCDF | QN | 0.000000024 | | 13C-1,2,3,7,8-PeCDF | 79.5 24 - 185 |
| 1,2,3,7,8-PeCDF | ND | 0.00000226 | | 13C-2,3,4,7,8-PeCDF | 82.4 21 - 178 |
| 2,3,4,7,8-PeCDF | R | 0.00000193 | | 13C-1,2,3,4,7,8-HxCDF | 72.6 26 - 152 |
| 1,2,3,4,7,8-HxCDF | S | 0.000000785 | | 13C-1,2,3,6,7,8-HxCDF | 75.4 26 - 123 |
| 1,2,3,6,7,8-HxCDF | £ | 0.000000731 | | 13C-2,3,4,6,7,8-HxCDF | 92.3 28 - 136 |
| 2,3,4,6,7,8-HxCDF | g | 0.000000672 | | 13C-1,2,3,7,8,9-HxCDF | 68.4 29 - 147 |
| 1,2,3,7,8,9-HxCDF | N N | 0.00000158 | · | 13C-1,2,3,4,6,7,8-HpCDF | 63.5 28 - 143 |
| 1,2,3,4,6,7,8-HpCDF | R | 0.000000069 | | 13C-1,2,3,4,7,8,9-HpCDF | 52.9 26 - 138 |
| 1,2,3,4,7,8,9-HpCDF | R | 0.00000192 | | 13C-OCDF | 49.2 17 - 157 |
| OCDF | S | 0.00000476 | | CRS 37CI-2,3,7,8-TCDD | 89.9 35 - 197 |
| Totals | | | | Footnotes | |
| Total TCDD | N Q | 0.00000124 | | a. Sample specific estimated detection limit. | |
| Total PeCDD | R | 0.00000166 | | b. Estimated maximum possible concentration. | |
| Total HxCDD | N N | 0.00000183 | | c. Method detection limit. | |
| Total HpCDD | R | 0.00000303 | | d. Lower control limit - upper control limit. | |
| Total TCDF | S | 0.000000924 | | | |
| Total PeCDF | <u>R</u> | 0.00000209 | | | |
| Total HxCDF | N Q | 0.000000872 | | | |
| Total HpCDF | NO | 0.00000132 | | | |

RAS Analyst:

Approved By:

William J. Luksemburg 20-May-2005 11:12

| OPR Results | i de la mangal, en | | A PARTY CONTRACTOR OF THE PART | | EPA | EPA Method 1613 |
|--------------------------------------|--|----------------------------------|--|---|-----------------------|-----------------|
| Matrix: Aqueous Sample Size: 1.000 L | The control of the co | QC Batch No.: Date Extracted: | 6789 17-May-05 | Lab Sample: 0-OPR001 Date Analyzed DB-5: 19-May-05 | Date Analyzed DB-225: | DB-225: NA |
| Analyte | Spike Conc. | Spike Conc. Conc. (ng/mL) | OPR Limits | Labeled Standard | %R | I.CL-UCL |
| 2,3,7,8-TCDD | 10.0 | 10.3 | 6.7 - 15.8 | IS 13C-2,3,7,8-TCDD | 66.3 | 25 - 164 |
| 1,2,3,7,8-PeCDD | 50.0 | 51.8 | 35 - 71 | 13C-1,2,3,7,8-PeCDD | 82.1 | 25 - 181 |
| 1,2,3,4,7,8-HxCDD | 50.0 | 50.1 | 35 - 82 | 13C-1,2,3,4,7,8-HxCDD | 69.4 | 32 - 141 |
| 1,2,3,6,7,8-HxCDD | 50,0 | 52.2 | 38 - 67 | 13C-1,2,3,6,7,8-HxCDD | 74.5 | 28 - 130 |
| 1,2,3,7,8,9-HxCDD | 50.0 | 54.3 | 32 - 81 | 13C-1,2,3,4,6,7,8-HpCDD | 64.6 | 23 - 140 |
| 1,2,3,4,6,7,8-HpCDD | 50.0 | 49.7 | 35 - 70 | 13C-OCDD | 40.2 | 17 - 157 |
| OCDD | 100 | 99.1 | 78 - 144 | 13C-2,3,7,8-TCDF | 71.3 | 24 - 169 |
| 2,3,7,8-TCDF | 10.0 | 10.1 | 7.5 - 15.8 | 13C-1,2,3,7,8-PeCDF | 78.8 | 24 - 185 |
| 1,2,3,7,8-PeCDF | 50.0 | 49.0 | 40 - 67 | 13C-2,3,4,7,8-PeCDF | 85.0 | 21 - 178 |
| 2,3,4,7,8-PeCDF | 50.0 | 49.2 | 34 - 80 | 13C-1,2,3,4,7,8-HxCDF | 72.8 | 26 - 152 |
| 1,2,3,4,7,8-HxCDF | 50.0 | 48.2 | 36 - 67 | 13C-1,2,3,6,7,8-HxCDF | 78.4 | 26 - 123 |
| 1,2,3,6,7,8-HxCDF | 50.0 | 48.8 | 42 - 65 | 13C-2,3,4,6,7,8-HxCDF | 82.5 | 28 - 136 |
| 2,3,4,6,7,8-HxCDF | 50.0 | 48.4 | 35 - 78 | 13C-1,2,3,7,8,9-HxCDF | 8.69 | 29 - 147 |
| 1,2,3,7,8,9-HxCDF | 50.0 | 49.7 | 39 - 65 | 13C-1,2,3,4,6,7,8-HpCDF | 58.1 | 28 - 143 |
| 1,2,3,4,6,7,8-HpCDF | 50.0 | 49.7 | 41 - 61 | 13C-1,2,3,4,7,8,9-HpCDF | 45.9 | 26 - 138 |
| 1,2,3,4,7,8,9-HpCDF | 50.0 | 50.6 | 39 - 68 | 13C-OCDF | 36.3 | 17 - 157 |
| OCDF | 100 | 93.6 | 63 - 170 | CRS 37CI-2,3,7,8-TCDD | 85.6 | 35 - 197 |

Approved By: William J. Luksemburg 20-May-2005 11:12

Analyst: RAS



| Sample ID: IOD2051-01 | 151-01 | Appliance of the control of the cont | and the state of t | - Control of the Cont | | | | EPA Me | EPA Method 1613 |
|-----------------------|--|--|--|--|---|--|--|--|--|
| Client Data | | | Sample Data | | Laboratory Data | AAAAA MAAAAA AAAAA AAAAA AAAAA AAAAA AAAAA AAAA | man prove divides the second s | ************************************** | такий принципальный принципаль |
| Name Del Mar | Del Mar Analytical, Irvine | | Matrix: | Aqueous | Lab Sample: 26119-001 | 7-001 | Date Received: | :pa | 30-Apr-05 |
| Hected. | r-05 | | Sample Size: | 0.961 L | QC Batch No.: 6789 Data Analyzzad DD 5: 10 Mc | 5789 | Date Extracted | Date Extracted: 17-1 | 17-May-05 |
| Tare consered. 1240 | WHAT THE MAINTENANCE AND THE | | | | | ay-O | Date Alia | Tyzed Dazki | , INA |
| Analyte C. | Conc. (ug/L) | DĽ a | EMPC | Qualifiers | Labeled Standard | | %R LC | O pTON-TOT | Oualifiers |
| 2,3,7,8-TCDD | Ð | 0.00000118 | 8 | | IS 13C-2,3,7,8-TCDD | De friedrick of the same of th | 61.5 | 25 - 164 | |
| 1,2,3,7,8-PeCDD | Q | 0.00000210 | 01 | | 13C-1,2,3,7,8-PeCDD | | 67.1 2 | 25 - 181 | *************************************** |
| 1,2,3,4,7,8-HxCDD | QN. | 0.00000331 | 1 | | 13C-1,2,3,4,7,8-HxCDD | | 65.3 | 32 - 141 | |
| 1,2,3,6,7,8-HxCDD | QN. | 0.00000325 | 25 | | 13C-1,2,3,6,7,8-HxCDD | | 68.4 | 28 - 130 | |
| 1,2,3,7,8,9-HxCDD | QX | 0.00000335 | 55 | | 13C-1,2,3,4,6,7,8-HpCDD | ^ | 57.8 | 23 - 140 | |
| 1,2,3,4,6,7,8-HpCDD | 0.0000247 | | | 4 | 13C-OCDD | | 49.8 | 17 - 157 | |
| OCDD | 0.000242 | | | | 13C-2,3,7,8-TCDF | | 66.9 | 24 - 169 | |
| 2,3,7,8-TCDF | Q | 0.00000141 | | | 13C-1,2,3,7,8-PeCDF | | 67.7 | 24 - 185 | |
| 1,2,3,7,8-PeCDF | QN | 0.00000196 | . 9, | - | 13C-2,3,4,7,8-PeCDF | | 68.2 2 | 21 - 178 | |
| 2,3,4,7,8-PeCDF | Q | 0.00000167 | 1.5 | | 13C-1,2,3,4,7,8-HxCDF | | 68.1 2 | 26 - 152 | *************************************** |
| 1,2,3,4,7,8-HxCDF | QN | 0.0000000587 | 187 | | 13C-1,2,3,6,7,8-HxCDF | | 68.1 2 | 26 - 123 | |
| 1,2,3,6,7,8-HxCDF | Q | 0.000000571 | 571 | | 13C-2,3,4,6,7,8-HxCDF | | 71.4 | 28 - 136 | |
| 2,3,4,6,7,8-HxCDF | QN | 0.000000600 | 009 | | 13C-1,2,3,7,8,9-HxCDF | | 63.3 | 29 - 147 | *************************************** |
| 1,2,3,7,8,9-HxCDF | Q | 0.00000117 | 1 | | 13C-1,2,3,4,6,7,8-HpCDF | ĨΫ. | 53.2 2 | 28 - 143 | |
| 1,2,3,4,6,7,8-HpCDF | Q | 0.000000979 | 62.0 | | 13C-1,2,3,4,7,8,9-HpCDF | ĬŦ. | 47.7 | 26 - 138 | |
| 1,2,3,4,7,8,9-HpCDF | QN | 0.00000182 | 73 | | 13C-OCDF | | 41.7 | 17 - 157 | |
| OCDF | ND | | 0.00000663 | 63 | CRS 37CI-2,3,7,8-TCDD | | 83.1 3 | 35 - 197 | |
| Totals | • | | | | Footnotes | | , | | |
| Total TCDD | QN | 0.00000118 | 8 | | a. Sample specific estimated detection limit | limit. | Andrew Control of the | | Antorios de la companya de la compa |
| Total PeCDD | ON | 0.00000210 | 0 | | b. Estimated maximum possible concentration. | ntration. | | | |
| Total HxCDD | QN | 0.00000330 | 0. | | c. Method detection limit. | | | | *************************************** |
| Total HpCDD | 0.0000494 | | | | d. Lower control limit - upper control limit, | imit. | | | *************************************** |
| Total TCDF | Q | 0.00000141 | emil mat- | | | | | | *************************************** |
| Total PeCDF | Q | 0.00000181 | junt | | | | | | |
| Total HxCDF | 0.00000136 | | | | | | | | *************************************** |
| Total HpCDF | 0.00000504 | | | | | | | | |
| | | | | | | | | | |

Analyst: RAS

Approved By:

William J. Luksemburg 20-May-2005 11:12

Project 26119



APPENDIX

Project 26119 Page 7 of 235



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. |
| 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. |
| P | Homologue totals include any coplanar PCBs detected at concentrations less than the reporting limit. |
| * | 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 correspond 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.

The control limits are "interim limits only" until in-house limits are utilized.

