R50A533

WASTE MANAGEMENT
92-460 Farrington Hwy.
Kapolei, HI 96707
(808) 668-2985
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December 19, 2008

Ms. Kris Poentis, Engineering Section
State Department of Health
Environmental Management Division
Clean Water Branch
P.O. Box 3378
Honolulu, HI 96801-3378

**Subject: Waimanalo Gulch Sanitary Landfill, Kapolei, Oahu, Hawaii**
**File No. HI R50A533**

Dear Ms. Poentis:

Per Hawaii Administrative Rules (HAR) Chapter 11-55, Appendix B, this letter serves as written notification to the State Department of Health (DOH) Clean Water Branch (CWB) of recent exceedances of storm water discharge limitations as stated in the Waimanalo Gulch Sanitary Landfill (WGSL) Notice of General Permit Coverage (NGPC), dated March 2, 2005. The sample event occurred on November 22, 2008. Final analytical results were received from the analytical laboratory on December 15, 2008 and a representative of Waste Management of Hawaii (WMH) made a verbal notification of these exceedances to the CWB on the following day. WMH is now following up with this written notification. The exceedance is listed in the table below, along with the corresponding discharge limitation per the NGPC:

**Table 1: WGSL Storm Water Sampling Exceedances**

| Parameter | Result (mg/L) | Effluent Limitation |
|---|---|---|
| Total Recoverable Iron | 1.2 | 1.0 |

mg/L milligram per liter

Based on the stormwater results, it appears that recent expansion of best management practices has improved the quality of stormwater that discharges from the site.

Actions that will be implemented by WMH due to the exceedance includes the following:

1. Continue seeding the landfill side slopes for erosion control;
2. Install additional erosion control matting and reseed the exposed western slopes along the haul road;
3. Install additional waddles on the exposed western slopes along the haul road;
4. Repair damaged silt fence along the entire site;
5. Reinforce areas that were observed with concentrated flows on all areas of the site; and,
6. Submit an update to the Storm Water Pollution Control Plan (SWPCP) that includes changing the location of the sample point to an area downstream of the current location but remaining within the WGSL property.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you should have any questions or require additional information, please contact me at (808) 668-2985.

Very truly yours,

Joseph R. Whelan

Joseph Whelan
General Manager/Vice President
Waste Management of Hawaii

Enclosure: Analytical Report

cc: Wayne Hamada - City and County of Honolulu
Justin Lottig - WMH
Jesse Frey – WMH
Michelle Mason - Earth Tech AECOM

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

# ANALYTICAL REPORT

Project No. Site 995

Waimanalo Gulch Landfill

Lot #: D8K260197

Stormwater

Justin Lottig

Waste Management, Inc.
Waimanalo Gulch Landfill
92-960 Farrington Highway
Kapolei, HI 96707

Cc: John Fong, Earth Tech

TestAmerica Laboratories, Inc.

Betsy Sara
Project Manager

December 15, 2008

4955 Yarrow Street Arvada, CO 80002 **tel** 303.736.0100 **fax** 303.431.7171 **www.testamericainc.com**

# Table Of Contents

## *Standard Deliverables*

| Report Contents | Total Number of Pages |
|---|---|
| ***Standard Deliverables*** *The **Cover Letter** and the **Report Cover** page are considered integral parts of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.* | |


- Table of Contents
- Case Narrative
- Executive Summary – Detection Highlights
- Methods Summary
- Method/Analyst Summary
- Lot Sample Summary
- Analytical Results
- QC Data Association Summary
- Chain-of-Custody

# Case Narrative

Enclosed is the report for one sample received at TestAmerica Denver laboratory on November 26, 2008. The results included in this report have been reviewed for compliance with TestAmerica Denver's Laboratory Quality Manual. The results relate only to the samples in this report and meet all requirements of NELAC and any exceptions are noted below.

This report may include data with reporting limits (RLs) less than TestAmerica Denver's standard reporting limits. These data and reporting limits are being used specifically to meet the needs of this project. Note that, data are not customarily reported to these levels without qualifiers, because they are inherently less reliable and potentially less defensible than the latest industry standards require. Please contact TestAmerica Denver for more details.

Dilution factors and footnotes have been provided to assist in the interpretation of the results. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interferences or analytes present at concentrations above the linear calibration curve, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of quality control parameters is provided below.

This report shall not be reproduced except in full, without the written approval of the laboratory.

## Quality Control Summary for Lot D8K260197

### Sample Receiving

The cooler temperature upon receipt at the Denver laboratory was 2.7°C.

All sample bottles were received in acceptable condition.

### Holding Times

The analysis for Total Suspended Solids Method 2540 D for the sample WGSL-DB01E was performed two days outside of the 7-day holding time due to more than half of the hold time expiring during transit. It is TestAmerica's policy to analyze all samples within holding times, but when samples are received with less than half the hold time remaining, this can not be guaranteed.

All other holding times were met.

### Method Blanks

Total Phosphorus Method 365.3 was detected in the Method Blank below the project established reporting limit. No corrective action is taken for any values in Method Blanks that are below the requested reporting limits. The Method Blank data are included at the end of this report.

All other Method Blanks were within established control limits.

**Laboratory Control Samples (LCS)**

All Laboratory Control Samples were within established control limits.

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD)**

Sample WGSL-DB01E was selected to fulfill the laboratory batch quality control requirements for Method 625. Analysis of the laboratory generated MS/MSD for this sample provided recoveries of 3,3'-Dichlorobenzidine and Benzidine below the lower control limits indicating the possible presence of a matrix interference.

The Method 410.4 MS/MSD performed on a sample from another client exhibited a RPD result outside the RPD limit for Chemical Oxygen Demand (COD). Because the corresponding Matrix Spike and Matrix Spike Duplicate recoveries, Laboratory Control Sample, and Method Blank sample were within control limits, this anomaly is considered to be due to matrix interference and no corrective action was taken.

The method required MS/MSD could not be performed for Method 1664A HEM due to insufficient sample volume, however, a LCS/LCSD pair was analyzed to demonstrate method precision and accuracy.

All other MS and MSD samples were within established control limits.

# EXECUTIVE SUMMARY - Detection Highlights

D8K260197

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | ANALYTICAL METHOD |
|---|---|---|---|---|
| WGSL-DB01E 11/22/08 12:30 001 | | | | |
| Iron | 1200 | 100 | ug/L | MCAWW 200.7 |
| Zinc | 8.4 B | 20 | ug/L | MCAWW 200.7 |
| Total Kjeldahl Nitrogen | 0.67 | 0.50 | mg/L | MCAWW 351.2 |
| Nitrate-Nitrite | 2.2 | 0.10 | mg/L | MCAWW 353.2 |
| Field pH | 7.36 | 0.1 | No Units | MCAWW 150.1 |
| Total phosphorus | 0.21 J | 0.050 | mg/L | MCAWW 365.3 |
| Total Suspended Solids | 4.8 | 4.0 | mg/L | SM18 2540 D |
| HEM (Oil and Grease) | 2.7 B | 5.0 | mg/L | CFR136A 1664A HEM |
| Ammonia as N | 0.058 B | 0.10 | mg/L | MCAWW 350.1 |
| Chemical Oxygen Demand (COD) | 19 B | 20 | mg/L | MCAWW 410.4 |

# METHODS SUMMARY

D8K260197

| PARAMETER | ANALYTICAL METHOD | PREPARATION METHOD |
|---|---|---|
| Base/Neutrals and Acids | CFR136A 625 | CFR136A 625 |
| Chemical Oxygen Demand | MCAWW 410.4 | MCAWW 410.4 |
| Field pH | MCAWW 150.1 | MCAWW 150.1 |
| Inductively Coupled Plasma (ICP) Metals | MCAWW 200.7 | MCAWW 200.7 |
| N-Hexane Extractable Material (1664A) | CFR136A 1664A H | CFR136A 1664 |
| Nitrate-Nitrite | MCAWW 353.2 | MCAWW 353.2 |
| Nitrogen, Ammonia | MCAWW 350.1 | MCAWW 350.1 |
| Total phosphorus | MCAWW 365.3 | MCAWW 365.3 |
| Total Kjeldahl Nitrogen | MCAWW 351.2 | MCAWW 351.2 |
| Total Suspended Solids | SM18 2540 D | SM18 2540 D |

**References:**


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

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.

# METHOD / ANALYST SUMMARY

D8K260197

| ANALYTICAL METHOD | ANALYST | ANALYST ID |
|---|---|---|
| CFR136A 1664A HEM | Reva M. Golden | 010906 |
| CFR136A 625 | Mike G. Hoffman | 001880 |
| MCAWW 150.1 | Outside Lab | OUT |
| MCAWW 200.7 | David Wells | 5099 |
| MCAWW 200.7 | Lynn-Anne Trudell | 006645 |
| MCAWW 200.7 | Lynn-Anne Trudell | 6645 |
| MCAWW 350.1 | Brett Wolff | 009878 |
| MCAWW 351.2 | Brett Wolff | 009878 |
| MCAWW 353.2 | Brett Wolff | 009878 |
| MCAWW 365.3 | Bryan Gilbert | 007254 |
| MCAWW 410.4 | ReAnna Davis | 002266 |
| SM18 2540 D | braden H. peterson | 006733 |

**References:**


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

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.