CURRENT CERTIFICATIONS



NELAP — (Primary AA: California, Certificate No. 02102CA)

Department of the Navy

U.S. Army Corps of Engineers

U.S. EPA Region 5

Bureau of Reclamation — Mid-Pacific Region — (MP-470, Res-1.10)

Commonwealth of Kentucky — (Certificate No. 90063)

Commonwealth of Virginia — (Certificate No. 00013)

State of Alaska, Department of Environmental Conservation — (Certificate No. OS-00197)

State of Arizona — (Certificate No. AZ0639)

State of Arkansas, Department of Health — (Approval granted through CA certification)

State of Arkansas, Department of Environmental Quality

State of California — (Certificate No. 1640)

State of Colorado

State of Connecticut — (Certificate No. PH-0182)

State of Florida — (Certificate No. 87456)

State of Louisiana, Department of Health and Hospitals — (Certificate No. LA000014)

State of Louisiana, Department of Environmental Quality

State of Maine

State of Michigan (Certificate No. 81178087)

State of Mississippi — (Approval granted through CA certification)

State of Nevada — (Certificate No. CA413)

State of New Jersey — (Certificate No. CA003)

State of New York, Department of Health — (Certificate No. 11411)

State of North Carolina — (Certification No. 06700)

State of North Dakota, Department of Health — (Certificate No. R-078)

State of New Mexico

State of Oklahoma - (D9919)

State of Oregon - (Certificate No. CA413)

State of Pennsylvania — (Certificate No. 68-490)

State of South Carolina — (Certificate No. 87002001)

State of Tennessee — (Certificate No. 02996)

State of Texas - (Certificate No. TX247-1000A

State of Utah — (Certificate No. E-201)

State of Washington - (Certification No. C091)

State of Wisconsin — (Certificate No. 998036160)

State of Wyoming — (USEPA Region 8 Ref: 8TMS-Q)



17461 Derian Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A, Colton, CA 92324 4 Chesapeake Orive, Suite 808, San Diego, CA 92123

Ph (480) 785-0043 Ph (702) 788-3620 Fax (619) 505-9689 Fax (480) 785-0851

SUBCONTRACT ORDER - PROJECT # IOD2051

| Del Mar Analytical, Irvine 17461 Derian Avenue. Suite Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele Ha | | Alta Analytical 26119 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 |
|---|--|---|
| Standard TAT is requested Analysis | unless specific due date is requeste | ed => Due Date: Initials: Comments |
| Sample ID: IOD2051-01 Wat 1613-Dioxin-HR EDD+ Level 4 | er Sampled: 04/28/05 13:40 05/05/05 13:40 05/26/05 13:40 | Instant Nofication J flags,17 congeners,no TEQ,sub=Alta, DP to AMEC Excel EDD email to pm,Include Std logs for Lvl IV |
| Containers Supplied: 1 L Amber (IOD2051-01C) 1 L Amber (IOD2051-01D) | | |
| | | · · · · · · · · · · · · · · · · · · · |

| | <u></u> | | · | | | SAMPLI | INT | ÉGRI' | ΓY: | | | | | - |
|--|---------|------------|---|----------|------|---|-------------|--------------|-----|-------|------|-----------------|-------|---------------------|
| All containers intact: Custody Seals Present: | | Yes Yes | | No No | | nple labels/COC agree: uples Preserved Properly | _ _ | Yes ' Yes | | | | ceived On Icen | U Yes | |
| | | | | | | 2905 17: | <u>0</u> 0 | | £ | Tell | lent | 4/30/0_ Date | 5 | <i>09/5</i> Time |
| Released By | | | | | Date | Time | > | ved B | | ····· | | · | | |
| Released By | | | | | Date | Time | Rece | ved B | У | | | Date | | Time |

Project 26119

PagageOtoff2B5

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 26/19

| | | | . <i> </i> | |
|----|--|-------------|------------------|----------|
| 1. | Date Samples Arrived: 430 05 Initials: 44 Location Time / Date logged in: 1105 5/2/05 Initials: 45 Location | n: Uj | (, 2 | |
| 2. | Time / Date logged in: 1105 5/04/05 Initials: ASIA Location | n: <u>人</u> | JR - , | <u>ب</u> |
| 3. | Samples Arrived By: (circle) FedEx UPS World Courier Other: | - | | |
| 4. | Shipping Preservation: (circle) (lce)/ Blue lce / Dry lce / None Temp °C 0.0 | | | |
| 5. | Shipping Container(s) Intact"? If not, describe condition in comment section. | YES | NO > | NA |
| 6. | Shipping Container(s) Custody Seals Present? | | | |
| | Intact? If not intact, describe condition in comment section. | | | |
| 7. | Shipping Documentation Present? (circle) Shipping Label Airbill Tracking Number 792 2 6999 9579 | √ | | |
| 8. | Sample Custody Seal(s) Present? No. of Seals or Seal No. Intact? If not intact, describe condition in comment section. | | / | 1 |
| 9. | Sample Container Intact? If no, indicate sample condition in comment section. | V | | |
| 10 | . Chain of Custody (COC) or other Sample Documentation Present? | 1/ | | |
| 11 | . COC/Documentation Acceptable? If no, complete COC Anomaly Form. | V | | |
| 12 | 2. Shipping Container (circle): ALTA Client Retain or Return or D | isposed | , / - | |
| 1: | 3. Container(s) and/or Bottle(s) Requested? | | V | <u> </u> |
| 1 | 4. Drinking Water Sample? (HRMS Only) If yes, Acceptable Preservation? Y or N Preservation Info From? (circle) COC or Sample Container or None Noted | | | |
| | · | | | |

comments: Jampleri initials found on sample labels

ALTA Analytical Laboratory El Dorado Hills, CA 95762

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| AM | IEC Earth & Environmental | | Package ID | T711DF47 |
|-----|--|--|--|---------------------|
| 550 | South Wadsworth Boulevard | i | Task Order | 313150012 |
| Sui | te 500 | | SDG No. | IOD2051, 2054, 2055 |
| Lak | ewood, CO 80226 | | No. of Analyses | 3 |
| | Laboratory Alta | | Date: May 31 | , 2005 |
| | Reviewer H. Chang |) | Reviewer's S | |
| | Analysis/Method Dioxin& | | H. Ohns | |
| | 2 11141 J DICK ITTO THE CONTROL | | - Criemy | |
| AC | ΓΙΟΝ ITEMS ^a | | | |
| 1. | Case Narrative | ······································ | · | |
| | Deficiencies | | | |
| | | | | |
| 2. | Out of Scope | | | |
| | Analyses | ····· | | |
| | Panaryses | | <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u> | |
| | | | | |
| 3. | Analyses Not Conducted | | | |
| ٥. | A RESERVE OF THE PROPERTY OF T | <u> </u> | | |
| | | | | |
| 4. | Missing Hardcopy | | | |
| ••• | Deliverables | | | |
| | | | | |
| | | | | |
| 5. | Incorrect Hardcopy | | | |
| | Deliverables | ************************************** | | |
| | | | | |
| | | | | |
| 6. | Deviations from Analysis | Detects below the calibration | ation range were qualifi | ed "J." |
| | Protocol, e.g., | EMPCs were qualified " | UJ." | |
| | Holding Times | | | |
| | GC/MS Tune/Inst. Perform | | | |
| | Calibrations | | | |
| | Blanks | | | |
| | Surrogates | | | |
| | Matrix Spike/Dup LCS | | | |
| | Field QC | | | |
| | Internal Standard Performance | | | |
| | Compound Identification and | | | |
| | Quantitation | | | |
| | System Performance | | | |
| CO | MMENTS ^b | | | |
| | | | | |
| | | | | |
| | | | | |
| | ubcontracted analytical laboratory is not | | | .a |
| ь D | ifferences in protocol have been adopted | by the laboratory but no action ag | gainst the importatory is require | ય, |

Data Qualifier Reference Table

| Qualifier | Organics | Inorganics |
|-----------|---|--|
| U | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. |
| J | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. | The associated value is an estimated quantity. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. | Not applicable. |
| UJ | The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. | The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. |
| R | The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified. | The data are unusable. (Note: Analyte may or may not be present). |

Qualification Code Reference Table

| Qualifier | Organics | Inorganics |
|-----------|--|---|
| Н | Holding times were exceeded. | Holding times were exceeded. |
| S | Surrogate recovery was outside QC limits. | The sequence or number of standards us for the calibration was incorrect |
| С | Calibration %RSD or %D were noncompliant. | Correlation coefficient is <0.995. |
| R | Calibration RRF was <0.05. | %R for calibration is not within cont limits. |
| В | Presumed contamination from preparation (method) blank. | Presumed contamination from preparati (method) or calibration blank. |
| L | Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits. | Laboratory Control Sample %R was r within control limits. |
| Q | MS/MSD recovery was poor or RPD high. | MS recovery was poor. |
| E | Not applicable. | Duplicates showed poor agreement. |
| I | Internal standard performance was unsatisfactory. | ICP ICS results were unsatisfactory. |
| A | Not applicable. | ICP Serial Dilution %D were not with control limits. |
| M | Tuning (BFB or DFTPP) was noncompliant. | Not applicable. |
| Τ | Presumed contamination from trip blank. | Not applicable. |
| + | False positive – reported compound was not present. Not applicable. | |
| • | False negative – compound was present but not reported. | Not applicable. |
| F | Presumed contamination from FB, or ER. | Presumed contamination from FB or ER. |
| 5 | Reported result or other information was incorrect. | Reported result or other information wincorrect. |
|) | TIC identity or reported retention time has been changed. | Not applicable. |
|) | The analysis with this flag should not be used because another more technically sound analysis is available. | The analysis with this flag should not be used because another more technically sour analysis is available. |
| • | Instrument performance for pesticides was poor. | Post Digestion Spike recovery was no within control limits. |
| DNQ | The compound was detected between the MDL and the RL and, by definition, is considered an estimated value. | The compound was detected between the MDL and the RL and, by definition, considered an estimated value. |

Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUPS: IOD2051, IOD2054, & IOD2055

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

SDG No.: Analysis:

NPDES Multiple D/F

1. INTRODUCTION

Task Order Title:

NPDES Monitoring

Contract Task Order #:

313150010

Sample Delivery Group #:

IOD2051, IOD2054, & IOD2055

Project Manager:

B. McIlvaine

Matrix:

Water

Analysis:

Dioxins/Furans

QC Level:

Level IV

No. of Samples:

3 0

No. of Reanalyses/Dilutions: Reviewer:

H. Chang

Date of Review:

May 31, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 1), EPA Method 1613, and the National 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 No.: Analysis:

NPDES Multiple D/F

Table 1. Sample Identification

| Client ID | Laboratory ID (Del Mar) | Laboratory ID (Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 003 | IOD2051-01 | 26119-001 | water | 1613 |
| Outfall 005 | IOD2054-01 | 26113-001 | water | 1613 |
| Outfall 006 | IOD2055-01 | 26114-001 | water | 1613 |

SDG No.: Analysis:

NPDES Multiple 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 samples in these SDGs were received at Del Mar Analytical within the temperature limits of 4°C ±2°C. The samples were shipped to Alta for dioxin/furan analysis and were received below the temperature limits of 4°C ±2°C at 1.1°C; however, as the samples were not noted to have been frozen or damaged, no qualifications were required. According to the laboratory login sheets, the samples were 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 these SDGs. As the samples were couriered directly to Del Mar Analytical, custody seals were not required. The cooler received by Alta had custody seals present and intact; however, custody seals were not present on the sample containers. The EPA IDs were added to the sample result summaries 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

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

D/F

2.3 CALIBRATION

SDG No.: Analysis:

2.3.1 Initial Calibration

The initial calibration was analyzed 05/19/05. The calibration consisted of six concentration level standards (CS0 through CS5) analyzed to verify instrument linearity. The initial calibration was 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 and end 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 (6789-MB001) was extracted and analyzed with the samples in these SDGs. There were no target compound detects reported in the method blank. 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 Ongoing Precision Recovery (OPR) sample (6789-OPR001) was extracted and analyzed with the samples in these SDGs. All recoveries were within the acceptance criteria listed in Table 6 of Method 1613. No qualifications were required.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed in these SDGs. 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:

SDG No.: Analysis:

NPDES Multiple D/F

2.7.1 Field Blanks and Equipment Rinsates

The samples in these SDGs had no associated field QC samples. No qualifications were required.

2.7.2 Field Duplicates

No field duplicate samples were identified for these SDGs.

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. Detects above the low point of the calibration curve but below the EPA Method 1613 minimum level were denoted by the laboratory with an "A," flag and were qualified as estimated, "J." Any detects below the lower method calibration level (MCL) were qualified as estimated, "J." If the concentration of any component of the total was below the lower method calibration level (MCL), the total detect was qualified as estimated, "J." Any reported EMPC was qualified as an estimated nondetect, "UJ." The results and reporting limits were reported in ug/L for samples Outfall 003 and Outfall 005 and in ng/L for sample Outfall 006. No further qualifications were required.