# SAMPLE SUMMARY

D8K260197

| WO # | SAMPLE# | CLIENT SAMPLE ID | SAMPLED DATE | SAMP TIME |
|---|---|---|---|---|
| K3PT8 | 001 | WGSL-DB01E | 11/22/08 | 12:30 |

**NOTE(S):**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Waste Management, Inc.

Client Sample ID: WGSL-DB01E

GC/MS Semivolatiles

Lot-Sample #...: D8K260197-001 Work Order #...: K3PT81AJ Matrix.....: WATER
Date Sampled...: 11/22/08 12:30 Date Received..: 11/26/08
Prep Date.....: 11/27/08 Analysis Date..: 12/07/08
Prep Batch #...: 8332025 Analysis Time..: 23:18
Dilution Factor: 1

Method.....: CFR136A 625

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | MDL |
|---|---|---|---|---|
| Alpha-Terpineol | ND | 10 | ug/L | 2.0 |
| Benzoic acid | ND | 50 | ug/L | 10 |
| Phenol | ND | 10 | ug/L | 2.0 |
| 4-Methylphenol | ND | 10 | ug/L | 0.25 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 2-Fluorophenol | 86 | (49 - 120) |
| Phenol-d5 | 92 | (54 - 120) |
| Nitrobenzene-d5 | 91 | (56 - 120) |
| 2-Fluorobiphenyl | 75 | (52 - 120) |
| 2,4,6-Tribromophenol | 110 | (56 - 120) |
| Terphenyl-d14 | 101 | (50 - 120) |

Waste Management, Inc.

Client Sample ID: WGSL-DB01E

TOTAL Metals

Lot-Sample #...: D8K260197-001 Matrix.....: WATER
Date Sampled...: 11/22/08 12:30 Date Received..: 11/26/08

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD | PREPARATION-ANALYSIS DATE | WORK ORDER # |
|---|---|---|---|---|---|---|
| Prep Batch #...: 8333139 | | | | | | |
| Iron | 1200 | 100 | ug/L | MCAWW 200.7 | 12/01-12/08/08 | K3PT81AK |
| | | Dilution Factor: 1 | | Analysis Time..: 19:36 | MDL.....: 22 | |
| Zinc | 8.4 B | 20 | ug/L | MCAWW 200.7 | 12/01-12/08/08 | K3PT81AL |
| | | Dilution Factor: 1 | | Analysis Time..: 14:31 | MDL.....: 4.5 | |

NOTE(S):

B Estimated result. Result is less than RL.

Waste Management, Inc.

Client Sample ID: WGSL-DB01E

General Chemistry

Lot-Sample #...: D8K260197-001 Work Order #...: K3PT8 Matrix.....: WATER
Date Sampled...: 11/22/08 12:30 Date Received..: 11/26/08

| PARAMETER | RESULT | RL | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Ammonia as N | 0.058 B | 0.10 | mg/L | MCAWW 350.1 | 12/05/08 | 8341041 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:58 | MDL.....: 0.022 | |
| Chemical Oxygen Demand (COD) | 19 B | 20 | mg/L | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:45 | MDL.....: 4.1 | |
| Field pH | 7.36 | 0.1 | No Units | MCAWW 150.1 | 11/22/08 | 8337232 |
| | | Dilution Factor: 1 | | Analysis Time..: 12:30 | MDL.....: | |
| HEM (Oil and Grease) | 2.7 B | 5.0 | mg/L | CFR136A 1664A HEM | 12/03/08 | 8338419 |
| | | Dilution Factor: 1 | | Analysis Time..: 08:30 | MDL.....: 1.4 | |
| Nitrate-Nitrite | 2.2 | 0.10 | mg/L | MCAWW 353.2 | 12/05/08 | 8341049 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:58 | MDL.....: 0.019 | |
| Total phosphorus | 0.21 J | 0.050 | mg/L | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | | Dilution Factor: 1 | | Analysis Time..: 14:00 | MDL.....: 0.0050 | |
| Total Kjeldahl Nitrogen | 0.67 | 0.50 | mg/L | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | | Dilution Factor: 1 | | Analysis Time..: 10:08 | MDL.....: 0.25 | |
| Total Suspended Solids | 4.8 | 4.0 | mg/L | SM18 2540 D | 12/01/08 | 8336368 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:15 | MDL.....: 1.1 | |

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

# QC DATA ASSOCIATION SUMMARY

D8K260197

Sample Preparation and Analysis Control Numbers

| SAMPLE# | MATRIX | ANALYTICAL METHOD | LEACH BATCH # | PREP BATCH # | MS RUN# |
|---|---|---|---|---|---|
| 001 | WATER | MCAWW 200.7 | | 8333139 | 8333108 |
| | WATER | MCAWW 351.2 | | 8341091 | 8341063 |
| | WATER | MCAWW 353.2 | | 8341049 | 8341056 |
| | WATER | CFR136A 625 | | 8332025 | 8332009 |
| | WATER | MCAWW 150.1 | | 8337232 | |
| | WATER | MCAWW 365.3 | | 8337435 | 8338078 |
| | WATER | SM18 2540 D | | 8336368 | 8336270 |
| | WATER | CFR136A 1664A HEM | | 8338419 | |
| | WATER | MCAWW 350.1 | | 8341041 | 8341044 |
| | WATER | MCAWW 410.4 | | 8339306 | 8339318 |

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197
MB Lot-Sample #: D8K270000-025

Work Order #...: K3REQ1AA

Matrix.....: WATER

Prep Date.....: 11/27/08
Prep Batch #...: 8332025

Analysis Date..: 12/07/08
Dilution Factor: 1

Analysis Time..: 22:59

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD |
|---|---|---|---|---|
| Benzoic acid | ND | 50 | ug/L | CFR136A 625 |
| 4-Methylphenol | ND | 10 | ug/L | CFR136A 625 |
| Phenol | ND | 10 | ug/L | CFR136A 625 |
| Alpha-Terpineol | ND | 10 | ug/L | CFR136A 625 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 2-Fluorophenol | 90 | (49 - 120) |
| Phenol-d5 | 97 | (54 - 120) |
| Nitrobenzene-d5 | 95 | (56 - 120) |
| 2-Fluorobiphenyl | 78 | (52 - 120) |
| 2,4,6-Tribromophenol | 95 | (56 - 120) |
| Terphenyl-d14 | 96 | (50 - 120) |

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD
Prep Date.....: 11/27/08 Analysis Date..: 12/07/08
Prep Batch #...: 8332025 Analysis Time..: 10:40
Dilution Factor: 1

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| 4-Methylphenol | 89 | (58 - 120) | | | CFR136A 625 |
| | 90 | (58 - 120) | 0.86 | (0-39) | CFR136A 625 |
| Phenol | 90 | (58 - 112) | | | CFR136A 625 |
| | 92 | (58 - 112) | 2.3 | (0-30) | CFR136A 625 |
| 2-Chlorophenol | 90 | (57 - 120) | | | CFR136A 625 |
| | 91 | (57 - 120) | 1.2 | (0-30) | CFR136A 625 |
| 1,3-Dichlorobenzene | 72 | (45 - 120) | | | CFR136A 625 |
| | 72 | (45 - 120) | 0.25 | (0-47) | CFR136A 625 |
| 1,4-Dichlorobenzene | 72 | (45 - 120) | | | CFR136A 625 |
| | 72 | (45 - 120) | 0.080 | (0-49) | CFR136A 625 |
| 1,2-Dichlorobenzene | 75 | (48 - 120) | | | CFR136A 625 |
| | 76 | (48 - 120) | 1.3 | (0-42) | CFR136A 625 |
| bis(2-Chloroisopropyl) ether | 80 | (57 - 120) | | | CFR136A 625 |
| | 80 | (57 - 120) | 0.050 | (0-30) | CFR136A 625 |
| N-Nitrosodi-n-propyl-amine | 85 | (58 - 120) | | | CFR136A 625 |
| | 86 | (58 - 120) | 0.66 | (0-30) | CFR136A 625 |
| Hexachloroethane | 69 | (43 - 113) | | | CFR136A 625 |
| | 68 | (43 - 113) | 1.4 | (0-52) | CFR136A 625 |
| Nitrobenzene | 87 | (58 - 120) | | | CFR136A 625 |
| | 87 | (58 - 120) | 0.050 | (0-30) | CFR136A 625 |
| Isophorone | 87 | (54 - 120) | | | CFR136A 625 |
| | 88 | (54 - 120) | 1.1 | (0-30) | CFR136A 625 |
| 2-Nitrophenol | 95 | (59 - 120) | | | CFR136A 625 |
| | 99 | (59 - 120) | 4.4 | (0-30) | CFR136A 625 |
| 2,4-Dimethylphenol | 77 | (44 - 119) | | | CFR136A 625 |
| | 80 | (44 - 119) | 3.5 | (0-35) | CFR136A 625 |
| bis(2-Chloroethoxy) methane | 88 | (56 - 120) | | | CFR136A 625 |
| | 91 | (56 - 120) | 3.0 | (0-30) | CFR136A 625 |
| 2,4-Dichlorophenol | 97 | (60 - 120) | | | CFR136A 625 |
| | 101 | (60 - 120) | 4.1 | (0-30) | CFR136A 625 |
| 1,2,4-Trichloro-benzene | 80 | (50 - 120) | | | CFR136A 625 |
| | 81 | (50 - 120) | 1.6 | (0-35) | CFR136A 625 |

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| Naphthalene | 83 | (52 - 120) | | | CFR136A 625 |
| | 84 | (52 - 120) | 0.78 | (0-30) | CFR136A 625 |
| Hexachlorobutadiene | 80 | (49 - 116) | | | CFR136A 625 |
| | 79 | (49 - 116) | 0.99 | (0-41) | CFR136A 625 |
| 4-Chloro-3-methylphenol | 94 | (63 - 120) | | | CFR136A 625 |
| | 96 | (63 - 120) | 2.4 | (0-30) | CFR136A 625 |
| 2,4,6-Trichloro-phenol | 101 | (60 - 120) | | | CFR136A 625 |
| | 103 | (60 - 120) | 1.8 | (0-30) | CFR136A 625 |
| 2-Chloronaphthalene | 90 | (60 - 118) | | | CFR136A 625 |
| | 92 | (60 - 118) | 2.4 | (0-30) | CFR136A 625 |
| Dimethyl phthalate | 95 | (61 - 112) | | | CFR136A 625 |
| | 97 | (61 - 112) | 2.5 | (0-30) | CFR136A 625 |
| Acenaphthylene | 92 | (58 - 120) | | | CFR136A 625 |
| | 95 | (58 - 120) | 2.3 | (0-30) | CFR136A 625 |
| Acenaphthene | 91 | (58 - 120) | | | CFR136A 625 |
| | 92 | (58 - 120) | 1.3 | (0-30) | CFR136A 625 |
| 2,4-Dinitrophenol | 89 | (36 - 121) | | | CFR136A 625 |
| | 93 | (36 - 121) | 4.5 | (0-61) | CFR136A 625 |
| 4-Nitrophenol | 86 | (53 - 120) | | | CFR136A 625 |
| | 92 | (53 - 120) | 6.4 | (0-42) | CFR136A 625 |
| 2,4-Dinitrotoluene | 96 | (60 - 120) | | | CFR136A 625 |
| | 100 | (60 - 120) | 3.7 | (0-35) | CFR136A 625 |
| Diethyl phthalate | 93 | (61 - 114) | | | CFR136A 625 |
| | 96 | (61 - 114) | 3.7 | (0-30) | CFR136A 625 |
| 4-Chlorophenyl phenyl ether | 95 | (60 - 120) | | | CFR136A 625 |
| | 97 | (60 - 120) | 2.5 | (0-30) | CFR136A 625 |
| Fluorene | 92 | (60 - 120) | | | CFR136A 625 |
| | 95 | (60 - 120) | 2.7 | (0-30) | CFR136A 625 |
| 4-Bromophenyl phenyl ether | 100 | (61 - 120) | | | CFR136A 625 |
| | 101 | (61 - 120) | 0.78 | (0-34) | CFR136A 625 |
| Hexachlorobenzene | 104 | (62 - 120) | | | CFR136A 625 |
| | 104 | (62 - 120) | 0.080 | (0-30) | CFR136A 625 |
| Pentachlorophenol | 86 | (49 - 120) | | | CFR136A 625 |
| | 88 | (49 - 120) | 3.3 | (0-30) | CFR136A 625 |
| Phenanthrene | 91 | (63 - 120) | | | CFR136A 625 |
| | 92 | (63 - 120) | 1.2 | (0-30) | CFR136A 625 |

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| Anthracene | 95 | (62 - 120) | | | CFR136A 625 |
| | 96 | (62 - 120) | 1.6 | (0-30) | CFR136A 625 |
| Di-n-butyl phthalate | 95 | (62 - 118) | | | CFR136A 625 |
| | 96 | (62 - 118) | 0.75 | (0-30) | CFR136A 625 |
| Fluoranthene | 101 | (59 - 120) | | | CFR136A 625 |
| | 103 | (59 - 120) | 1.2 | (0-30) | CFR136A 625 |
| Pyrene | 87 | (60 - 115) | | | CFR136A 625 |
| | 89 | (60 - 115) | 2.4 | (0-30) | CFR136A 625 |
| Butyl benzyl phthalate | 85 | (60 - 120) | | | CFR136A 625 |
| | 84 | (60 - 120) | 1.2 | (0-30) | CFR136A 625 |
| 3,3'-Dichlorobenzidine | 65 | (34 - 120) | | | CFR136A 625 |
| | 61 | (34 - 120) | 7.2 | (0-50) | CFR136A 625 |
| bis(2-Ethylhexyl) phthalate | 84 | (58 - 120) | | | CFR136A 625 |
| | 85 | (58 - 120) | 0.90 | (0-30) | CFR136A 625 |
| Chrysene | 91 | (60 - 120) | | | CFR136A 625 |
| | 94 | (60 - 120) | 3.3 | (0-30) | CFR136A 625 |
| Di-n-octyl phthalate | 84 | (59 - 120) | | | CFR136A 625 |
| | 85 | (59 - 120) | 1.4 | (0-30) | CFR136A 625 |
| Benzo(b)fluoranthene | 84 | (55 - 120) | | | CFR136A 625 |
| | 90 | (55 - 120) | 7.2 | (0-90) | CFR136A 625 |
| Benzo(k)fluoranthene | 99 | (57 - 120) | | | CFR136A 625 |
| | 97 | (57 - 120) | 1.2 | (0-50) | CFR136A 625 |
| Indeno(1,2,3-cd)pyrene | 99 | (56 - 120) | | | CFR136A 625 |
| | 104 | (56 - 120) | 5.5 | (0-73) | CFR136A 625 |
| Dibenz(a,h)anthracene | 102 | (58 - 120) | | | CFR136A 625 |
| | 109 | (58 - 120) | 6.2 | (0-78) | CFR136A 625 |
| Benzo(ghi)perylene | 94 | (52 - 120) | | | CFR136A 625 |
| | 98 | (52 - 120) | 4.1 | (0-64) | CFR136A 625 |
| 4,6-Dinitro-2-methylphenol | 96 | (41 - 120) | | | CFR136A 625 |
| | 101 | (41 - 120) | 5.0 | (0-55) | CFR136A 625 |
| Benzidine | 58 | (10 - 218) | | | CFR136A 625 |
| | 59 | (10 - 218) | 1.2 | (0-50) | CFR136A 625 |
| Benzo(a)pyrene | 74 | (58 - 120) | | | CFR136A 625 |
| | 77 | (58 - 120) | 3.1 | (0-73) | CFR136A 625 |
| Hexachlorocyclopenta-diene | 73 | (10 - 120) | | | CFR136A 625 |
| | 74 | (10 - 120) | 1.3 | (0-82) | CFR136A 625 |

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD |
|---|---|---|---|---|---|
| N-Nitrosodimethylamine | 83 | (52 - 120) | | | CFR136A 625 |
| | 86 | (52 - 120) | 2.6 | (0-30) | CFR136A 625 |
| N-Nitrosodiphenylamine | 76 | (10 - 203) | | | CFR136A 625 |
| | 79 | (10 - 203) | 4.2 | (0-50) | CFR136A 625 |
| 2-Methyl-4,6-dinitro-phenol | 96 | (41 - 120) | | | CFR136A 625 |
| | 101 | (41 - 120) | 5.0 | (0-55) | CFR136A 625 |
| 2-Methylphenol | 88 | (56 - 120) | | | CFR136A 625 |
| | 88 | (56 - 120) | 0.57 | (0-35) | CFR136A 625 |
| n-Decane | 53 | (28 - 120) | | | CFR136A 625 |
| | 53 | (28 - 120) | 0.070 | (0-61) | CFR136A 625 |
| 2-Methylnaphthalene | 85 | (57 - 120) | | | CFR136A 625 |
| | 87 | (57 - 120) | 2.5 | (0-30) | CFR136A 625 |
| 2,6-Dinitrotoluene | 92 | (61 - 120) | | | CFR136A 625 |
| | 93 | (61 - 120) | 1.4 | (0-30) | CFR136A 625 |
| Benzo(a)anthracene | 93 | (60 - 120) | | | CFR136A 625 |
| | 94 | (60 - 120) | 0.44 | (0-30) | CFR136A 625 |
| bis(2-Chloroethyl)-ether | 83 | (55 - 120) | | | CFR136A 625 |
| | 84 | (55 - 120) | 1.5 | (0-30) | CFR136A 625 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 2-Fluorophenol | 87 | (53 - 120) |
| | 89 | (53 - 120) |
| Phenol-d5 | 90 | (57 - 120) |
| | 92 | (57 - 120) |
| Nitrobenzene-d5 | 87 | (59 - 120) |
| | 86 | (59 - 120) |
| 2-Fluorobiphenyl | 89 | (49 - 120) |
| | 87 | (49 - 120) |
| 2,4,6-Tribromophenol | 113 | (50 - 120) |
| | 113 | (50 - 120) |
| Terphenyl-d14 | 92 | (63 - 120) |
| | 95 | (63 - 120) |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD
Prep Date.....: 11/27/08 Analysis Date..: 12/07/08
Prep Batch #...: 8332025 Analysis Time..: 10:40
Dilution Factor: 1

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| 4-Methylphenol | 100 | 88.8 | ug/L | 89 | | CFR136A 625 |
| | 100 | 89.6 | ug/L | 90 | 0.86 | CFR136A 625 |
| Phenol | 100 | 90.1 | ug/L | 90 | | CFR136A 625 |
| | 100 | 92.2 | ug/L | 92 | 2.3 | CFR136A 625 |
| 2-Chlorophenol | 100 | 89.9 | ug/L | 90 | | CFR136A 625 |
| | 100 | 91.1 | ug/L | 91 | 1.2 | CFR136A 625 |
| 1,3-Dichlorobenzene | 100 | 71.8 | ug/L | 72 | | CFR136A 625 |
| | 100 | 71.6 | ug/L | 72 | 0.25 | CFR136A 625 |
| 1,4-Dichlorobenzene | 100 | 72.0 | ug/L | 72 | | CFR136A 625 |
| | 100 | 71.9 | ug/L | 72 | 0.080 | CFR136A 625 |
| 1,2-Dichlorobenzene | 100 | 75.2 | ug/L | 75 | | CFR136A 625 |
| | 100 | 76.2 | ug/L | 76 | 1.3 | CFR136A 625 |
| bis(2-Chloroisopropyl) ether | 100 | 79.7 | ug/L | 80 | | CFR136A 625 |
| | 100 | 79.6 | ug/L | 80 | 0.050 | CFR136A 625 |
| N-Nitrosodi-n-propyl-amine | 100 | 85.4 | ug/L | 85 | | CFR136A 625 |
| | 100 | 86.0 | ug/L | 86 | 0.66 | CFR136A 625 |
| Hexachloroethane | 100 | 68.6 | ug/L | 69 | | CFR136A 625 |
| | 100 | 67.6 | ug/L | 68 | 1.4 | CFR136A 625 |
| Nitrobenzene | 100 | 86.9 | ug/L | 87 | | CFR136A 625 |
| | 100 | 86.8 | ug/L | 87 | 0.050 | CFR136A 625 |
| Isophorone | 100 | 87.4 | ug/L | 87 | | CFR136A 625 |
| | 100 | 88.4 | ug/L | 88 | 1.1 | CFR136A 625 |
| 2-Nitrophenol | 100 | 95.2 | ug/L | 95 | | CFR136A 625 |
| | 100 | 99.5 | ug/L | 99 | 4.4 | CFR136A 625 |
| 2,4-Dimethylphenol | 100 | 76.9 | ug/L | 77 | | CFR136A 625 |
| | 100 | 79.7 | ug/L | 80 | 3.5 | CFR136A 625 |
| bis(2-Chloroethoxy) methane | 100 | 87.9 | ug/L | 88 | | CFR136A 625 |
| | 100 | 90.7 | ug/L | 91 | 3.0 | CFR136A 625 |
| 2,4-Dichlorophenol | 100 | 97.0 | ug/L | 97 | | CFR136A 625 |
| | 100 | 101 | ug/L | 101 | 4.1 | CFR136A 625 |
| 1,2,4-Trichloro-benzene | 100 | 79.9 | ug/L | 80 | | CFR136A 625 |
| | 100 | 81.2 | ug/L | 81 | 1.6 | CFR136A 625 |