| | | Sample ID: | IOD2051-01 0 | Outfall | 200 | | | | |
|---|---|---------------------|--|---|--|--|--|--|--|
| | | Client Data | | - | - | - | | | EPA Method 1613 |
| | ********** | Name | Del Mar Analytical Irvine | Irvine | ol . | Sample Data | | Laboratory Data | |
| | | Project | IOD2051 | *** * *** | <u>~</u> | Matrix; | Aqueous | Lab Sample: 26119-001 | Date Received: 30.Anr.05 |
| | | Date Collected: | 28-Apr-05 | | S. | Sample Size: | 0.961 L | QC Batch No.: 6789 | Date Extracted: 17-May-05 |
| | Bush | | Marie (144) C. d. C. d. C. de Company | | | AND THE RESIDENCE OF THE PARTY | | Date Analyzed DB-5: 19-May-05 | Date Analyzed DB-225: NA |
| Tens. | 3 | Analyte | Conc. (ug/L) | | DL a | EMPC ^b | Qualiffers | Labeled Standard | %R LCL-IICL d Oughfiars |
| ತ - | ********* | 2,3,7,8-TCDD | S | | 0.00000118 | The second secon | | 18 12C 2 2 4 0 TODD | |
| e et en som e | | 1,2,3,7,8-PeCDD | QN | | 0.00000210 | | | | |
| | *********** | 1,2,3,4,7,8-HxCDD | Q. Q. | | 0.00000331 | | | 13C-1,4,5,7,1,8-FeC.DD | 67.1 25 - 181 |
| | | 1,2,3,6,7,8-HxCDD | | | 0.00000325 | | - | 13C-1,2,3,4,7,8-HxCDD | 65.3 32 - 141 |
| → | ****** | 1,2,3,7,8,9-HxCDD | | | 0.00000325 | | - Per Per- | 13C-1,2,3,6,7,8-HxCDD | 68.4 28 - 130 |
| h | D.Y.O. | 1,2,3,4,6,7,8-HnCDD | | 0.0000347 | 0.00000000 | | ******* | 13C-1,2,3,4,6,7,8-HpCDD | 57.8 23 - 140 |
| | , | OCDD | | 0.000342 | | | ⋖ | 13C-OCDD | 49.8 17 - 157 |
| | artin and polymorphic | 7378 TUNE | | 7470 | | | | 13C-2,3,7,8-TCDF | 66.9 24 - 169 |
|)) yazı | | L'ALTONICUE | GN. | | 0.00000141 | | , | 13C-1,2,3,7,8-PeCDF | 47 |
| ********* | | 1,2,3,7,8-FeCDF | S | | 0.00000196 | | | 13C-2.3.4.7.8-PeCDF | |
| | | 2,3,4,7,8-PeCDF | 9 | | 0.00000167 | | | 13C-1 2 3 4 7 8-H*CDE | |
| | ************************************** | 1,2,3,4,7,8-HxCDF | F ND | | 0.000000587 | _ | | 13C-103600 H.CDT | |
| | ******** | 1,2,3,6,7,8-HxCDF | F | | 0.000000571 | | | 120 2 2 4 6 4 0 11 21 21 21 21 21 21 21 21 21 21 21 21 | |
| ********** | | 2,3,4,6,7,8-HxCDF | F NO | | 0.000000000 | | | 13C-24,3,4,0,7,6-ffXCDF | |
| **** | | 1,2,3,7,8,9-HxCDF | | ~ | 0.00000117 | | | 13C-1,2,3,7,8,9-HxCDF | 63.3 29 - 147 |
| | | 1.2.3.4.6.7 8-HnCDF | Į. | | 0.00000010 | | | 13C-1,2,3,4,6,7,8-HpCDF | 53.2 28 - 143 |
| | - | 1234789.HpCDE | | | 0.000000979 | | | 13C-1,2,3,4,7,8,9-HpCDF | 47.7 26 - 138 |
| <u>.</u> | 9* | OCDF | | | 0.00000182 | 1 | | 13C-OCDF | 41.7 17-157 |
| -/-,, | | | TXT | THE REAL PROPERTY OF THE PERSON NAMED IN COLUMN 1 | THE STREET STREET, STR | 0.00000663 | | CKS 37Cl-2,3,7,8-TCDD | 83.1 35 - 197 |
| | L | FOLKES | The second secon | | | | ************************************** | Footnotes | amounteers of the second secon |
| کا ۔ | | Total TCDD | QN |) | 0.00000118 | | | a. Sample specific estimated detection limit | |
| | | Total PeCDD | Q | _ | 0.00000210 | | | b Estimated mayimum neesible anamated | and the second s |
| | ~~~~ | Total HxCDD | QN |) | 0.00000330 | | ••••••••••••••••••••••••••••••••••••••• | Method detection limit | |
| | <u>ر کی ل</u> کی کی کی کی کا | Total HpCDD | 0.0000494 | 10494 | | | | d I assess constant that | |
| ゴ | | Total TCDF | QN | <u> </u> | 0.00000141 | | | u. Lower courtot turnt - upper control (amit, | |
| <u></u> | | Total PeCDF | S |) | 0.00000181 | | | | |
| | | Total HxCDF | 0.000 | 0.00000136 | | | | うします | を置いるというと同じ |
| <u>D</u> h | L SNO | Total HpCDF | 0.000 | 0.00000504 | | , | | | |
| | ¥ | Analyst RAS | | | The state of the s | | And the second of the second o | A processing Dec. | |
| | | | | | | | | Approximation Dy. William Introduction | 00 1 1 1 00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |

Approved By:

William J. Luksemburg 20-May-2005 11:12

on no and season and a season and

| nas | | 10D2054-01 Oudfall | 500 | | | EPA Method 1613 |
|--|---|--|--|--|--|------------------------------------|
| Name: Project: Date Co | lected: | Del Mar Analytical, Irvine IOD2054 28-Apr-05 | Sample Data Marrix: Sample Size: | Aqueous 0.943 L | Laboratory Data 26113-001 QC Batch No.: 6789 | Date Received: 30-Apr-05 |
| | reted: | 1 | 2 | | ed DB-5; | Date Analyzed DB-225; NA |
| 200 | | Conc. (ug/L) | DL " EMPC" | Qualifiers | Labeled Standard | %R LCL-UCL ^d Qualifiers |
| 6,5 | 2,5,7,8~ICDD | 2 5 | 0.00000162 | | <u>IS</u> 13C-2,3,7,8-TCDD | Ì |
| , | 1234764000 | 2 5 | 0.00000196 | | 13C-1,2,3,7,8-PeCDD | |
| | 1,2,3,4,7,6-HACDD | g g | 0.00000297 | | 13C-1,2,3,4,7,8-HxCDD | |
| 123 | 12.3.7.8.9.HxCDD | 2 5 | 0.00000286 | | 13C-1,2,3,6,7,8-HxCDD | 64.2 28 - 130 |
| | 1234678.HaCDD | 3 2 | 0.00000 | | 13C-1,2,3,4,6,7,8-HpCDD | 55.8 23 - 140 |
| | اللانطية، ١٠٥٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠٠، ١٥٠ | 2 5 | 0.0000042.1 | | 13C-0CDD | 36.4 17 - 157 |
| 7 | 2378_TCDE | 2 9 | 0,0000161 | | 13C-2,3,7,8-TCDF | , |
| - 1 | 12378-DACDE | | 0.00000194 | | 13C-1,2,3,7,8-PeCDF | • |
| , c | 14,7,7,01. C.D. | 2 5 | 0.00000278 | | 13C-2,3,4,7,8-PeCDF | |
| 1,2,4 | 1.2.4.4.2.0-1.0.Dr | 2 9 | 0.00000232 | | 13C-1,2,3,4,7,8-HxCDF | |
| | 123678.HvCDE | ON A | 0.00000033 | | 13C-1,2,3,6,7,8-HxCDF | 66.1 26 - 123 |
| 74.4. | 234678-HxCDE | Q X | 0.00000017 | | 13C-2,3,4,6,7,8-HxCDF | 66.2 28 - 136 |
| - 1 | 123740, 40-11ACDE | 2 5 | 0.00000091 | | 13C-1,2,3,7,8,9-HxCDF | 57.6 29 - 147 |
| 4 C C | A 6 7 8 H. ODE | | 0.00000193 | | 13C-1,2,3,4,6,7,8-HpCDF | |
| ر در در د در در د | 1,4,5,4,0,7,8-HpCDF | 2 : | 0.00000135 | | 13C-1,2,3,4,7,8,9-HpCDF | |
| 0.00 | 7,4,2,4,7,0,3-mpC.DF | 2 5 | 0.00000263 | | | |
| | j. St. om stilletsmanne, primer der de generalen den den general de femberous, enemen ausseren. | ON. | 0.00000485 | | CRS 37CI-2,3,7,8-TCDD | • |
| LOTAIS | ACCEPTO PARA CHARLES AND | - Andrew Comment of the Comment of t | and the second s | | Footnotes | |
| Total | Total TCDD | S | 0.00000162 | Annual designation of the second seco | a. Sample specific perimated detaction limit | |
| Total | Total PeCDD | Q | 0.00000196 | | h Fefinated maximum and the | |
| Total | Total HxCDD | QN | 0.00000293 | | c. Establish in the possible concentration. | |
| Total | Total HpCDD | GN. | 0.00000421 | | C Protect Content Dark | |
| Total | Total TCDF | S | 0.00000194 | | C. LOWER CORREST MILLS - upper control limit. | |
| Total | Total PeCDF | ND | 0.00000254 | ***** | / CUMV | |
| Total | Total HxCDF | QN | 0.00000112 | | | |
| ** · · · · · · · · · · · · · · · · · · | | | 11.100000000000000000000000000000000000 | - | | |

Approved By:

William J. Luksemburg 20-May-2005 10:59

Analyst: RAS

| **** | IOD2055-01 Out | Outfall 006 | | | | EPA Me | EPA Method 1613 |
|--|---|-------------|-------------------------|--|---|--|-----------------|
| | Del Mar Analytical. Irvine | <u> </u> | Sample Data | | Caboratory Data | AND THE PROPERTY OF THE PROPER | |
| | IOD2055 28-Apr-05 | } | Matrix: Sample Size; | Aqueous 0.930 L | Lab Sample: 26114-001 | Date Received: | 30-Apr-05 |
| À | 1110 | | | | ed DB-5; | Date Extracted: [7.2] | 17-May-05 |
| | Conc. (ng/L) | DF a | EMPCb | Qualifiers | 1 2 | C27-02 D22(mm) 279 | 14.F. |
| 2,3,7,8-TCDD | S | 0.00159 | | | IS (3C 23.7.0 TOPE) | בער-הער | Ouamers |
| 1,2,3,7,8-PeCDD | S | 0.00212 | | | | 68.4 25 - 164 | |
| 1,2,3,4,7,8-HxCDD | | 0.00247 | | | 13C-1,2,3,7,8-PeCDD | | |
| 1,2,3,6,7,8-HxCDD | | 0.00236 | | | 13C-1,2,3,4,7,8-HxCDD | | |
| 1,2,3,7,8,9-HxCDD | | 0.00246 | | | 13C-1,2,3,6,7,8-HxCDD | 68.7 28 - 130 | |
| 1,2,3,4,6,7,8-HpCDD | | 0.00323 | | | 13C-1,2,3,4,6,7,8-HpCDD | 60.7 23 - 140 | |
| | ٠. | | | | 13C-OCDD | 41.3 17-157 | |
| 2,3,7,8-TCDF | tozon GIN | 0.00144 | | · • | 13C-2,3,7,8-TCDF | 68.3 24 - 169 | |
| 1,2,3,7,8-PeCDF | CIN . | 0.00144 | | | 13C-1,2,3,7,8-PeCDF | 69.9 24 - 185 | |
| 2.3.4.7.8-PeCDF | 3 S | 707000 | | | 13C-2,3,4,7,8-PeCDF | 73.1 21 - 178 | |
| 1,2,3,4,7,8-HxCDF | | 0.00224 | | | 13C-1,2,3,4,7,8-HxCDF | 69.2 26 - 152 | |
| 1,2,3,6,7,8-HxCDF | | 0.000740 | | | 13C-1,2,3,6,7,8-HxCDF | 70.4 26 - 123 | |
| 2,3,4,6,7,8-HxCDF | | 0.00000 | | | I3C-2,3,4,6,7,8-HxCDF | 72.7 28 - 136 | |
| 1,2,3,7,8,9-HxCDF | | 0.000/94 | | | 13C-1,2,3,7,8,9-HxCDF | 62.8 29 - 147 | * |
| ,2,3,4,6,7,8-HpCDF | · <u>/</u> | 0.00142 | | | 13C-1,2,3,4,6,7,8-HpCDF | 54.0 28 - 143 | |
| 2.3.4.7.8.9-HnCTDE | | 50000 | | | 13C-1,2,3,4,7,8,9-HpCDF | 49.5 26 - 138 | |
| 7 | | 0.00205 | | our market | 13C-OCDF | 39.5 17-157 | |
| (mental mental m | TALL | 0.00715 | | | CRS 37Cl-2,3,7,8-TCDD | • • | |
| Tribulation | A. ARE PARTICULAR APPRIATED TO THE PROPERTY AND APPRICATE | | | | Footnotes | AND THE PROPERTY OF THE PROPER | |
| | ON | 0.00159 | | | a. Sample specific actimated detention to | A THE REAL PROPERTY OF THE PRO | |
| Total PeCDD | Q | 0.00212 | | | h Estimated and in the second limit. | | |
| Total HxCDD | 2 | 0.00243 | | | o Mathod desertion limit | | · · |
| Total HpCDD | S | 0.00542 | | | | | |
| | S | 0.00144 | | en e | u. Lower control limit - upper control limit. | | |
| | QN | 0.00251 | | | | The second secon | |
| Total HxCDF | N ON | 0.000864 | | | AMEC | AMEC VALIDATED | |
| Total HpCDF | ON | 0.00143 | | | | | |
| 5 4 2 | | | | | With the second | - L L + C | |

Approved By:

William J. Luksemburg 20-May-2005 11:00

Analyst: RAS

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA AMEC Earth & Environmental Package ID T711MT89

| | EC Earth & Environmen | tal | Package ID | T711MT89 |
|----------|--------------------------------------|--|-------------------------------|---|
| | South Teller Street | | | 313150010, 313150012 |
| | e 300 | | | IOD2031, 2053, 2055 |
| Lake | ewood, CO 80226 | | No. of Analyses | 3 |
| | Laboratory Del M | | Date: 06/27/0 | 5 |
| | Reviewer P. Mee | | Reviewer's Si | gnature |
| | Analysis/Method Metals | <u> </u> | _ P. Mess | ` |
| | | | | 7 |
| ACT | ION ITEMS* | : | | |
| 1. | Case Narrative | | | |
| | <u>Deficiencies</u> | | | |
| 2. | Out of Scope | | | |
| 3. | Analyses Not | | | |
| Э. | Analyses Not Conducted | | | |
| 4. | Missing Hardcopy | | | |
| •• | Deliverables | | | |
| 5. | Incorrect Hardcopy | | | |
| ···· | Deliverables | | | |
| 6. | Deviations from | Detects below the reporting li | imit. | |
| | Analysis Protocol, e.g., | | · | ······································ |
| | Holding Times | | | |
| | GC/MS Tune/Inst. | | | |
| | Performance | | | |
| | Calibrations | | | |
| | Blanks | | | |
| | Surrogates Matrix Spike/Dup LCS | | | |
| | Field QC | | | |
| | Internal Standard | | | |
| | Performance | | | |
| (| Compound Identification | | | |
| | and Quantitation System Performance | | | |
| | System i Criormance | | | |
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| COMM | IENTS ^b | | | *************************************** |
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| | | | | |
| | | | | |
| * Subcor | ntracted analytical laboratory is no | ot meeting contract and/or method requi | rements. | |
| Differe | ences in protocol have been adopte | ed by the laboratory but no action again | et the laboratory is required | |

Data Qualifier Reference Table

| Qualifier | Organics | Inorganics |
|-----------|---|--|
| U | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. |
| J | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. | The associated value is an estimated quantity. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. | Not applicable. |
| ប្ប | The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. | The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. |
| R | The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified. | The data are unusable. (Note: Analyte may or may not be present). |

Qualification Code Reference Table

| Qualifier | Organics | Inorganics |
|--------------|--|--|
| Н | Holding times were exceeded. | Holding times were exceeded. |
| S | Surrogate recovery was outside QC limits. | The sequence or number of standards use for the calibration was incorrect |
| С | Calibration %RSD or %D were noncompliant. | Correlation coefficient is <0.995. |
| R | Calibration RRF was <0.05. | %R for calibration is not within control limits. |
| В | Presumed contamination from preparation (method) blank. | Presumed contamination from preparatio (method) or calibration blank. |
| L | Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits. | Laboratory Control Sample %R was no within control limits. |
| Q | MS/MSD recovery was poor or RPD high. | MS recovery was poor. |
| E | Not applicable. | Duplicates showed poor agreement. |
| I | Internal standard performance was unsatis- factory. | ICP ICS results were unsatisfactory. |
| A | Not applicable. | ICP Serial Dilution %D were not within control limits. |
| M | Tuning (BFB or DFTPP) was noncompliant. | Not applicable. |
| Γ | Presumed contamination from trip blank. | Not applicable. |
| l | False positive – reported compound was not present. Not applicable. | |
| | False negative - compound was present but not reported. | Not applicable. |
| 7 | Presumed contamination from FB, or ER. | Presumed contamination from FB or ER. |
| 3 | Reported result or other information was incorrect. | Reported result or other information was incorrect. |
| | TIC identity or reported retention time has been changed. | Not applicable. |
|) | The analysis with this flag should not be used because another more technically sound analysis is available. | The analysis with this flag should not be used because another more technically sound analysis is available. |
| | Instrument performance for pesticides was poor. | Post Digestion Spike recovery was not within control limits. |
| NQ | The compound was detected between the MDL and the RL and, by definition, is considered an estimated value. | The compound was detected between the MDL and the RL and, by definition, is considered an estimated value. |

Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: METALS

SAMPLE DELIVERY GROUPS: IOD2051, IOD2053, IOD2055

Prepared by

AMEC—Denver Operations 355 South Teller Street, Suite 300 Lakewood, Colorado 80226

NPDES IOD2051, 3, 5

Analysis:

MET

1. INTRODUCTION

Task Order Title: **NPDES** Monitoring Contract Task Order #: 313150010, 313150012

> SDG#: IOD205, IOD2053, IOD2055

Project Manager: B. McIlvaine

> Matrix: Water Analysis: Metals QC Level: Level IV

No. of Samples: 3

No. of Reanalyses/Dilutions: 0

DATA VALIDATION REPORT

Reviewer: P. Meeks Date of Review: June 29, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC Data Validation Procedure for Levels III and IV ICP-MS Metals, (DVP-5-A, Rev.0), AMEC Data Validation Procedure for Levels III and IV ICP Metals (DVP-5, Rev. 0), SW-846 Method 6020B for Inductively Coupled Plasma - Mass Spectrometry, SW-846 Method 7471A for Mercury (Manual Cold-Vapor Technique), 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.

T711MT89

NPDES

SDG No.:

lOD2051, 3, 5

Analysis:

MET

Table 1. Sample identification

| Client ID | EPA ID | Laboratory ID | Matrix | COC Method |
|-------------|-------------|---------------|--------|------------|
| Outfall 003 | Outfall 003 | IOD2051-01 | water | ILM04 |
| Outfall 004 | Outfall 004 | IOD2053-01 | water | ILM04 |
| Outfall 006 | Outfall 006 | IOD2055-01 | water | ILM04 |

DATA VALIDATION REPORT

NPDES IOD2051, 3, 5

SDG No.: Analysis:

MET

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 samples in these SDGs were received at the laboratory within the temperature limits of 4° 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 COCs were signed and dated by field and laboratory personnel. A duplicate sample was listed on the COCs for all samples; however, duplicate analyses were not necessary. As the samples were delivered to the laboratory by courier, custody seals were not required. No sample qualifications were required.

2.1.3 Holding Times

The dates of collection recorded on the COCs 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. No qualifications were required.

2.2 ICP-MS TUNING

A precalibration routine must be completed prior to calibrating the instrument, which consists of analyzing a tuning solution to verify resolution, mass calibration, and thermal stability. The solution must be analyzed a minimum of five times and must contain isotopes representing all mass regions of interest. All %RSDs were less than 5%. The mass calibrations were within 0.1 amu of the true mass and the instrument resolutions were less than 0.75 amu at 5 percent peak height for all analytes in the tune solution. No site sample qualifications were required.

2.3 CALIBRATION

The ICV and CCV results showed acceptable recoveries, 90-110% for the ICP/MS metals. The reporting limit check standards were recovered within the AMEC control limits of 70-130%. No sample qualifications were required.

NPDES

SDG No.: Analysis: IOD2051, 3, 5 MET

DATA VALIDATION REPORT

2.4 BLANKS

Lead was not detected in any of the blank analyses associated with the samples in these SDGs. No 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-MS analyses. Results were not provided for spiked interferents sulfur, phosphorus, carbon, and chloride. Lead was not spiked into the ICSAB solution. Potassium in both the ICSA and ICSAB and sodium in the ICSA were recovered above the linear range of the calibration. The validator reviewed the raw data for the site sample ICP/MS analyses for the level of reported interferents, Al, Ca, Fe, and Mg, and determined that the levels of reported interferents were not high enough to cause matrix effects. No assessment could be made with respect to possible interference from sulfur, phosphorus, carbon, and chloride. No further qualifications were required.

2.6 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

The ICP/MS LCS sample was identified as 5D29095-BS1. The LCS result on the summary form and in the raw data were within the laboratory-established ICP/MS control limits of 85-115%. No qualifications were required.

2.7 LABORATORY DUPLICATES

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

2.8 MATRIX SPIKE

No MS/MSD or duplicate analyses were performed in association with the samples in these SDGs; therefore, no assessment was made with respect to this criterion. Method accuracy was assessed based on LCS results. No qualifications were required.

2.9 FURNACE ATOMIC ABSORPTION QC

Furnace atomic absorption was not utilized for the analysis of these samples; therefore, furnace atomic absorption QC is not applicable.

DATA VALIDATION REPORT

SDG No.: Analysis:

IOD2051, 3, 5 MET

2.10 ICP/MS AND ICP SERIAL DILUTION

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

2.11 INTERNAL STANDARDS PERFORMANCE

The ICP-MS internal standard recoveries for the site samples and associated QC sample analyses were within the 60-125% control limits and no qualifications were required.

2.12 SAMPLE RESULT VERIFICATION

A Level IV review was performed for the samples in these data packages. 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." No further qualifications were required.

2.13 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.

2.13.1 Field Blanks and Equipment Rinsates

The samples in these SDGs had no associated field QC samples. No qualifications were required.

2.13.2 Field Duplicates

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



17361Derian Ave., Suite 100, Irvine, CA 92614 (949) 265-1622 FAX 949, 266-125-1 1874 E. Cooley Cr., Suite A. Colton, CA 92314 (909) 179-466 PAIR 9491 770 1.34 . 9481 Chesapeake Dr., Suite 803, San Diego, CA 92123 (85%) 503-8596 FAX 858/503 (508) 9830 South 51s. St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 EAX, 480) 785-0851 2520 E. Sunset Rd. #0, Las Vegas, NV 89120 (702) 798-3620 FAX 702) 798-3631

MWH-Pasadena/Boeing

Project ID: Routine Outfall 003

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: 10D2051 Attention: Bronwyn Kelly

Sampled: 04/28/05

Received: 04/28/05

DRAFT: METALS

MDL Reporting Sample Dilution Date Date Analyte Method Batch Limit Limit Result Factor Extracted Analyzed Qualifiers Rev Sample ID: IOD2051-01 (DRAFT: Outfall 003 - Water) Reporting Units: ug/l L.ead EPA 200.8 5D29095 0.13 1.0 3.5 04/29/05 05/03/05

AMEC VALIDATED

DRAFT REPORT DRAFT REPORT DATA SUBJECT TO CHANGE



1746 (Derian Ave., Suite 100, trvine, CA 92814 (949) 261-1022 FAX (949) 260-1017 (1814 E. Cuchey Dr., Suite A, Collun, CA 92834 (900) 177-4367 FAX (949) 260-1014. 9484 (Desaposke Th., Suite 805, San Diego, CA 22113 (838) 505-8516 (AX 838) 505-8516 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAN (480) 785-0051 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 728-3620 FAX (702) 708-3621

MWE-Pasadena/Boeing

and the state of t

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Project ID: Routine Outfall 004

Report Number: IOD2053

Sampled: 04/28/05 Received: 04/28/05

DRAFT: METALS

| Analyte | Method | Batch | MDL Limit | | | Dilution Dat Factor Extrac | | Data Qualifiers | |
|--|--------------------|---------|--------------|-----|------|-------------------------------|-------------|--------------------|------|
| Sample ID: IOD2053-01 (DRAJ Reporting Units: ug/l | T: Outfall 004 - W | (ater) | | | | | | Rev | Code |
| Lead | EPA 200.8 | 5D29095 | 0.13 | 1.0 | 0.68 | 1 04/29 | 05 05/03/05 | 1 1 | DNG |



DRAFT REPORT DRAFT REPORT DATA SUBJECT TO CHANGE



17451 Derian Ave., Suite 100, Irvine, CA 92614 (947): 261-1022 FAX (949): 260-270-1014 E. Cocley Dr., Suite A., Colton, CA 92321 (900, E70-967) FAX (940: 370-372): 9414 Chasapeake Dr., Suite 805, San Diego, CA 92123 (858) 303-3496 FAX (858) 503-3453 9330 South 51st St., Suite 8-120, Phoenix, AZ 35044 (480) 783-0043 FAX (486) 783-0434 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3624

MWH-Pasadena/Boeing

Attention: Bronwyn Kelly

Project ID: Routine Outfall 006

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IOD2055

Sampled: 04/28/05

Received: 04/28/05

DRAFT: METALS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | | | | Date Analyzed | Data Qualifiers | |
|---|--------------------|---------|--------------|--------------------|------|---|----------|------------------|--------------------|------|
| Sample ID: IOD2055-01 (DRAF) Reporting Units: ug/l | ि: Outfall 006 - ₩ | ater) | | | | | | | Rev Qual | Code |
| Lead | EPA 200.8 | 5D29095 | 0.13 | 1.0 | 0.44 | I | 04/29/05 | 05/03/05 | 1 1 | pNq |

AMEC VALIDATED

CVEL

DRAFT REPORT
DATA SUBJECT TO CHANGE

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| AMI | EC Earth & Environmenta | Package ID <u>T711RA9</u> |
|-------|---|---|
| 355 | South Teller Street | Task Order313150012 |
| Suite | e 300 | SDG No. <u>IOD2061</u> |
| Lake | ewood, CO 80226 | No. of Analyses 2 |
| | Laboratory Eberlin | Date: 07/14/05 |
| | Reviewer P. Mee | ks Rewiewer's Signature |
| | Analysis/Method Radion | / |
| | | |
| | ION ITEMS ^a | |
| 1. | 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 were applied for detector efficiencies below 20% and exceeded holding times. |
| | TT-14th- mt. | |
| | Holding Times GC/MS Tune/Inst. | |
| | Performance | |
| | Calibrations | |
| | Blanks | |
| | Surrogates | |
| | Matrix Spike/Dup LCS Field QC | |
| | Internal Standard | |
| | Performance | |
| | Compound Identification | |
| | and Quantitation | |
| | System Performance | |
| | | |
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| | | |
| | | |
| | | |
| | | |
| COM | IMENTS ^b | |
| | | |
| | | |
| a c 1 | | |
| Sub | contracted analytical laboratory is a | 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 Qualifier Reference Table

| Qualifier | Organics | Inorganics |
|-----------|---|--|
| U | The analyte was analyzed for, but was not detected above the reported sample quantitation limit. | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. |
| J | The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. | The associated value is an estimated quantity. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification." | Not applicable. |
| NJ | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. | Not applicable. |
| UJ | The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. | The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. |
| R | The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified. | The data are unusable. (Note: Analyte may or may not be present). |