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| Naphthalene | 100 | 83.5 | ug/L | 83 | | CFR136A 625 |
| | 100 | 84.2 | ug/L | 84 | 0.78 | CFR136A 625 |
| Hexachlorobutadiene | 100 | 79.8 | ug/L | 80 | | CFR136A 625 |
| | 100 | 79.0 | ug/L | 79 | 0.99 | CFR136A 625 |
| 4-Chloro-3-methylphenol | 100 | 93.9 | ug/L | 94 | | CFR136A 625 |
| | 100 | 96.2 | ug/L | 96 | 2.4 | CFR136A 625 |
| 2,4,6-Trichloro-phenol | 100 | 101 | ug/L | 101 | | CFR136A 625 |
| | 100 | 103 | ug/L | 103 | 1.8 | CFR136A 625 |
| 2-Chloronaphthalene | 100 | 90.2 | ug/L | 90 | | CFR136A 625 |
| | 100 | 92.4 | ug/L | 92 | 2.4 | CFR136A 625 |
| Dimethyl phthalate | 100 | 94.7 | ug/L | 95 | | CFR136A 625 |
| | 100 | 97.1 | ug/L | 97 | 2.5 | CFR136A 625 |
| Acenaphthylene | 100 | 92.5 | ug/L | 92 | | CFR136A 625 |
| | 100 | 94.6 | ug/L | 95 | 2.3 | CFR136A 625 |
| Acenaphthene | 100 | 90.7 | ug/L | 91 | | CFR136A 625 |
| | 100 | 91.9 | ug/L | 92 | 1.3 | CFR136A 625 |
| 2,4-Dinitrophenol | 100 | 88.6 | ug/L | 89 | | CFR136A 625 |
| | 100 | 92.8 | ug/L | 93 | 4.5 | CFR136A 625 |
| 4-Nitrophenol | 100 | 85.9 | ug/L | 86 | | CFR136A 625 |
| | 100 | 91.5 | ug/L | 92 | 6.4 | CFR136A 625 |
| 2,4-Dinitrotoluene | 100 | 96.2 | ug/L | 96 | | CFR136A 625 |
| | 100 | 99.8 | ug/L | 100 | 3.7 | CFR136A 625 |
| Diethyl phthalate | 100 | 93.0 | ug/L | 93 | | CFR136A 625 |
| | 100 | 96.4 | ug/L | 96 | 3.7 | CFR136A 625 |
| 4-Chlorophenyl phenyl ether | 100 | 95.0 | ug/L | 95 | | CFR136A 625 |
| | 100 | 97.5 | ug/L | 97 | 2.5 | CFR136A 625 |
| Fluorene | 100 | 92.1 | ug/L | 92 | | CFR136A 625 |
| | 100 | 94.7 | ug/L | 95 | 2.7 | CFR136A 625 |
| 4-Bromophenyl phenyl ether | 100 | 100 | ug/L | 100 | | CFR136A 625 |
| | 100 | 101 | ug/L | 101 | 0.78 | CFR136A 625 |
| Hexachlorobenzene | 100 | 104 | ug/L | 104 | | CFR136A 625 |
| | 100 | 104 | ug/L | 104 | 0.080 | CFR136A 625 |
| Pentachlorophenol | 100 | 85.5 | ug/L | 86 | | CFR136A 625 |
| | 100 | 88.4 | ug/L | 88 | 3.3 | CFR136A 625 |
| Phenanthrene | 100 | 91.1 | ug/L | 91 | | CFR136A 625 |
| | 100 | 92.2 | ug/L | 92 | 1.2 | CFR136A 625 |

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| Anthracene | 100 | 94.7 | ug/L | 95 | | CFR136A 625 |
| | 100 | 96.2 | ug/L | 96 | 1.6 | CFR136A 625 |
| Di-n-butyl phthalate | 100 | 94.8 | ug/L | 95 | | CFR136A 625 |
| | 100 | 95.6 | ug/L | 96 | 0.75 | CFR136A 625 |
| Fluoranthene | 100 | 101 | ug/L | 101 | | CFR136A 625 |
| | 100 | 103 | ug/L | 103 | 1.2 | CFR136A 625 |
| Pyrene | 100 | 86.8 | ug/L | 87 | | CFR136A 625 |
| | 100 | 88.9 | ug/L | 89 | 2.4 | CFR136A 625 |
| Butyl benzyl phthalate | 100 | 84.9 | ug/L | 85 | | CFR136A 625 |
| | 100 | 83.9 | ug/L | 84 | 1.2 | CFR136A 625 |
| 3,3'-Dichlorobenzidine | 100 | 65.1 | ug/L | 65 | | CFR136A 625 |
| | 100 | 60.6 | ug/L | 61 | 7.2 | CFR136A 625 |
| bis(2-Ethylhexyl) phthalate | 100 | 83.8 | ug/L | 84 | | CFR136A 625 |
| | 100 | 84.5 | ug/L | 85 | 0.90 | CFR136A 625 |
| Chrysene | 100 | 90.7 | ug/L | 91 | | CFR136A 625 |
| | 100 | 93.8 | ug/L | 94 | 3.3 | CFR136A 625 |
| Di-n-octyl phthalate | 100 | 83.5 | ug/L | 84 | | CFR136A 625 |
| | 100 | 84.7 | ug/L | 85 | 1.4 | CFR136A 625 |
| Benzo(b)fluoranthene | 100 | 84.1 | ug/L | 84 | | CFR136A 625 |
| | 100 | 90.4 | ug/L | 90 | 7.2 | CFR136A 625 |
| Benzo(k)fluoranthene | 100 | 98.6 | ug/L | 99 | | CFR136A 625 |
| | 100 | 97.4 | ug/L | 97 | 1.2 | CFR136A 625 |
| Indeno(1,2,3-cd)pyrene | 100 | 98.7 | ug/L | 99 | | CFR136A 625 |
| | 100 | 104 | ug/L | 104 | 5.5 | CFR136A 625 |
| Dibenz(a,h)anthracene | 100 | 102 | ug/L | 102 | | CFR136A 625 |
| | 100 | 109 | ug/L | 109 | 6.2 | CFR136A 625 |
| Benzo(ghi)perylene | 100 | 94.4 | ug/L | 94 | | CFR136A 625 |
| | 100 | 98.4 | ug/L | 98 | 4.1 | CFR136A 625 |
| 4,6-Dinitro-2-methylphenol | 100 | 95.7 | ug/L | 96 | | CFR136A 625 |
| | 100 | 101 | ug/L | 101 | 5.0 | CFR136A 625 |
| Benzidine | 150 | 87.4 | ug/L | 58 | | CFR136A 625 |
| | 150 | 88.5 | ug/L | 59 | 1.2 | CFR136A 625 |
| Benzo(a)pyrene | 100 | 74.3 | ug/L | 74 | | CFR136A 625 |
| | 100 | 76.6 | ug/L | 77 | 3.1 | CFR136A 625 |
| Hexachlorocyclopentadiene | 100 | 73.0 | ug/L | 73 | | CFR136A 625 |
| | 100 | 74.0 | ug/L | 74 | 1.3 | CFR136A 625 |

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D8K260197 Work Order #...: K3REQ1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: D8K270000-025 K3REQ1AD-LCSD