Qualification Code Reference Table

| Qualifier | Organics | Inorganics | | | | |
|-----------|--|--|--|--|--|--|
| Н | Holding times were exceeded. | Holding times were exceeded. | | | | |
| S | Surrogate recovery was outside QC limits. | The sequence or number of standards used for the calibration was incorrect | | | | |
| C | Calibration %RSD or %D were noncompliant. | Correlation coefficient is <0.995. | | | | |
| R | Calibration RRF was <0.05. | %R for calibration is not within control limits. | | | | |
| В | Presumed contamination from preparation (method) blank. | Presumed contamination from preparation (method) or calibration blank. | | | | |
| L | Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits. | Laboratory Control Sample %R was not within control limits. | | | | |
| Q | MS/MSD recovery was poor or RPD high. | MS recovery was poor. | | | | |
| E | Not applicable. | Duplicates showed poor agreement. | | | | |
| I | Internal standard performance was unsatisfactory. | ICP ICS results were unsatisfactory. | | | | |
| A | Not applicable. | ICP Serial Dilution %D were not within control limits. | | | | |
| M | Tuning (BFB or DFTPP) was noncompliant. | Not applicable. | | | | |
| T | Presumed contamination from trip blank. | Not applicable. | | | | |
| + | False positive – reported compound was not present. Not applicable. | | | | | |
| - | False negative – compound was present but not reported. | Not applicable. | | | | |
| F | Presumed contamination from FB, or ER. | Presumed contamination from FB or ER. | | | | |
| \$ | Reported result or other information was incorrect. | Reported result or other information was incorrect. | | | | |
| ? | TIC identity or reported retention time has been changed. | Not applicable. | | | | |
| D | The analysis with this flag should not be used because another more technically sound analysis is available. | The analysis with this flag should not be used because another more technically sound analysis is available. | | | | |
| P | Instrument performance for pesticides was poor. | Post Digestion Spike recovery was not within control limits. | | | | |
| DNQ | The compound was detected between the MDL and the RL and, by definition, is considered an estimated value. | The compound was detected between the MDL and the RL and, by definition, is considered an estimated value. | | | | |

*#

Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).

Unusual problems found with the data that have been described in Section 2.#, "Data Validation Findings." The number following the asterisk (*) will indicate the subsection where a description of the problem can be found (eg. *1 would indicate a sample was not within temperature limits).



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: RADIONUCLIDES

SAMPLE DELIVERY GROUP: IOD2061

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

SDG No.: Analysis:

NPDES IOD2061 RAD

1. INTRODUCTION

Task Order Title:

NPDES Monitoring

Contract Task Order #:

313150012

SDG#:

IOD2061

Project Manager:

P. Costa

Matrix:

Water/Solid

Analysis:

Radionuclides

QC Level:

Level IV

No. of Samples:

3

No. of Reanalyses/Dilutions:

0 P. Meeks

Reviewer: Date of Review:

July 14, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the EPA Prescribed Procedures for Measurements of Radioactivity in Drinking Water, Methods 900.0, 905.0, and 906.0, and validation procedures 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.

DATA VALIDATION REPORT

Project: SDG No.:

Analysis:

NPDES IOD2061 RAD

Table 1. Sample identification

| Client ID | Del Mar ID | Eberline ID | Matrix | COC Method | | |
|------------------------|------------|-------------|--------|--------------------------------------|--|--|
| Outfall 003 Filtered | IOD2061-01 | 8442-001 | water | 900.0, 903.1, 904.0, 905.0, 906.0 | | |
| Outfall 003 Unfiltered | IOD2061-02 | 8442-001 | water | 900.0, 903.1, 904.0, 905.0, 906.0 | | |
| Outfall 003 Substrate | IOD2061-03 | 8443-001 | solid | 901.1 | | |

SDG No.: Analysis:

NPDES IOD2061 RAD

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

DATA VALIDATION REPORT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at Del Mar Analytical within the temperature limits of 4±2°C. No temperature information was provided by Eberline, the subcontract laboratory; however, as it is not necessary to chill radiological samples, no qualifications were required. The samples were noted to have been received intact and in good condition.

According to the Los Angeles Regional Water Quality Control Board's guidance letter dated 01/12/05, samples collected for tritium analysis should be submitted in glass containers to avoid potential loss of tritium by sorption onto the plastic container. The tritium samples were received unpreserved in glass containers. According to the LARWQCB guidance letter, unfiltered samples should not be preserved and filtered aliquots should be preserved after filtration. All gross alpha, gross beta, radium-226, radium-228, and strontium samples were received unpreserved. Upon receipt, the laboratory filtered and then preserved the gross alpha, gross beta, radium-226, radium-228, and strontium aliquots for Outfall 003 Filtered. As per instructions, Outfall 003 Unfiltered was not preserved. No qualifications were required.

2.1.2 Chain of Custody

The original COC was signed and dated by field and laboratory personnel. The transfer COC was signed by personnel from both laboratories. Eberline did not list the MWH IDs on the Form I; therefore, the reviewer edited the Form Is to reflect these IDs. No qualifications were required.

2.1.3 Holding Times

The tritium and cesium samples, and preserved gross alpha, gross beta, radium-226, radium-228, and strontium samples for Outfall 003 Filtered were analyzed within 180 days of collection. The unpreserved gross alpha, gross beta, radium-226, radium-228, and strontium samples for Outfall 003 Unfiltered were analyzed beyond the five-day holding time; therefore, the results for gross alpha, gross beta, radium-226, radium-228, and strontium were qualified as estimated, "J," for detects and, "UJ," for nondetects. No further qualifications were necessary.

2.2 CALIBRATION

The laboratory calibration information included the standard certificates and applicable preparation/dilutions logs for NIST-traceability.

Gross Alpha and Gross Beta

The initial calibration included with the data was performed in February 2003. The gross alpha detector efficiencies were both less than 20%; therefore, the nondetected gross alpha results for Outfall 003 Filtered was qualified as estimated, "UJ," and the detected gross alpha results for Outfall 003 Unfiltered was qualified as estimated, "J." The remaining detector efficiencies were above 20%.

Project: SDG No.: NPDES IOD2061 RAD

DATA VALIDATION REPORT

Analysis:

Tritium

No calibration standards were analyzed for this method. According to the laboratory, every sample was spiked for efficiency determination; therefore, no calibration is necessary. All detector efficiencies in the samples were at least 20% and were considered acceptable. All internal spike efficiency to default efficiency ratios were near 1, indicating that quenching did not occur. Strontium-90

The initial calibrations were performed in June 1995. All strontium chemical yields were at least 75% and were considered acceptable. The strontium continuing calibration results were within the laboratory control limits. No qualifications were necessary.

Radium

The radium-226 cell efficiencies were determined in May 2004 and October 2003. The radium-226 continuing calibration results were within the laboratory-established control limits. The radium-228 calibration utilized actinium-288 and was verified in February 2001. The radium-228 tracer, barium-133, was calibrated in March 2004. The tracer chemical yields were greater than 70%. And the actinium chemical yields were greater than 50%. No qualifications were necessary.

Cesium

The reviewer confirmed that the 662 KeV peak was used for quantitation, with an efficiency of 85%. No qualifications were necessary.

2.3 BLANKS

No measurable activities were detected in the method blanks; therefore, no qualifications were necessary.

2.4 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Aqueous blank spikes were analyzed in association with the samples in this SDG. The radium-228, radium-226, and cesium recoveries exceeded the 3-sigma limits; however, these recoveries, 122%, 110%, and 117% were deemed acceptable. The remaining blank spike results were within the 3-sigma limits. No qualifications were necessary.

2.5 LABORATORY DUPLICATES

The laboratory performed duplicate analyses on Outfall 003 Substrate for cesium and on Outfall 003 Filtered for all analytes except radium-228. The gross alpha RPD was greater than 20%; however, as the result was within the 3-sigma limits, no qualifications were required. All remaining RPDs were \leq 20% and all results were within the 3-sigma limits. No qualifications were necessary.

2.6 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

NPDES IOD2061

RAD

DATA VALIDATION REPORT SDG No.:
Analysis:

The laboratory performed matrix spike analyses on Outfall 003 Filtered for all analytes except radium-228 and strontium. The recoveries were all within the 3-sigma limits. No qualifications were necessary.

DATA VALIDATION REPORT

SDG No.: Analysis:

NPDES IOD2061 RAD

2.7 SAMPLE RESULT VERIFICATION

An EPA Level IV review was performed for the samples in this data package. Sample results and MDAs reported on the sample result forms were verified against the raw data and no calculation or transcription errors were noted. No qualifications were necessary.

2.8 FIELD QC SAMPLES

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

2.8.1 Field Blanks and Equipment Rinsates

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

2.8.2 Field Duplicates

There were no field duplicate samples in this SDG.

Eberline Services

ANALYSIS RESULTS

SDG 8442 Work Order R505002-01 Client DEL MAR ANAL

Contract PROJECT# IOD2061

Received Date 04/30/05

Matrix WATER

| Client Sample ID Outful 003 | Lab Sample ID | Collected Ana | alyzed | Nuclide | Results + 2o | Units | MDA | Rev Qual | (val |
|-----------------------------|-------------------------|---------------------|--------|--------------------------|--------------------------|----------------|--------------|----------------|----------|
| 10D2061-01 | 8442-001 | 04/28/05 05/ | /10/05 | GrossAlpha | 2.79 ± 3.7 | pCi/L | 4.35 | UJ. | R |
| 1002061-01 | 8442-001 | | | Gross Beta | 43.2 ± 5.9 | pCi/L | 6.39 | · - | , , |
| | | · | | Ra228 | 1.24 ± 0.81 | pCi/L | 2.22 | Ú | |
| | | 05/ | /19/05 | нз | 56.8 ± 110 | pCi/L | 185 | U | |
| | | 06/ | /16/05 | Ra226 | 0.290 ± 0.38 | pCi/L | 0.630 | U | |
| | | 05/ | /19/05 | Sr90 | 10.8 ± 0.85 | pCi/L | 0.551 | | |
| Outfall 003 10D2061-02 | Unf. Itered 8442-002 | 04/28/05 05/ 05/ | | GrossAlpha Gross Beta | 8.85 ± 5.0 43.8 ± 6.9 | pCi/L pCi/L | 5.79 8.12 | J | R,H H |
| Lulac | | 06, | /13/05 | Ra228 | 0.542 ± 0.55 | pCi/L | 1.73 | N2 | H |
| pm 1/4/05 | | 05, | /19/05 | н3 | 65.7 ± 110 | pCi/L | 189 | U | |
| <i>u</i> | | 06, | /16/05 | Ra226 | 0.650 ± 0.47 | pCi/L | 0.707 | U J | H |
| | | 05, | /19/05 | Sr90 | 11.4 ± 0.82 | pCi/L | 0.457 | 7 | H |
| | | | | | | | | | |





Certified by_ Report Date 07/12/05

Page 1

Eberline Services

ANALYSIS RESULTS

 SDG
 8443
 Client
 DEL MAR ANAL

 Work Order
 R505003-01
 Contract
 PROJECT# 10D2061

 Received Date
 04/30/05
 Matrix
 SOLID

| Client | Lab | | Sample ID | Somple ID | Collected Analyzed | Nuclide | Results ± 20 | Units | MDA | Code | Code

VEL

AMEC VALIDATED

Certified by 2000 CC Report Date 07/06/05

|--|

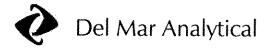
APPENDIX G

Section 4

Outfall 004

Del Mar Analytical Laboratory Reports

AMEC Data Validation Reports



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

LABORATORY REPORT

Prepared For: MWH-Pasadena/Boeing

Project: Routine Outfall 004 300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Sampled: 04/28/05 Received: 04/28/05

Issued: 07/01/05 15:30

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

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

> LABORATORY ID **CLIENT ID**

IOD2053-01 Outfall 004 Water

MATRIX

Reviewed By:

Del Mar Analytical, Irvine

Michell Harper

Michele Harper Project Manager



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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Report Number: IOD2053

Sampled: 04/28/05 Received: 04/28/05

Attention: Bronwyn Kelly

| | | | META | ALS | | | | | |
|--|-----------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
| Sample ID: IOD2053-01 (Outfall 004 - W | ater) | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| Antimony | EPA 200.8 | 5D29095 | 0.18 | 2.0 | ND | 1 | 04/29/05 | 05/03/05 | |
| Cadmium | EPA 200.8 | 5D29095 | 0.015 | 1.0 | 0.028 | 1 | 04/29/05 | 05/03/05 | J |
| Copper | EPA 200.8 | 5D29095 | 0.49 | 2.0 | 3.7 | ì | 04/29/05 | 05/03/05 | |
| Lead | EPA 200.8 | 5D29095 | 0.13 | 1.0 | 0.68 | 1 | 04/29/05 | 05/03/05 | J |
| Mercury | EPA 245.1 | 5D29061 | 0.063 | 0.20 | 0.12 | 1 | 04/29/05 | 04/29/05 | J |



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MWH-Pasadena/Boeing

Pasadena, CA 91101

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Sampled: 04/28/05
Report Number: IOD2053

Received: 04/28/05

Attention: Bronwyn Kelly

INORGANICS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|-----------------------------------|---------------------|---------|--------------|--------------------|------------------|--------------------|-------------------|------------------|--------------------|
| Sample ID: IOD2053-01 (Outfall 00 | 14 - Water) - cont. | | | | | | | | |
| Reporting Units: mg/l | | | | | | | | | |
| Chloride | EPA 300.0 | 5D28116 | 0.26 | 0.50 | 2.4 | 1 | 04/28/05 | 04/29/05 | |
| Nitrate/Nitrite-N | EPA 300.0 | 5D28116 | 0.072 | 0.26 | 1.0 | 1 | 04/28/05 | 04/29/05 | |
| Oil & Grease | EPA 413.1 | 5E04036 | 0.94 | 5.0 | ND | 1 | 05/04/05 | 05/04/05 | |
| Sulfate | EPA 300.0 | 5D28116 | 0.18 | 0.50 | 4.4 | 1 | 04/28/05 | 04/29/05 | |
| Total Dissolved Solids | SM2540C | 5D29129 | 10 | 10 | 69 | 1 | 04/29/05 | 04/29/05 | |
| Total Suspended Solids | EPA 160.2 | 5E04071 | 10 | 10 | ND | 1 | 05/04/05 | 05/04/05 | |



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Report Number: IOD2053

Sampled: 04/28/05

Received: 04/28/05

SHORT HOLD TIME DETAIL REPORT

| | Hold Time (in days) | Date/Time Sampled | Date/Time Received | Date/Time Extracted | Date/Time Analyzed |
|---|------------------------|----------------------|-----------------------|------------------------|-----------------------|
| Sample ID: Outfall 004 (IOD2053-01) - Water | er | | | | |
| EPA 300.0 | 2 | 04/28/2005 11:40 | 04/28/2005 18:15 | 04/28/2005 21:30 | 04/29/2005 01:34 |



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Sampled: 04/28/05

Received: 04/28/05

MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 004

Report Number: IOD2053

METHOD BLANK/QC DATA

METALS

| | | Reporting | | | Spike | Source | | %REC | | RPD | Data |
|---|------------|-----------|---------|-------|-------|----------|---------|--------|-----|-------|------------|
| Analyte | Result | Limit | MDL | Units | Level | Result | %REC | Limits | RPD | Limit | Qualifiers |
| Batch: 5D29061 Extracted: 04/29/05 | - | | | | | | | | | | |
| Di i i i i i i i i i i i i i i i i i i | *** | | | | | | | | | | |
| Blank Analyzed: 04/29/2005 (5D29061-Bl | • | | 4 6 4 7 | | | | | | | | |
| Mercury | ND | 0.20 | 0.063 | ug/l | | | | | | | |
| LCS Analyzed: 04/29/2005 (5D29061-BS1 |) | | | | | | | | | | |
| Mercury | 8.06 | 0.20 | 0.063 | ug/l | 8.00 | | 101 | 85-115 | | | |
| Matrix Spike Analyzed: 04/29/2005 (5D29 | 061.MC1) | | | | e | ce: IOD2 | 1877 87 | | | | |
| Mercury | 7.76 | 0.20 | 0.063 | ug/l | 8.00 | | 97 | 70.120 | | | |
| Mercury | 7.70 | 0.20 | 0.003 | ug/i | 8.00 | ND | 97 | 70-130 | | | |
| Matrix Spike Dup Analyzed: 04/29/2005 (| 5D29061-MS | D1) | | | Sour | ce: IOD2 | 2033-03 | | | | |
| Mercury | 7.82 | 0.20 | 0.063 | ug/l | 8.00 | ND | 98 | 70-130 | 1 | 20 | |
| Batch: 5D29095 Extracted: 04/29/05 | | | | | | | | | | | |
| 2.000 | | | | | | | | | | | |
| Blank Analyzed: 05/03/2005 (5D29095-BI | .K1) | | | | | | | | | | |
| Antimony | ND | 2.0 | 0.18 | ug/l | | | | | | | |
| Cadmium | ND | 1.0 | 0.015 | ug/l | | | | | | | |
| Copper | ND | 2.0 | 0.49 | ug/l | | | | | | | |
| Lead | ND | 1.0 | 0.13 | ug/l | | | | | | | |
| LCS Analyzed: 05/03/2005 (5D29095-BS1 |) | | | | | | | | | | |
| Antimony | 87.8 | 2.0 | 0.18 | ug/l | 80.0 | | 110 | 85-115 | | | |
| Cadmium | 87.8 | 1.0 | 0.015 | ug/l | 80.0 | | 110 | 85-115 | | | |
| Copper | 78.5 | 2.0 | 0.49 | ug/l | 80.0 | | 98 | 85-115 | | | |
| Lead | 81.9 | 1.0 | 0.13 | ug/l | 80.0 | | 102 | 85-115 | | | |
| Matrix Spike Analyzed: 05/03/2005 (5D29 | 095-MS1) | | | | Sour | ce: IOD2 | 054_01 | | | | |
| Antimony | 98.9 | 2.0 | 0.18 | ug/l | 80.0 | 0.31 | 123 | 70-130 | | | |
| Cadmium | 86.7 | 1.0 | 0.015 | ug/l | 80.0 | 0.058 | 108 | 70-130 | | | |
| Copper | 79.4 | 2.0 | 0.49 | ug/l | 80.0 | 2.0 | 97 | 70-130 | | | |
| Lead | 80.9 | 1.0 | 0.13 | ug/l | 80.0 | 0.24 | 101 | 70-130 | | | |

Del Mar Analytical, Irvine

Michele Harper Project Manager



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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 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Report Number: IOD2053

Sampled: 04/28/05

Received: 04/28/05

METHOD BLANK/QC DATA

METALS

| Analyte | Result | Reporting Limit | MDL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|--|------------|--------------------|-------|-------|----------------|------------------|---------|----------------|-----|--------------|--------------------|
| Batch: 5D29095 Extracted: 04/29/05 | _ | | | | , | | | | | | |
| Matrix Spike Analyzed: 05/03/2005 (5D2 | 9095-MS2) | | | | Sou | rce: IOD | 2149-03 | | | | |
| Antimony | 100 | 10 | 0.90 | ug/l | 80.0 | ND | 125 | 70-130 | | | |
| Cadmium | 76.0 | 5.0 | 0.075 | ug/l | 80.0 | 0.45 | 94 | 70-130 | | | |
| Copper | 90.1 | 10 | 2.4 | ug/l | 80.0 | 17 | 91 | 70-130 | | | |
| Lead | 73.5 | 5.0 | 0.65 | ug/l | 80.0 | 1.1 | 90 | 70-130 | | | |
| Matrix Spike Dup Analyzed: 05/03/2005 | (5D29095-M | SD1) | | | Sou | rce: IOD | 2054-01 | | | | |
| Antimony | 99.6 | 2.0 | 0.18 | ug/l | 80.0 | 0.31 | 124 | 70-130 | 1 | 20 | |
| Cadmium | 87.7 | 1.0 | 0.015 | ug/l | 80.0 | 0.058 | 110 | 70-130 | 1 | 20 | |
| Copper | 81.3 | 2.0 | 0.49 | ug/l | 80.0 | 2.0 | 99 | 70-130 | 2 | 20 | |
| Lead | 81.0 | 1.0 | 0.13 | ug/l | 80.0 | 0.24 | 101 | 70-130 | 0 | 20 | |

Del Mar Analytical, Irvine Michele Harper 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 004

Report Number: IOD2053

Sampled: 04/28/05 Received: 04/28/05

METHOD BLANK/QC DATA

INORGANICS

| Analyte | Result | Reporting Limit | MDL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|---|--------------|--------------------|-------|-------|----------------|------------------|-------|----------------|-----|--------------|--------------------|
| Batch: 5D28116 Extracted: 04/28/05 | - | | | | | | | | | | |
| Blank Analyzed: 04/28/2005 (5D28116-Bl | LK1) | | | | | | | | | | |
| Chloride | 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: 04/28/2005 (5D28116-BS1 |) | | | | | | | | | | |
| Chloride | 4.82 | 0.50 | 0.26 | mg/l | 5.00 | | 96 | 90-110 | | | M-3 |
| Sulfate | 9.63 | 0.50 | 0.18 | mg/l | 10.0 | | 96 | 90-110 | | | м-3 М-3 |
| Batch: 5D29129 Extracted: 04/29/05 | • | | | | | | | | | | 14-5 |
| Blank Analyzed: 04/29/2005 (5D29129-BI | .K1) | | | | | | | | | | |
| Total Dissolved Solids | ND | 10 | 10 | mg/l | | | | | | | |
| LCS Analyzed: 04/29/2005 (5D29129-BS1 |) | | | | | | | | | | |
| Total Dissolved Solids | 930 | 10 | 10 | mg/l | 1000 | | 93 | 90-110 | | | |
| Duplicate Analyzed: 04/29/2005 (5D29129 | -DUP1) | | | | Sourc | e: IOD20 | 33-01 | | | | |
| Total Dissolved Solids | 334 | 10 | 10 | mg/l | | 360 | | | 7 | 10 | |
| Batch: 5E04036 Extracted: 05/04/05 | | | | | | | | | | | |
| Blank Analyzed: 05/04/2005 (5E04036-BL | K1) | | | | | | | | | | |
| Oil & Grease | ND | 5.0 | 0.94 | mg/I | | | | | | | |
| LCS Analyzed: 05/04/2005 (5E04036-BS1) | | | | | | | | | | | M-NR1 |
| Oil & Grease | 18.5 | 5.0 | 0.94 | mg/l | 20.0 | | 92 | 65-120 | | | ANT-INECT |

Del Mar Analytical, IrvineMichele Harper

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 004

Report Number: IOD2053

Sampled: 04/28/05 Received: 04/28/05

METHOD BLANK/QC DATA

INORGANICS

| Analyte | Result | Reporting Limit | MDL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|---|---------|--------------------|------|-------|----------------|------------------|--------|----------------|-----|--------------|--------------------|
| Batch: 5E04036 Extracted: 05/04/05 | | | | | | | | | | | |
| LCS Dup Analyzed: 05/04/2005 (5E04036 | 5-BSD1) | | | | | | | | | | |
| Oil & Grease | 18.9 | 5.0 | 0.94 | mg/l | 20.0 | | 94 | 65-120 | 2 | 20 | |
| Batch: 5E04071 Extracted: 05/04/05 | | | | | | | | | | | |
| Blank Analyzed: 05/04/2005 (5E04071-BI | Æ1) | | | | | | | | | | |
| Total Suspended Solids | ND | 10 | 10 | mg/l | | | | | | | |
| LCS Analyzed: 05/04/2005 (5E04071-BS1 |) | | | | | | | | | | |
| Total Suspended Solids | 1000 | 10 | 10 | mg/i | 1000 | | 100 | 85-115 | | | |
| Duplicate Analyzed: 05/04/2005 (5E04071 | -DUPI) | | | | Sour | ce: IOD2 | 054-01 | | | | |
| Total Suspended Solids | ND | 10 | 10 | mg/l | | ND | | | | 10 | |

Del Mar Analytical, Irvine Michele Harper Project Manager



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MWH-Pasadena/Boeing

Project ID: Routine Outfall 004

300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Report Number: IOD2053

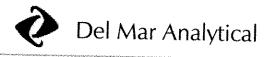
Sampled: 04/28/05 Received: 04/28/05

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 IOD2053-01 | Analysis | Analyte | Units | Result | MRL | Compliance Limit |
|--|--|-------------------------------------|----------------------|-----------------------|--------------------|---------------------|
| IOD2053-01 IOD2053-01 | 413.1 Oil and Grease Antimony-200.8 Cadmium-200.8 | Oil & Grease Antimony Cadmium | mg/l ug/l | -1 0.026 | 5.0 2.0 | 15 6.00 |
| IOD2053-01 IOD2053-01 | Chloride - 300.0 Copper-200.8 | Chloride Copper | ug/l mg/l ug/l | 0.028 2.40 3.70 | 1.0 0.50 2.0 | 4.00 150 |
| IOD2053-01 IOD2053-01 IOD2053-01 | Mercury - 245.1 Nitrogen, NO3+NO2 -N Sulfate-300.0 | Mercury Nitrate/Nitrite-N | ug/l mg/l | 0.12 1.00 | 0.20 0.26 | 14 0.20 10.00 |
| IOD2053-01 | TDS - SM 2540C | Sulfate Total Dissolved Solids | mg/l mg/l | 4.40 69 | 0.50 10 | 250 850 |



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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 004

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101

Attention: Bronwyn Kelly

Report Number: IOD2053

Sampled: 04/28/05 Received: 04/28/05

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.