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCENT RECOVERY | RPD | METHOD |
|---|---|---|---|---|---|---|
| N-Nitrosodimethylamine | 100 | 83.4 | ug/L | 83 | | CFR136A 625 |
| | 100 | 85.6 | ug/L | 86 | 2.6 | CFR136A 625 |
| N-Nitrosodiphenylamine | 100 | 75.9 | ug/L | 76 | | CFR136A 625 |
| | 100 | 79.1 | ug/L | 79 | 4.2 | CFR136A 625 |
| 2-Methyl-4,6-dinitro-phenol | 100 | 95.7 | ug/L | 96 | | CFR136A 625 |
| | 100 | 101 | ug/L | 101 | 5.0 | CFR136A 625 |
| 2-Methylphenol | 100 | 87.9 | ug/L | 88 | | CFR136A 625 |
| | 100 | 88.5 | ug/L | 88 | 0.57 | CFR136A 625 |
| n-Decane | 100 | 53.2 | ug/L | 53 | | CFR136A 625 |
| | 100 | 53.2 | ug/L | 53 | 0.070 | CFR136A 625 |
| 2-Methylnaphthalene | 100 | 85.3 | ug/L | 85 | | CFR136A 625 |
| | 100 | 87.4 | ug/L | 87 | 2.5 | CFR136A 625 |
| 2,6-Dinitrotoluene | 100 | 91.6 | ug/L | 92 | | CFR136A 625 |
| | 100 | 92.9 | ug/L | 93 | 1.4 | CFR136A 625 |
| Benzo(a)anthracene | 100 | 93.1 | ug/L | 93 | | CFR136A 625 |
| | 100 | 93.6 | ug/L | 94 | 0.44 | CFR136A 625 |
| bis(2-Chloroethyl)-ether | 100 | 82.9 | ug/L | 83 | | CFR136A 625 |
| | 100 | 84.2 | ug/L | 84 | 1.5 | CFR136A 625 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 2-Fluorophenol | 87 | (53 - 120) |
| | 89 | (53 - 120) |
| Phenol-d5 | 90 | (57 - 120) |
| | 92 | (57 - 120) |
| Nitrobenzene-d5 | 87 | (59 - 120) |
| | 86 | (59 - 120) |
| 2-Fluorobiphenyl | 89 | (49 - 120) |
| | 87 | (49 - 120) |
| 2,4,6-Tribromophenol | 113 | (50 - 120) |
| | 113 | (50 - 120) |
| Terphenyl-d14 | 92 | (63 - 120) |
| | 95 | (63 - 120) |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Lot-Sample #...: D8K260197 Work Order #...: K3PT81AM Matrix.....: WATER
MS Lot-Sample #: D8K260197-001
Date Sampled...: 11/22/08 12:30 Date Received..: 11/26/08
Prep Date.....: 11/27/08 Analysis Date..: 12/07/08
Prep Batch #...: 8332025
Dilution Factor: 1

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | METHOD |
|---|---|---|---|
| 4-Methylphenol | 96 | (57 - 120) | CFR136A 625 |
| Phenol | 99 | (54 - 112) | CFR136A 625 |
| 2-Chlorophenol | 97 | (54 - 120) | CFR136A 625 |
| 1,3-Dichlorobenzene | 83 | (41 - 120) | CFR136A 625 |
| 1,4-Dichlorobenzene | 83 | (40 - 120) | CFR136A 625 |
| 1,2-Dichlorobenzene | 99 | (44 - 120) | CFR136A 625 |
| bis(2-Chloroisopropyl) ether | 89 | (45 - 120) | CFR136A 625 |
| N-Nitrosodi-n-propyl-amine | 96 | (55 - 120) | CFR136A 625 |
| Hexachloroethane | 77 | (35 - 113) | CFR136A 625 |
| Nitrobenzene | 129 | (35 - 164) | CFR136A 625 |
| Isophorone | 93 | (59 - 120) | CFR136A 625 |
| 2-Nitrophenol | 96 | (55 - 120) | CFR136A 625 |
| 2,4-Dimethylphenol | 91 | (38 - 119) | CFR136A 625 |
| bis(2-Chloroethoxy) methane | 94 | (55 - 120) | CFR136A 625 |
| 2,4-Dichlorophenol | 103 | (56 - 120) | CFR136A 625 |
| 1,2,4-Trichloro-benzene | 90 | (46 - 120) | CFR136A 625 |
| Naphthalene | 90 | (51 - 120) | CFR136A 625 |
| Hexachlorobutadiene | 91 | (41 - 116) | CFR136A 625 |
| 4-Chloro-3-methylphenol | 96 | (59 - 120) | CFR136A 625 |
| 2,4,6-Trichloro-phenol | 102 | (58 - 120) | CFR136A 625 |
| 2-Chloronaphthalene | 94 | (54 - 118) | CFR136A 625 |
| Dimethyl phthalate | 96 | (58 - 112) | CFR136A 625 |
| Acenaphthylene | 96 | (53 - 120) | CFR136A 625 |
| Acenaphthene | 94 | (56 - 120) | CFR136A 625 |
| 2,4-Dinitrophenol | 63 | (33 - 120) | CFR136A 625 |
| 4-Nitrophenol | 82 | (54 - 120) | CFR136A 625 |
| 2,4-Dinitrotoluene | 94 | (59 - 120) | CFR136A 625 |
| Diethyl phthalate | 95 | (58 - 114) | CFR136A 625 |
| 4-Chlorophenyl phenyl ether | 97 | (58 - 120) | CFR136A 625 |
| Fluorene | 95 | (57 - 120) | CFR136A 625 |
| 4-Bromophenyl phenyl ether | 105 | (57 - 120) | CFR136A 625 |

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Lot-Sample #...: D8K260197 Work Order #...: K3PT81AM Matrix.....: WATER
MS Lot-Sample #: D8K260197-001

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | METHOD |
|---|---|---|---|
| Hexachlorobenzene | 108 | (57 - 120) | CFR136A 625 |
| Pentachlorophenol | 88 | (51 - 120) | CFR136A 625 |
| Phenanthrene | 91 | (56 - 120) | CFR136A 625 |
| Anthracene | 94 | (57 - 120) | CFR136A 625 |
| Di-n-butyl phthalate | 96 | (58 - 118) | CFR136A 625 |
| Fluoranthene | 94 | (57 - 120) | CFR136A 625 |
| Pyrene | 87 | (54 - 115) | CFR136A 625 |
| Butyl benzyl phthalate | 81 | (50 - 120) | CFR136A 625 |
| 3,3'-Dichlorobenzidine | 4.6 a | (34 - 120) | CFR136A 625 |
| bis(2-Ethylhexyl) phthalate | 84 | (57 - 120) | CFR136A 625 |
| Chrysene | 83 | (55 - 120) | CFR136A 625 |
| Di-n-octyl phthalate | 85 | (57 - 120) | CFR136A 625 |
| Benzo(b)fluoranthene | 78 | (52 - 120) | CFR136A 625 |
| Benzo(k)fluoranthene | 92 | (50 - 120) | CFR136A 625 |
| Indeno(1,2,3-cd)pyrene | 89 | (53 - 120) | CFR136A 625 |
| Dibenz(a,h)anthracene | 93 | (54 - 120) | CFR136A 625 |
| Benzo(ghi)perylene | 83 | (47 - 120) | CFR136A 625 |
| 4,6-Dinitro-2-methylphenol | 66 | (33 - 120) | CFR136A 625 |
| Benzidine | 0.0 a | (10 - 120) | CFR136A 625 |
| Benzo(a)pyrene | 69 | (51 - 120) | CFR136A 625 |
| Hexachlorocyclopentadiene | 61 | (10 - 120) | CFR136A 625 |
| N-Nitrosodimethylamine | 91 | (46 - 120) | CFR136A 625 |
| N-Nitrosodiphenylamine | 72 | (40 - 120) | CFR136A 625 |
| 2-Methyl-4,6-dinitrophenol | 66 | (33 - 120) | CFR136A 625 |
| 2-Methylphenol | 99 | (53 - 120) | CFR136A 625 |
| n-Decane | 65 | (17 - 120) | CFR136A 625 |
| 2-Methylnaphthalene | 93 | (56 - 120) | CFR136A 625 |
| 2,6-Dinitrotoluene | 90 | (59 - 120) | CFR136A 625 |
| Benzo(a)anthracene | 85 | (56 - 120) | CFR136A 625 |
| bis(2-Chloroethyl)-ether | 93 | (51 - 120) | CFR136A 625 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 2-Fluorophenol | 93 | (49 - 120) |
| Phenol-d5 | 98 | (54 - 120) |
| Nitrobenzene-d5 | 95 | (56 - 120) |
| 2-Fluorobiphenyl | 95 | (52 - 120) |
| 2,4,6-Tribromophenol | 118 | (56 - 120) |
| Terphenyl-d14 | 98 | (50 - 120) |

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Lot-Sample #...: D8K260197 Work Order #...: K3PT81AM Matrix.....: WATER
MS Lot-Sample #: D8K260197-001

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Lot-Sample #...: D8K260197 Work Order #...: K3PT81AM Matrix.....: WATER
MS Lot-Sample #: D8K260197-001
Date Sampled...: 11/22/08 12:30 Date Received..: 11/26/08
Prep Date.....: 11/27/08 Analysis Date..: 12/07/08
Prep Batch #...: 8332025
Dilution Factor: 1