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.

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

RPD Relative Percent Difference

Del Mar Analytical, Irvine Michele Harper Project Manager



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MWH-Pasadena/Boeing

300 North Lake Avenue, Suite 1200

Pasadena, CA 91101 Attention: Bronwyn Kelly Project ID: Routine Outfall 004

Report Number: IOD2053

Sampled: 04/28/05

Received: 04/28/05

Certification Summary

Del Mar Analytical, Irvine

| Method | Matrix | Nelac | California |
|-----------|--------|-------|------------|
| 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 California Cert #1640, Nevada Cert #CA-413

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR Samples: IOD2053-01

Analysis Performed: EDD + Level 4

Samples: IOD2053-01

Del Mar Analytical, Irvine Michele Harper Project Manager **CHAIN OF CUSTODY FORM** Del Mar Analytical version 02/17/05

158 1002053

Page 1 of)م Comments Temp = C.S. Field readings: 10 Days Turn around Time: (check) 24 Hours 5 Da Sample Integrity: (Check) Intact On Perchlorate Only 72 Hours Metals Only 72 Hours 72 Hours 48 Hours ANALYSIS REQUIRED SST, SQT CF' 204' NO3+NOS-N × Date/Time: いろくなり Date/Time: Oil & Grease (EPA 413.1) × TCDD (and all congeners) × Total Recoverable Metals: Sp. Cd, Cu Pb, Hg 3A, 3B 4A, 4B 2A, 2B 5A, 5B Bottle ₹ ā Preservative Received By Received By Boeing-SSFL NPDES Routine Outfall 004 Stormwater at SRE HNO3 4-35-05 11, 70 HNO3 None None None ᄗ (626) 568-6515 Phone Number (626) 568-6691 Fax Number: Sampling Date/Time Project Ç **#** 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101 Project Manager: Bronwyn Kelly Container Type Poly-500 mi Poly-500 mi Poly-1L Poly-1L Sampler: // CLOCK Glass-Glass-Amber Client Name/Address: MWH-Pasadena Sample Matrix ≥ ₹ ≥ ₹ ₹ ₹ Seminaria By Relinquished By Sample Description Ouffall 004-Outfall 004 Outfall 004 Outfall 004 Outfall 004 Outfall 004

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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

June 17, 2005

MWH- Pasadena / Boeing 300 North Lake Avenue, Suite 1200 Pasadena, CA 91101

Attention:

Bronwyn Kelly

Project:

Routine Outfall 004

Sampled: 04/28/05

Del Mar Analytical Number: IOD2053

Dear Ms. Kelly:

Alta Analytical Laboratories performed the EPA Method 1613 for tetra-through-octa chlorinated dioxins and furans for the project referenced above. Please use the following cross-reference table when reviewing your results.

| MWH ID | Del Mar ID | Alta ID |
|-------------|------------|-----------|
| Outfall 004 | IOD2053-01 | 26120-001 |

Attached is the original report from the subcontract laboratory. If you have any questions or require further assistance, please do not hesitate to contact me at (949) 261-1022, extension 215.

Sincerely yours,

DEL MAR ANALYTICAL

Michele Harper
Project Manager

Enclosure



May 20, 2005

Alta Project I.D.: 26120

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

Dear Ms. Harper,

Enclosed are the results for the one aqueous sample received at Alta Analytical Laboratory on April 30, 2005 under your Project Name "IOD2053". 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.

An "A" qualifier indicates that the result is greater than the low point in the calibration curve, but lower than the EPA Method 1613 Minimum Level.

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



After Audicineal Laborations executives that the regions as ear, move all the region emerits we prest, by AELA has those applicable used methods. Fair regions should not be representated execution with without the written approval at ALLA.





Section I: Sample Inventory Report
Date Received: 4/30/2005

Alta Lab. ID

Client Sample ID

26120-001

IOD2053-01



SECTION II



| Method Blank | der de marie de de la character de la company de la compan | | | EPA Method 1613 |
|------------------------|--|---|---|------------------------------------|
| Matrix: Aqueous | QC Batch No.: | 6789 | Lab Sample: 0-MB001 | |
| Sample Size: 1.000 L | Date Extracted: | 17-May-05 | Date Analyzed DB-5: 19-May-05 | Date Analyzed DB-225: NA |
| Analyte Conc. (ug/L) | | EMPC b Qualifiers | Labeled Standard | %R LCL-UCL ^d Qualifiers |
| 2,3,7,8-TCDD ND | 0.00000124 | SIGNERALING NATURAL TO ANNO TO THE PROPERTY OF THE SIGNER STATES AND ADDRESS A | <u>IS</u> 13C-2,3,7,8-TCDD | 69.9 25 - 164 |
| 1,2,3,7,8-PeCDD ND | 0.00000166 | | 13C-1,2,3,7,8-PeCDD | 84.1 25 - 181 |
| 1,2,3,4,7,8-HxCDD ND | 0.00000186 | | 13C-1,2,3,4,7,8-HxCDD | 72.5 32 - 141 |
| 1,2,3,6,7,8-HxCDD ND | 0.00000179 | | 13C-1,2,3,6,7,8-HxCDD | 75.3 28 - 130 |
| 1,2,3,7,8,9-HxCDD ND | 0.00000186 | | 13C-1,2,3,4,6,7,8-HpCDD | 65.8 23 - 140 |
| 1,2,3,4,6,7,8-HpCDD ND | 0.00000303 | | 13C-0CDD | 58.4 17-157 |
| OCDD | 0.00000677 | | 13C-2,3,7,8-TCDF | 81.1 24 - 169 |
| Z,3,7,8-TCDF | 0.000000924 | | 13C-1,2,3,7,8-PeCDF | 79.5 24 - 185 |
| 1,2,3,7,8-PeCDF ND | 0.00000226 | ~ | 13C-2,3,4,7,8-PeCDF | 82.4 21 - 178 |
| 2,3,4,7,8-PeCDF ND | 0.00000193 | | 13C-1,2,3,4,7,8-HxCDF | 72.6 26 - 152 |
| 1,2,3,4,7,8-HxCDF ND | 0.000000785 | | 13C-1,2,3,6,7,8-HxCDF | 75.4 26 - 123 |
| 1,2,3,6,7,8-HxCDF ND | 0.000000731 | | 13C-2,3,4,6,7,8-HxCDF | 92.3 28 - 136 |
| 2,3,4,6,7,8-HxCDF ND | 0.000000672 | | 13C-1,2,3,7,8,9-HxCDF | 68.4 29 - 147 |
| 1,2,3,7,8,9-HxCDF ND | 0.00000158 | | 13C-1,2,3,4,6,7,8-HpCDF | 63.5 28 - 143 |
| 1,2,3,4,6,7,8-HpCDF ND | 69600000000 | - | 13C-1,2,3,4,7,8,9-HpCDF | 52.9 26 - 138 |
| 1,2,3,4,7,8,9-HpCDF ND | 0.00000192 | | 13C-OCDF | 49.2 17 - 157 |
| OCDF ND | 0.00000476 | о веда на веда на веда на разова на веда на вед на веда на веда на веда на вед на вед | CRS 37CI-2,3,7,8-TCDD | 89.9 35 - 197 |
| Totals | | | Footnotes | |
| Total TCDD ND | 0.00000124 | | a. Sample specific estimated detection limit. | |
| Total PeCDD ND | 0,00000166 | | b. Estimated maximum possible concentration. | |
| Total HxCDD ND | 0.00000183 | | c. Method detection limit. | |
| Total HpCDD ND | 0.00000303 | | d. Lower control limit - upper control limit. | |
| Total TCDF ND | 0.000000924 | | , | |
| Total PeCDF ND | 0.00000209 | | | |
| Total HxCDF ND | 0.000000872 | | | |
| Total HpCDF ND | 0.00000132 | | | |
| | | | # # # # # # # # # # # # # # # # # # # | |

Analyst: RAS

William J. Luksemburg 20-May-2005 11:13

Approved By:



| OPR Results | Andrews and the second and the secon | AND THE PROPERTY OF THE PROPER | | | EPA | EPA Method 1613 |
|----------------------|--|--|------------|-------------------------------|-----------------------|---|
| Matrix: Aqueous | | QC Batch No.: | 6789 | Lab Sample: 0-OPR001 | modern become | ender edmina — en |
| Sample Size: 1.000 L | | Date Extracted: | 17-May-05 | Date Analyzed DB-5: 19-May-05 | Date Analyzed DB-225: | d DB-225: NA |
| Analyte | Spike Conc. | Spike Conc. Conc. (ng/mL) | OPR Limits | Labeled Standard | %R | TCT-NCT |
| 2,3,7,8-TCDD | 10.0 | 10.3 | 6.7 - 15.8 | <u>IS</u> 13C-2,3,7,8-TCDD | 66.3 | 25 - 164 |
| 1,2,3,7,8-PeCDD | 50.0 | 51.8 | 35 - 71 | 13C-1,2,3,7,8-PeCDD | 82.1 | 25 - 181 |
| 1,2,3,4,7,8-HxCDD | 50.0 | 50.1 | 35 - 82 | 13C-1,2,3,4,7,8-HxCDD | 69.4 | 32 - 141 |
| 1,2,3,6,7,8-HxCDD | 50.0 | 52.2 | 38 - 67 | 13C-1,2,3,6,7,8-HxCDD | 74.5 | 28 - 130 |
| 1,2,3,7,8,9-HxCDD | 50.0 | 54.3 | 32 - 81 | 13C-1,2,3,4,6,7,8-HpCDD | 64.6 | 23 - 140 |
| 1,2,3,4,6,7,8-HpCDD | 50.0 | 49.7 | 35 - 70 | 13C-0CDD | 40.2 | 17 - 157 |
| OCDD | 100 | 99.1 | 78 - 144 | 13C-2,3,7,8-TCDF | 71.3 | 24 - 169 |
| 2,3,7,8-TCDF | 10.0 | 10.1 | 7.5 - 15.8 | 13C-1,2,3,7,8-PeCDF | 78.8 | 24 - 185 |
| 1,2,3,7,8-PeCDF | 50.0 | 49.0 | 40 - 67 | 13C-2,3,4,7,8-PeCDF | 85.0 | 21 - 178 |
| 2,3,4,7,8-PeCDF | 50.0 | 49.2 | 34 - 80 | 13C-1,2,3,4,7,8-HxCDF | 72.8 | 26-152 |
| 1,2,3,4,7,8-HxCDF | 50.0 | 48.2 | 36 - 67 | 13C-1,2,3,6,7,8-HxCDF | 78.4 | 26 - 123 |
| 1,2,3,6,7,8-HxCDF | 50.0 | 48.8 | 42 - 65 | 13C-2,3,4,6,7,8-HxCDF | 82.5 | 28 - 136 |
| 2,3,4,6,7,8-HxCDF | 50.0 | 48.4 | 35 - 78 | 13C-1,2,3,7,8,9-HxCDF | 8.69 | 29 - 147 |
| 1,2,3,7,8,9-HxCDF | 50.0 | 49.7 | 39 - 62 | 13C-1,2,3,4,6,7,8-HpCDF | 58.1 | 28 - 143 |
| 1,2,3,4,6,7,8-HpCDF | 50.0 | 49.7 | 41 - 61 | 13C-1,2,3,4,7,8,9-HpCDF | 45.9 | 26 - 138 |
| 1,2,3,4,7,8,9-HpCDF | 50.0 | 9.05 | 39 - 68 | 13C-OCDF | 36.3 | 17 - 157 |
| OCDF | 100 | 93.6 | 63 - 170 | CRS 37Cl-2,3,7,8-TCDD | 85.6 | 35 - 197 |