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCENT RECOVERY | METHOD |
|---|---|---|---|---|---|---|
| 4-Methylphenol | ND | 119 | 114 | ug/L | 96 | CFR136A 625 |
| Phenol | ND | 119 | 117 | ug/L | 99 | CFR136A 625 |
| 2-Chlorophenol | ND | 119 | 115 | ug/L | 97 | CFR136A 625 |
| 1,3-Dichlorobenzene | ND | 119 | 98.8 | ug/L | 83 | CFR136A 625 |
| 1,4-Dichlorobenzene | ND | 119 | 98.6 | ug/L | 83 | CFR136A 625 |
| 1,2-Dichlorobenzene | ND | 119 | 117 | ug/L | 99 | CFR136A 625 |
| bis(2-Chloroisopropyl) ether | ND | 119 | 106 | ug/L | 89 | CFR136A 625 |
| N-Nitrosodi-n-propyl-amine | ND | 119 | 114 | ug/L | 96 | CFR136A 625 |
| Hexachloroethane | ND | 119 | 91.6 | ug/L | 77 | CFR136A 625 |
| Nitrobenzene | ND | 119 | 154 | ug/L | 129 | CFR136A 625 |
| Isophorone | ND | 119 | 111 | ug/L | 93 | CFR136A 625 |
| 2-Nitrophenol | ND | 119 | 114 | ug/L | 96 | CFR136A 625 |
| 2,4-Dimethylphenol | ND | 119 | 108 | ug/L | 91 | CFR136A 625 |
| bis(2-Chloroethoxy) methane | ND | 119 | 112 | ug/L | 94 | CFR136A 625 |
| 2,4-Dichlorophenol | ND | 119 | 122 | ug/L | 103 | CFR136A 625 |
| 1,2,4-Trichloro-benzene | ND | 119 | 106 | ug/L | 90 | CFR136A 625 |
| Naphthalene | ND | 119 | 107 | ug/L | 90 | CFR136A 625 |
| Hexachlorobutadiene | ND | 119 | 108 | ug/L | 91 | CFR136A 625 |
| 4-Chloro-3-methylphenol | ND | 119 | 113 | ug/L | 96 | CFR136A 625 |
| 2,4,6-Trichloro-phenol | ND | 119 | 121 | ug/L | 102 | CFR136A 625 |
| 2-Chloronaphthalene | ND | 119 | 112 | ug/L | 94 | CFR136A 625 |
| Dimethyl phthalate | ND | 119 | 114 | ug/L | 96 | CFR136A 625 |
| Acenaphthylene | ND | 119 | 114 | ug/L | 96 | CFR136A 625 |
| Acenaphthene | ND | 119 | 111 | ug/L | 94 | CFR136A 625 |
| 2,4-Dinitrophenol | ND | 119 | 75.4 | ug/L | 63 | CFR136A 625 |
| 4-Nitrophenol | ND | 119 | 97.8 | ug/L | 82 | CFR136A 625 |
| 2,4-Dinitrotoluene | ND | 119 | 111 | ug/L | 94 | CFR136A 625 |
| Diethyl phthalate | ND | 119 | 113 | ug/L | 95 | CFR136A 625 |
| 4-Chlorophenyl phenyl ether | ND | 119 | 116 | ug/L | 97 | CFR136A 625 |
| Fluorene | ND | 119 | 113 | ug/L | 95 | CFR136A 625 |
| 4-Bromophenyl phenyl ether | ND | 119 | 125 | ug/L | 105 | CFR136A 625 |

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Lot-Sample #...: D8K260197 Work Order #...: K3PT81AM Matrix.....: WATER
MS Lot-Sample #: D8K260197-001

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCENT RECOVERY | METHOD |
|---|---|---|---|---|---|---|
| Hexachlorobenzene | ND | 119 | 128 | ug/L | 108 | CFR136A 625 |
| Pentachlorophenol | ND | 119 | 104 | ug/L | 88 | CFR136A 625 |
| Phenanthrene | ND | 119 | 109 | ug/L | 91 | CFR136A 625 |
| Anthracene | ND | 119 | 112 | ug/L | 94 | CFR136A 625 |
| Di-n-butyl phthalate | ND | 119 | 114 | ug/L | 96 | CFR136A 625 |
| Fluoranthene | ND | 119 | 112 | ug/L | 94 | CFR136A 625 |
| Pyrene | ND | 119 | 103 | ug/L | 87 | CFR136A 625 |
| Butyl benzyl phthalate | ND | 119 | 96.2 | ug/L | 81 | CFR136A 625 |
| 3,3'-Dichlorobenzidine | ND | 119 | 5.51 a | ug/L | 4.6 | CFR136A 625 |
| bis(2-Ethylhexyl) phthalate | 3.0 | 119 | 103 | ug/L | 84 | CFR136A 625 |
| Chrysene | ND | 119 | 98.7 | ug/L | 83 | CFR136A 625 |
| Di-n-octyl phthalate | ND | 119 | 101 | ug/L | 85 | CFR136A 625 |
| Benzo(b)fluoranthene | ND | 119 | 92.9 | ug/L | 78 | CFR136A 625 |
| Benzo(k)fluoranthene | ND | 119 | 109 | ug/L | 92 | CFR136A 625 |
| Indeno(1,2,3-cd)pyrene | ND | 119 | 105 | ug/L | 89 | CFR136A 625 |
| Dibenz(a,h)anthracene | ND | 119 | 111 | ug/L | 93 | CFR136A 625 |
| Benzo(ghi)perylene | ND | 119 | 98.7 | ug/L | 83 | CFR136A 625 |
| 4,6-Dinitro-2-methylphenol | ND | 119 | 78.9 | ug/L | 66 | CFR136A 625 |
| Benzidine | ND | 178 | 0.0 a | ug/L | 0.0 | CFR136A 625 |
| Benzo(a)pyrene | ND | 119 | 82.3 | ug/L | 69 | CFR136A 625 |
| Hexachlorocyclopentadiene | ND | 119 | 73.0 | ug/L | 61 | CFR136A 625 |
| N-Nitrosodimethylamine | ND | 119 | 108 | ug/L | 91 | CFR136A 625 |
| N-Nitrosodiphenylamine | ND | 119 | 85.2 | ug/L | 72 | CFR136A 625 |
| 2-Methyl-4,6-dinitrophenol | ND | 119 | 78.9 | ug/L | 66 | CFR136A 625 |
| 2-Methylphenol | ND | 119 | 117 | ug/L | 99 | CFR136A 625 |
| n-Decane | ND | 119 | 77.7 | ug/L | 65 | CFR136A 625 |
| 2-Methylnaphthalene | ND | 119 | 110 | ug/L | 93 | CFR136A 625 |
| 2,6-Dinitrotoluene | ND | 119 | 106 | ug/L | 90 | CFR136A 625 |
| Benzo(a)anthracene | ND | 119 | 101 | ug/L | 85 | CFR136A 625 |
| bis(2-Chloroethyl)-ether | ND | 119 | 111 | ug/L | 93 | CFR136A 625 |

| SURROGATE | PERCENT RECOVERY | RECOVERY LIMITS |
|---|---|---|
| 2-Fluorophenol | 93 | (49 - 120) |
| Phenol-d5 | 98 | (54 - 120) |
| Nitrobenzene-d5 | 95 | (56 - 120) |
| 2-Fluorobiphenyl | 95 | (52 - 120) |
| 2,4,6-Tribromophenol | 118 | (56 - 120) |
| Terphenyl-d14 | 98 | (50 - 120) |

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Lot-Sample #...: D8K260197 Work Order #...: K3PT81AM Matrix.....: WATER
MS Lot-Sample #: D8K260197-001

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: D8K260197 Matrix.....: WATER

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD | PREPARATION-ANALYSIS DATE | WORK ORDER # |
|---|---|---|---|---|---|---|
| **MB Lot-Sample #: D8K280000-139 Prep Batch #...: 8333139** | | | | | | |
| Iron | ND | 100 | ug/L | MCAWW 200.7 | 12/01-12/08/08 | K3RQ11AF |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 19:28 | | | | |
| Zinc | ND | 20 | ug/L | MCAWW 200.7 | 12/01-12/04/08 | K3RQ11CA |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 14:16 | | | | |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

### TOTAL Metals

Client Lot #...: D8K260197 Matrix.....: WATER

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | METHOD | PREPARATION-ANALYSIS DATE | WORK ORDER # |
|---|---|---|---|---|---|
| **LCS Lot-Sample#:** D8K280000-139 **Prep Batch #...:** 8333139 | | | | | |
| Iron | 94 | (89 - 115) | MCAWW 200.7 | 12/01-12/08/08 | K3RQ11AX |
| | | Dilution Factor: 1 | Analysis Time..: 19:32 | | |
| Zinc | 95 | (85 - 111) | MCAWW 200.7 | 12/01-12/04/08 | K3RQ11CC |
| | | Dilution Factor: 1 | Analysis Time..: 14:21 | | |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D8K260197 Matrix.....: WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCNT RECVRY | METHOD | PREPARATION-ANALYSIS DATE | WORK ORDER # |
|---|---|---|---|---|---|---|---|
| LCS Lot-Sample#: D8K280000-139 Prep Batch #...: 8333139 | | | | | | | |
| Iron | 1000 | 938 | ug/L | 94 | MCAWW 200.7 | 12/01-12/08/08 | K3RQ11AX |
| | | | Dilution Factor: 1 | | Analysis Time..: 19:32 | | |
| Zinc | 500 | 474 | ug/L | 95 | MCAWW 200.7 | 12/01-12/04/08 | K3RQ11CC |
| | | | Dilution Factor: 1 | | Analysis Time..: 14:21 | | |

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: D8K260197 Matrix.....: WATER
Date Sampled...: 11/22/08 09:00 Date Received..: 11/26/08

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD | PREPARATION-ANALYSIS DATE | WORK ORDER # |
|---|---|---|---|---|---|---|---|
| MS Lot-Sample #: D8K260257-001 Prep Batch #...: 8333139 | | | | | | | |
| Iron | 95 | (89 - 115) | | | MCAWW 200.7 | 12/01-12/08/08 | K3QG81CP |
| | 94 | (89 - 115) | 1.4 | (0-20) | MCAWW 200.7 | 12/01-12/08/08 | K3QG81CQ |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 20:16 | | | | | |
| Zinc | 93 | (85 - 111) | | | MCAWW 200.7 | 12/01-12/04/08 | K3QG81DG |
| | 91 | (85 - 111) | 1.9 | (0-20) | MCAWW 200.7 | 12/01-12/04/08 | K3QG81DH |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 15:10 | | | | | |

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: D8K260197 Matrix.....: WATER
Date Sampled...: 11/22/08 09:00 Date Received..: 11/26/08

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCNT RECVRY | RPD | METHOD | PREPARATION-ANALYSIS DATE | WORK ORDER # |
|---|---|---|---|---|---|---|---|---|---|
| MS Lot-Sample #: D8K260257-001 Prep Batch #...: 8333139 | | | | | | | | | |
| Iron | | | | | | | | | |
| | ND | 1000 | 960 | ug/L | 95 | | MCAWW 200.7 | 12/01-12/08/08 | K3QG81CP |
| | ND | 1000 | 947 | ug/L | 94 | 1.4 | MCAWW 200.7 | 12/01-12/08/08 | K3QG81CQ |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 20:16 | | | | | | |
| Zinc | | | | | | | | | |
| | ND | 500 | 466 | ug/L | 93 | | MCAWW 200.7 | 12/01-12/04/08 | K3QG81DG |
| | ND | 500 | 457 | ug/L | 91 | 1.9 | MCAWW 200.7 | 12/01-12/04/08 | K3QG81DH |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 15:10 | | | | | | |

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: D8K260197 Matrix.....: WATER

| PARAMETER | RESULT | REPORTING LIMIT | UNITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|
| Ammonia as N | | Work Order #: K374A1AA | | MB Lot-Sample #: | D8L060000-041 | |
| | ND | 0.10 | mg/L | MCAWW 350.1 | 12/05/08 | 8341041 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 11:58 | | | | |
| Chemical Oxygen Demand (COD) | | Work Order #: K34N11AA | | MB Lot-Sample #: | D8L040000-306 | |
| | ND | 20 | mg/L | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 11:45 | | | | |
| HEM (Oil and Grease) | | Work Order #: K33N91AA | | MB Lot-Sample #: | D8L030000-419 | |
| | ND | 5.0 | mg/L | CFR136A 1664A HEM | 12/03/08 | 8338419 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 08:30 | | | | |
| Nitrate-Nitrite | | Work Order #: K38AT1AA | | MB Lot-Sample #: | D8L060000-049 | |
| | ND | 0.10 | mg/L | MCAWW 353.2 | 12/05/08 | 8341049 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 11:58 | | | | |
| Total phosphorus | | Work Order #: K3X6F1AA | | MB Lot-Sample #: | D8L020000-435 | |
| | 0.0087 B | 0.050 | mg/L | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 14:00 | | | | |
| Total Kjeldahl Nitrogen | | Work Order #: K38FA1AA | | MB Lot-Sample #: | D8L060000-091 | |
| | ND | 0.50 | mg/L | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 10:08 | | | | |
| Total Suspended Solids | | Work Order #: K3V2G1AA | | MB Lot-Sample #: | D8L010000-368 | |
| | ND | 4.0 | mg/L | SM18 2540 D | 12/01/08 | 8336368 |
| | | Dilution Factor: 1 | | | | |
| | | Analysis Time..: 11:15 | | | | |

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

### General Chemistry

Lot-Sample #...: D8K260197 Matrix.....: WATER

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|
| Ammonia as N | | WO#:K374A1AC-LCS/K374A1AD-LCSD LCS Lot-Sample#: D8L060000-041 | | | | | |
| | 98 | (90 - 110) | | | MCAWW 350.1 | 12/05/08 | 8341041 |
| | 100 | (90 - 110) | 1.3 | (0-10) | MCAWW 350.1 | 12/05/08 | 8341041 |
| | | Dilution Factor: 1 | | | Analysis Time..: 11:58 | | |
| Chemical Oxygen Demand (COD) | | WO#:K34N11AC-LCS/K34N11AD-LCSD LCS Lot-Sample#: D8L040000-306 | | | | | |
| | 106 | (80 - 115) | | | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | 103 | (80 - 115) | 2.7 | (0-11) | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | | Dilution Factor: 1 | | | Analysis Time..: 11:45 | | |
| HEM (Oil and Grease) | | WO#:K33N91AC-LCS/K33N91AD-LCSD LCS Lot-Sample#: D8L030000-419 | | | | | |
| | 91 | (82 - 103) | | | CFR136A 1664A HEM | 12/03/08 | 8338419 |
| | 94 | (82 - 103) | 2.7 | (0-22) | CFR136A 1664A HEM | 12/03/08 | 8338419 |
| | | Dilution Factor: 1 | | | Analysis Time..: 08:30 | | |
| Nitrate-Nitrite | | WO#:K38AT1AC-LCS/K38AT1AD-LCSD LCS Lot-Sample#: D8L060000-049 | | | | | |
| | 98 | (90 - 112) | | | MCAWW 353.2 | 12/05/08 | 8341049 |
| | 99 | (90 - 112) | 1.5 | (0-10) | MCAWW 353.2 | 12/05/08 | 8341049 |
| | | Dilution Factor: 1 | | | Analysis Time..: 11:58 | | |
| Total phosphorus | | WO#:K3X6F1AC-LCS/K3X6F1AD-LCSD LCS Lot-Sample#: D8L020000-435 | | | | | |
| | 102 | (90 - 110) | | | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | 103 | (90 - 110) | 0.52 | (0-20) | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | | Dilution Factor: 1 | | | Analysis Time..: 14:00 | | |
| Total Kjeldahl Nitrogen | | WO#:K38FA1AC-LCS/K38FA1AD-LCSD LCS Lot-Sample#: D8L060000-091 | | | | | |
| | 92 | (77 - 115) | | | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | 91 | (77 - 115) | 0.36 | (0-25) | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | | Dilution Factor: 1 | | | Analysis Time..: 10:08 | | |
| Total Suspended Solids | | WO#:K3V2G1AC-LCS/K3V2G1AD-LCSD LCS Lot-Sample#: D8L010000-368 | | | | | |
| | 91 | (86 - 114) | | | SM18 2540 D | 12/01/08 | 8336368 |
| | 91 | (86 - 114) | 0.0 | (0-20) | SM18 2540 D | 12/01/08 | 8336368 |
| | | Dilution Factor: 1 | | | Analysis Time..: 11:15 | | |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: D8K260197 Matrix.....: WATER

| PARAMETER | SPIKE AMOUNT | MEASURED AMOUNT | UNITS | PERCNT RECVRY | RPD | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Ammonia as N | | WO#:K374A1AC-LCS/K374A1AD-LCSD LCS Lot-Sample#: D8L060000-041 | | | | | | |
| | 4.00 | 3.93 | mg/L | 98 | | MCAWW 350.1 | 12/05/08 | 8341041 |
| | 4.00 | 3.98 | mg/L | 100 | 1.3 | MCAWW 350.1 | 12/05/08 | 8341041 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:58 | | | | |
| Chemical Oxygen Demand (COD) | | WO#:K34N11AC-LCS/K34N11AD-LCSD LCS Lot-Sample#: D8L040000-306 | | | | | | |
| | 100 | 106 | mg/L | 106 | | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | 100 | 103 | mg/L | 103 | 2.7 | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:45 | | | | |
| HEM (Oil and Grease) | | WO#:K33N91AC-LCS/K33N91AD-LCSD LCS Lot-Sample#: D8L030000-419 | | | | | | |
| | 40.0 | 36.4 | mg/L | 91 | | CFR136A 1664A HEM | 12/03/08 | 8338419 |
| | 40.0 | 37.4 | mg/L | 94 | 2.7 | CFR136A 1664A HEM | 12/03/08 | 8338419 |
| | | Dilution Factor: 1 | | Analysis Time..: 08:30 | | | | |
| Nitrate-Nitrite | | WO#:K38AT1AC-LCS/K38AT1AD-LCSD LCS Lot-Sample#: D8L060000-049 | | | | | | |
| | 4.00 | 3.92 | mg/L | 98 | | MCAWW 353.2 | 12/05/08 | 8341049 |
| | 4.00 | 3.98 | mg/L | 99 | 1.5 | MCAWW 353.2 | 12/05/08 | 8341049 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:58 | | | | |
| Total phosphorus | | WO#:K3X6F1AC-LCS/K3X6F1AD-LCSD LCS Lot-Sample#: D8L020000-435 | | | | | | |
| | 0.500 | 0.512 | mg/L | 102 | | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | 0.500 | 0.514 | mg/L | 103 | 0.52 | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | | Dilution Factor: 1 | | Analysis Time..: 14:00 | | | | |
| Total Kjeldahl Nitrogen | | WO#:K38FA1AC-LCS/K38FA1AD-LCSD LCS Lot-Sample#: D8L060000-091 | | | | | | |
| | 3.00 | 2.75 | mg/L | 92 | | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | 3.00 | 2.74 | mg/L | 91 | 0.36 | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | | Dilution Factor: 1 | | Analysis Time..: 10:08 | | | | |
| Total Suspended Solids | | WO#:K3V2G1AC-LCS/K3V2G1AD-LCSD LCS Lot-Sample#: D8L010000-368 | | | | | | |
| | 100 | 91.0 | mg/L | 91 | | SM18 2540 D | 12/01/08 | 8336368 |
| | 100 | 91.0 | mg/L | 91 | 0.0 | SM18 2540 D | 12/01/08 | 8336368 |
| | | Dilution Factor: 1 | | Analysis Time..: 11:15 | | | | |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## General Chemistry

**Client Lot #....:** D8K260197 **Matrix.....:** WATER
**Date Sampled...:** 11/24/08 11:15 **Date Received..:** 11/25/08

| PARAMETER | PERCENT RECOVERY | RECOVERY LIMITS | RPD | RPD LIMITS | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|
| Ammonia as N | | WO#: K3PT81AQ-MS/K3PT81AR-MSD | | | | MS Lot-Sample #: D8K260197-001 | |
| | 101 | (90 - 110) | | | MCAWW 350.1 | 12/05/08 | 8341041 |
| | 101 | (90 - 110) | 0.68 | (0-10) | MCAWW 350.1 | 12/05/08 | 8341041 |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 11:58 | | | | | |
| Chemical Oxygen Demand (COD) | | WO#: K3N981A6-MS/K3N981A7-MSD | | | | MS Lot-Sample #: D8K260147-004 | |
| | 89 | (74 - 109) | | | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | 102 * | (74 - 109) | 14 | (0-11) | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 11:45 | | | | | |
| Nitrate-Nitrite | | WO#: K3PT81AT-MS/K3PT81AU-MSD | | | | MS Lot-Sample #: D8K260197-001 | |
| | 81 | (72 - 113) | | | MCAWW 353.2 | 12/05/08 | 8341049 |
| | 81 | (72 - 113) | 0.37 | (0-17) | MCAWW 353.2 | 12/05/08 | 8341049 |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 11:58 | | | | | |
| Total phosphorus | | WO#: K3EQ31ED-MS/K3EQ31EE-MSD | | | | MS Lot-Sample #: D8K210149-001 | |
| | 83 | (71 - 128) | | | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | 75 | (71 - 128) | 4.7 | (0-22) | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 14:00 | | | | | |
| Total Kjeldahl Nitrogen | | WO#: K3LQC1CR-MS/K3LQC1CT-MSD | | | | MS Lot-Sample #: D8K250141-001 | |
| | 90 | (54 - 131) | | | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | 90 | (54 - 131) | 0.85 | (0-38) | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | | Dilution Factor: 1 | | | | | |
| | | Analysis Time..: 10:08 | | | | | |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

* Relative percent difference (RPD) is outside stated control limits.