Analyst: RAS

Approved By: William J. Luksemburg 20-May-2005 11:13



| Sample 1D: 1OD2053-01 | 3-01 | The state of the s | | | | With the terror construction of the terror o | | EPA M | EPA Method 1613 |
|-----------------------|---|--|--|--|--|--|---|---|---|
| Client Data | | | Sample Data | | Laboratory Data | | *************************************** | *************************************** | |
| Name: Del Mar / | Del Mar Analytical, Irvine | | Matrix: | Aqueous | Lab Sample: 26120-001 | | Date Received: | ed: | 30-Apr-05 |
| | . v o | - 4 | Sample Size: | 7 896'0 | QC Batch No.: 6789 | Q | Date Extracted: | ;eq: | 17-May-05 |
| Time Collected: 1140 | Verification of the second of | | | | Date Analyzed DB-5: 19-May-05 | • | Jate Anal | Date Analyzed DB-225: NA | 5: NA |
| Analyte Conc. | c. (ug/L) | DL ^a | EMPCb | Qualifiers | Labeled Standard | 6 | %R LC | TCT-nCT _q C | Oualifiers |
| 2,3,7,8-TCDD | ND | 0.00000131 | | | IS 13C-2,3,7,8-TCDD | | 70.3 2 | 25 - 164 | |
| 1,2,3,7,8-PeCDD | NO | 0.00000171 | | | 13C-1,2,3,7,8-PeCDD | | 71.3 2 | 25 - 181 | |
| 1,2,3,4,7,8-HxCDD | ON | 0.00000161 | | | 13C-1,2,3,4,7,8-HxCDD | | | 32 - 141 | *************************************** |
| 1,2,3,6,7,8-HxCDD | ND | 0.00000164 | | | 13C-1,2,3,6,7,8-HxCDD | | 75.4 2 | 28 - 130 | M. Carrottings and |
| 1,2,3,7,8,9-HxCDD | ND | 0.00000166 | | | 13C-1,2,3,4,6,7,8-HpCDD | | | 23 - 140 | |
| 1,2,3,4,6,7,8-HpCDD | S | | 0.0000163 | F** | 13C-0CDD | - | 45.9 | 17 - 157 | |
| OCDD | 0.000234 | - | | | 13C-2,3,7,8-TCDF | | | 24 - 169 | |
| 2,3,7,8-TCDF | ON | 0.00000135 | | | 13C-1,2,3,7,8-PeCDF | - | | 24 - 185 | *************************************** |
| 1,2,3,7,8-PeCDF | ND | 0.00000133 | | , | 13C-2,3,4,7,8-PeCDF | • | | 21 - 178 | |
| 2,3,4,7,8-PeCDF | ON | 0.00000119 | _ | | 13C-1,2,3,4,7,8-HxCDF | - | | 26 - 152 | |
| 1,2,3,4,7,8-HxCDF | QN | 0.000000591 | | | 13C-1,2,3,6,7,8-HxCDF | • | | 26 - 123 | |
| 1,2,3,6,7,8-HxCDF | Q. | 0.000000518 | 00 | | 13C-2,3,4,6,7,8-HxCDF | • | 75.6 2 | 28 - 136 | |
| 2,3,4,6,7,8-HxCDF | QN | 0.000000586 | 9 | • | 13C-1,2,3,7,8,9-HxCDF | • | 70.0 | 29 - 147 | |
| 1,2,3,7,8,9-HxCDF | QN | 0.00000105 | | | 13C-1,2,3,4,6,7,8-HpCDF | - | | 28 - 143 | |
| 1,2,3,4,6,7,8-HpCDF | 0.00000258 | | | ∀ . | 13C-1,2,3,4,7,8,9-HpCDF | ., | | 26 - 138 | |
| 1,2,3,4,7,8,9-HpCDF | QN | 0.00000180 | | - <u>'</u> | 13C-OCDF | ٦ | | 17 - 157 | |
| OCDF | ND | 0.00000877 | | | CRS 37CI-2,3,7,8-TCDD | | | 35 - 197 | |
| Totals | | | | | Footnotes | | | | |
| Total TCDD | ND | 0.00000131 | A STATE OF THE PERSON NAMED IN COLUMN TO STATE OF THE PER | | a. Sample specific estimated detection limit. | iit. | | - | |
| Total PeCDD | 2 | 0.00000171 | | | b. Estimated maximum possible concentration. | ttion. | | | |
| Total HxCDD | 0.00000183 | | | ······································ | c. Method detection limit. | | | | |
| Total HpCDD | 0.0000189 | | 0.0000352 | | d. Lower control limit - upper control limit. | ıı | | | |
| Total TCDF | SP | 0.00000135 | | ***** | } | | | | |
| Total PeCDF | Q. | 0.00000126 | • | | | | | | |
| Total HxCDF | 0.00000229 | | | | | | | | |
| Total HpCDF | 0.00000723 | | | | | | | | |
| \$ 1 m | | | | | AND THE RESIDENCE OF THE PROPERTY OF THE PROPE | | | | *************************************** |

Analyst: RAS

Approved By:

William J. Luksemburg 20-May-2005 11:13



APPENDIX



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. |
| Н | 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. |
| P | Homologue totals include any coplanar PCBs detected at concentrations less than the reporting limit. |
| * | 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 correspond 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.

The control limits are "interim limits only" until in-house limits are utilized.



NELAP — (Primary AA: California, Certificate No. 02102CA)

Department of the Navy

U.S. Army Corps of Engineers

U.S. EPA Region 5

Bureau of Reclamation - Mid-Pacific Region - (MP-470, Res-1.10)

Commonwealth of Kentucky — (Certificate No. 90063)

Commonwealth of Virginia — (Certificate No. 00013)

State of Alaska, Department of Environmental Conservation — (Certificate No. OS-00197)

State of Arizona — (Certificate No. AZ0639)

State of Arkansas, Department of Health — (Approval granted through CA certification)

State of Arkansas, Department of Environmental Quality

State of California — (Certificate No. 1640)

State of Colorado

State of Connecticut — (Certificate No. PH-0182)

State of Florida — (Certificate No. 87456)

State of Louisiana, Department of Health and Hospitals — (Certificate No. LA000014)

State of Louisiana, Department of Environmental Quality

State of Maine

State of Michigan (Certificate No. 81178087)

State of Mississippi — (Approval granted through CA certification)

State of Nevada — (Certificate No. CA413)

State of New Jersey -- (Certificate No. CA003)

State of New York, Department of Health - (Certificate No. 11411)

State of North Carolina — (Certification No. 06700)

State of North Dakota, Department of Health — (Certificate No. R-078)

State of New Mexico

State of Oklahoma - (D9919)

State of Oregon - (Certificate No. CA413)

State of Pennsylvania — (Certificate No. 68-490)

State of South Carolina — (Certificate No. 87002001)

State of Tennessee — (Certificate No. 02996)

State of Texas - (Certificate No. TX247-1000A

State of Utah — (Certificate No. E-201)

State of Washington - (Certification No. C091)

State of Wisconsin — (Certificate No. 998036160)

State of Wyoming — (USEPA Region 8 Ref: 8TMS-Q)



17461 Derlan Ave. Suite 100, Irvine, CA 92614 1014 E. Cooley Dr., Suite A, Cotton, CA 92324 9484 Chesapeake Drive, Suite 805, San Diego, CA 92123

9830 South 51st Street, Suite 9-120, Phoenix, AZ 85044

2520 E. Surmet Rel., State #3, t.ms Vegas, NV 89120

Ph (619) 505-9596

Ph (480) 785-0043 Ph (702) 798-3620

Ph (949) 261-1022

Pax (480) 785-0851 Fax (702) 798-3621

SUBCONTRACT ORDER - PROJECT # IOD2053

| SEND Del Mar Analytical, Irvine 17461 Derian Avenue. Su Irvine, CA 92614 Phone: (949) 261-1022 Fax: (949) 261-1228 Project Manager: Michele | ite 100 | RECEIVING LABORATORY: Alta Analytical 1104 Windfield Way El Dorado Hills, CA 95762 Phone: (916) 933-1640 Fax: (916) 673-0106 |
|---|--|--|
| Standard TAT is reques | ted unless specific due date is requeste Expiration | ed => Due Date: Initials: |
| Sample ID: IOD2053-01 V 1613-Dioxin-HR EDD + Level 4 Containers Supplied: 1 L Amber (IOD2053-01C 1 L Amber (IOD2053-01E | 05/05/05 11:40 05/26/05 11:40 | Instant Notication J flags, 17 congeners, no TEQ, sub=Alta, DP to AMEC Excel EDD email to pm, Include Std logs for Lvl IV |

| | | | SAMPLE | INTEC | GRITY: | ······································ | | | |
|--|------------|--------------|---|---------|--------|--|---|--|------------|
| All containers intact: Custody Seals Present: | Yes Yes | No No | Sample labels/COC agree: Samples Preserved Properly; | | | l No l No | - | teceived On Ice:: teceived at (temp): | ☐ Yes ☐ No |
| | _ | | 129.05 17:00 | // | 7 h | llen | | 4/30/15 | 0915 |
| Releases By | | | | Receive | ed By | | | ['] Date | Time |
| Released By | | | Date Time | Receive | ed By | | | Date | Time |

Project 26120

Page ge 100 £ 16

Attachment 10.B.1

SAMPLE LOG-IN CHECKLIST

ALTA Project No.: 26/20

| 1. | Date Samples Arrived: 430 05 Initials: 48 Location | n: U | H.2 | |
|-----|---|--------|-----|----|
| 2. | Time / Date logged in: 1/10 5/a/05 Initials: BUB Location | on: (| WR- | 7- |
| 3. | Samples Arrived By: (circle) FedEx UPS World Courier Other: | | | |
| 4. | Shipping Preservation: (circle) Ice / Blue Ice Dry Ice / None Temp °C 0.0 | | | |
| 5. | Shipping Container(s) Intact*? If not, describe condition in comment section. | YES | NO | NA |
| 6. | Shipping Container(s) Custody Seals Present? | V | | |
| | Intact? If not intact, describe condition in comment section. | V | | |
| 7. | Shipping Documentation Present? (circle) Shipping Label Tracking Number 79, 2 6999 9579 | ~ | | |
| 8. | Sample Custody Seal(s) Present? No. of Seals or Seal No. | | | / |
| | Intact? If not intact, describe condition in comment section. | | | |
| 9. | Sample Container Intact? If no, Indicate sample condition in comment section. | / | | |
| 10. | Chain of Custody (COC) or other Sample Documentation Present? | V | | |
| 11. | COC/Documentation Acceptable? If no, complete COC Anomaly Form. | | | |
| 12. | Shipping Container (circle): ALTA Client Retain or Return or Dis | sposed | | |
| 13. | Container(s) and/or Bottle(s) Requested? | | V | |
| 14. | Drinking Water Sample? (HRMS Only) If yes, Acceptable Preservation? Y or N Preservation Info From? (circle) COC or Sample Container or None Noted | | | • |
| | | | | |

comments Jampler's initials foundon sample labell

ALTA Analytical Laboratory El Dorado Hills, CA 95762

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

| AMEC Earth & Environmenta | Package ID T711DF48 |
|---|---|
| 550 South Wadsworth Bouleva | |
| Suite 500 | SDG No. Multiple |
| Lakewood, CO 80226 | No. of Analyses 6 |
| Laboratory Alta | Date: June 1, 2005 |
| Reviewer H. Char | |
| Analysis/Method Dioxing | |
| | |
| ACTION ITEMS | |
| 1. Case Narrative | |
| Deficiencies | |
| | |
| 2. Out of Scope | |
| Analyses | |
| • | |
| | |
| 3. Analyses Not Conducted | |
| | |
| | |
| 4. Missing Hardcopy | |
| Deliverables | |
| | |
| | |
| 5. Incorrect Hardcopy | |
| Deliverables | |
| | |
| | Post 1. 1. d. 197 |
| 6. Deviations from Analysis | Detects below the calibration range were qualified "J." |
| Protocol, e.g., | EMPCs were qualified "UJ." |
| Holding Times | |
| GC/MS Tune/Inst. Perform | |
| Calibrations Blanks | |
| | |
| Surrogates Matrix Spike/Dup LCS | |
| Field QC | |
| Internal Standard Performance | |
| Compound Identification and | |
| Quantitation | |
| System Performance | |
| COMMENTS ^b | |
| | |
| | |
| | |
| · · · · · · · · · · · · · · · · · · · | meeting contract and/or method requirements, |
| b Differences in protocol have been adopted | d by the laboratory but no action against the laboratory is required. |



DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: DIOXINS/FURANS

SAMPLE DELIVERY GROUPS: IOD2043, IOD2044, IOD2049, IOD2053, IOD2056 & IOD2058

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

SDG No.: Analysis:

NPDES Multiple D/F

1. INTRODUCTION

Task Order Title:

NPDES Monitoring

Contract Task Order #:

313150010

Sample Delivery Group #:

IOD2043, IOD2044, IOD2049, IOD2053, IOD2056 & IOD2058

Project Manager:

B. McIlvaine

Matrix:

Water

Analysis:

Dioxins/Furans

OC Level:

Level IV

No. of Samples:

No. of Reanalyses/Dilutions:

0

6

Reviewer:

H. Chang

Date of Review:

June 1, 2005

1

The samples listed in Table 1 were validated based on the guidelines outlined in the AMEC Data Validation Procedure for Dioxins and Furans (DVP-19, Rev. 1), EPA Method 1613, and the National 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 No.: Analysis:

NPDES Multiple D/F

Table 1. Sample Identification

| Client ID | Laboratory ID (Del Mar) | Laboratory ID (Alta) | Matrix | COC Method |
|-------------|----------------------------|-------------------------|--------|------------|
| Outfall 001 | IOD2043-01 | 26117-001 | water | 1613 |
| Outfall 002 | IOD2044-01 | 26112-001 | water | 1613 |
| Outfall 018 | IOD2049-01 | 26118-001 | water | 1613 |
| Outfall 004 | IOD2053-01 | 26120-001 | water | 1613 |
| Outfall 010 | IOD2056-01 | 26116-001 | water | 1613 |
| Outfall 009 | IOD2058-01 | 26115-001 | water | 1613 |