## MATRIX SPIKE SAMPLE DATA REPORT

### General Chemistry

**Client Lot #...:** D8K260197 **Matrix.....:** WATER
**Date Sampled...:** 11/24/08 11:15 **Date Received..:** 11/25/08

| PARAMETER | SAMPLE AMOUNT | SPIKE AMT | MEASRD AMOUNT | UNITS | PERCNT RECVRY | RPD | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|---|
| Ammonia as N | | | WO#: K3PT81AQ-MS/K3PT81AR-MSD | | | | MS Lot-Sample #: D8K260197-001 | | |
| | 0.058 | 4.00 | 4.08 | mg/L | 101 | | MCAWW 350.1 | 12/05/08 | 8341041 |
| | 0.058 | 4.00 | 4.11 | mg/L | 101 | 0.68 | MCAWW 350.1 | 12/05/08 | 8341041 |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 11:58 | | | | | | |
| Chemical Oxygen Demand (COD) | | | WO#: K3N981A6-MS/K3N981A7-MSD | | | | MS Lot-Sample #: D8K260147-004 | | |
| | ND | 50.0 | 44.3 | mg/L | 89 | | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | ND | 50.0 | 51.0 * | mg/L | 102 | 14 | MCAWW 410.4 | 12/03-12/04/08 | 8339306 |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 11:45 | | | | | | |
| Nitrate-Nitrite | | | WO#: K3PT81AT-MS/K3PT81AU-MSD | | | | MS Lot-Sample #: D8K260197-001 | | |
| | 2.2 | 4.00 | 5.48 | mg/L | 81 | | MCAWW 353.2 | 12/05/08 | 8341049 |
| | 2.2 | 4.00 | 5.46 | mg/L | 81 | 0.37 | MCAWW 353.2 | 12/05/08 | 8341049 |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 11:58 | | | | | | |
| Total phosphorus | | | WO#: K3EQ31ED-MS/K3EQ31EE-MSD | | | | MS Lot-Sample #: D8K210149-001 | | |
| | 0.48 | 0.500 | 0.890 | mg/L | 83 | | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | 0.48 | 0.500 | 0.849 | mg/L | 75 | 4.7 | MCAWW 365.3 | 12/01-12/02/08 | 8337435 |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 14:00 | | | | | | |
| Total Kjeldahl Nitrogen | | | WO#: K3LQC1CR-MS/K3LQC1CT-MSD | | | | MS Lot-Sample #: D8K250141-001 | | |
| | ND | 3.00 | 2.71 | mg/L | 90 | | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | ND | 3.00 | 2.69 | mg/L | 90 | 0.85 | MCAWW 351.2 | 12/05-12/06/08 | 8341091 |
| | | | Dilution Factor: 1 | | | | | | |
| | | | Analysis Time..: 10:08 | | | | | | |

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

* Relative percent difference (RPD) is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: D8K260197 Work Order #...: K3PMX-SMP Matrix.....: WATER
K3PMX-DUP

Date Sampled...: 11/25/08 12:35 Date Received..: 11/26/08

| PARAM | RESULT | DUPLICATE RESULT | UNITS | RPD | RPD LIMIT | METHOD | PREPARATION-ANALYSIS DATE | PREP BATCH # |
|---|---|---|---|---|---|---|---|---|
| Total Suspended Solids | | | | | | SD Lot-Sample #: D8K260174-003 | | |
| | ND | ND | mg/L | 0 | (0-20) | SM18 2540 D | 12/01/08 | 8336368 |

Dilution Factor: 1 Analysis Time..: 11:15

# Chain of Custody Record

TAL-4124-280 (1007)

Sampler ID _____

Temperature on Receipt 2.7°C IR 28 11/26/08

Drinking Water? Yes ☐ No ☑

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38

| | | | |
|---|---|---|---|
| Client: WMH/WMI - Earth Tech | Project Manager: Justin Lotig | Date: 11/22/08 | Chain of Custody Number: 102906 |
| Address: 841 Bishop St Suite 500 | Telephone Number (Area Code)/Fax Number: (808) 668-7985 ext. 16 | Lab Number: | Page 1 of 1 |
| City: Honolulu State: HI Zip Code: 96813 | Site Contact: Justin Lotig | Lab Contact: | |
| Project Name and Location (State): WGSL Storm Water | Carrier/Waybill Number: FedEx 8603 8283 9317 | | |
| Contract/Purchase Order/Quote No.: | | | |

| Sample I.D. No. and Description (Containers for each sample may be combined on one line) | Date | Time | Matrix: Air | Aqueous | Sed. | Soil | | Containers & Preservatives: Unpres. | H2SO4 | HNO3 | HCl | NaOH | ZnAc/NaOH | | Analysis (Attach list if more space is needed): TSS | TKN | $NO_{2+3}$ N | Ammonia | COD | Total Phosphorus | O&G Grease | Total Recoverable | 2 Metal Iron | SVOCs | | | Special Instructions/ Conditions of Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WGSL - DB01E | 11/22/08 | 12:30 | | X | | | | 3 | 4 | 1 | | | | | X | X | X | X | X | X | X | X | | X | | | SVOCs - alpha terpineol benzoic acid p-cresol Phenol |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

# FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: WGSL

Site No.:

Sample Point: WGSL-

Sample ID DB01E

This Waste Management Field Information Form is Required

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: D8K260147-001

**PURGE INFO**

| PURGE DATE (MM DD YY) | PURGE TIME (2400 Hr Clock) | ELAPSED HRS (hr:min) | WATER VOL IN CASING (Gallons) | ACTUAL VOL PURGED (Gallons) | WELL VOLs PURGED |
|---|---|---|---|---|---|
| | | | | | |

*Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Low Cell and Tubing/Low Cell Vols Purged. Mark changes, record field data, below.*

**PURGE/SAMPLE EQUIPMENT**

Purging and Sampling Equipment: Dedicated: Y or N

Filter Device: Y or N 0.45 u or ____ p (circle or fill in)

Purging Device ____ A- Submersible Pump B-Peristaltic Pump C-QED Bladder Pump D-Bailer E-Piston Pump F-Dipper/Bottle

Sampling Device ____

X-Other: ____

Filter Type: ____ A-In-line Disposable B-Pressure C-Vacuum X-Other ____

Sample Tube Type: ____ A-Teflon B-Stainless Steel C-PVC D-Polypropylene X-Other: ____

**WELL DATA**

Well Elevation (at TOC) ____ (ft/msl)

Depth to Water (DTW) (from TOC) ____ (ft)

Groundwater Elevation (site datum, from TOC) ____ (ft/msl)

Total Well Depth (from TOC) ____ (ft)

Stick Up (from ground elevation) ____ (ft)

Casing ID ____ (in)

Casing Material ____

*Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.*

**STABILIZATION DATA (Optional)**

| Sample Time (2400 Hr Clock) | Rate/Unit | pH (std) | Conductance (SC/EC) (µmhos/cm @ 25 °C) | Temp. (°C) | Turbidity (ntu) | D.O. (mg/L - ppm) | eH/ORP (mV) | DTW (ft) |
|---|---|---|---|---|---|---|---|---|
| | 1st | 1st | 1st | | | | | |
| | 2nd | 2nd | 2nd | | | | | |
| | 3rd | 3rd | 3rd | | | | | |
| | 4th | 4th | 4th | | | | | |
| Suggested range for 3 consec. readings or note Permit/Site requirements | | +/- 0.2 | +/- 3% | -- | -- | +/- 10% | +/- 25 mV | Stabilize |

**Stabilization Data Fields are Optional** *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data seperately to Site. If more fields above are needed, use separate sheet or form.*

**FIELD DATA**

| SAMPLE DATE (MM DD YY) | pH (std) | CONDUCTANCE (umhos/cm @ 25°C) | TEMP. (°C) | TURBIDITY (ntu) | DO (mg/L-ppm) | eH/ORP (mV) | Other: ____ Units ____ |
|---|---|---|---|---|---|---|---|
| 112208 | 736 | | | | | | |

**Final Field Readings are required** *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

**FIELD COMMENTS**

Sample Appearance: Semi-clear Odor: None Color: light Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: NE 5-10mph Outlook: ____ Precipitation: (Y) or N

Specific Comments (including purge/well volume calculations if required):

Discharge from outfall was observed at approx. 1130am. Collected grab sample for oil and grease and pH Collected composite samples for other parameters, 3 aliquots at 30 minute intervals. Time ended at 1230.

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

| Date | Name | Signature | Company |
|---|---|---|---|
| 11/22/08 | Michelle Mason | Michelle Mason | Earth Tech |

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy