APPENDIX A

WASTE MANIFEST

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAF000216663
2. Page 1 of 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 013210595 JJK

5. Generator's Name and Mailing Address
Del Amo Waste Pits Responderts
P.O. Box 92316
Long Beach, CA 90809-2316 USA
Generator's Phone 713-241-4123

Generator's Site Address (if different than mailing address)
20245 S. Vermont Ave
Torrance, CA 90502 USA

6. Transporter 1 Company Name: American Integrated Services, Inc.
U.S. EPA ID Number: CAF000149338

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Evoqua Water Technologies, LLC
5375 South Boyle Ave.
Los Angeles, CA 90058
Facility's Phone: 323-277-1300
U.S. EPA ID Number: CAD008308293

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3082, Hazardous Waste Liquid, N.O.S. (Benzene), 9, PGIII	1	TT	600	G	135	D018	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Wear appropriate PPE while handling. Weights or volumes are approximate
Water contaminated with Benzene.
Job#: 34010-2-11 RFP#: WK711 SAP#: DEL AMO Profile#: P191619 RS 95490 D204509

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: AIS on behalf of SOPUS J. Shannon
Signature
Month 12 Day 1 Year 14

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: IRVIN DUNCAN
Signature
Month 12 Day 1 Year 14
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H135 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Aaron Hasted
Signature
Month 12 Day 01 Year 14

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

EVOQUA

WATER TECHNOLOGIES

Evoqua Water Technologies LLC
Certificate of Treatment and Waste Management

Issued To:

DEL AMO WASTE PITS RESPONDENTS FORMERLY SHELL OIL PRODUCT
20245 SOUTH VERMONT
TORRANCE, CA 90502

This Certifies That:

Manifest Number: **013210595JJK**

Date Received: **12/1/2014**

The waste described on the above manifest was received and accepted by Evoqua Water Technologies LLC for treatment, recycling, or other management in accordance with applicable treatment standards and Federal, State and local requirements. The Evoqua Water Technologies LLC wastewater treatment system treats wastewaters by removing toxic and hazardous constituents, discharging the treated water to the sewer operated by County Sanitation Districts of Los Angeles County, where it is further treated or recycled. Residues and other components of the waste may be recycled where provided for under Federal, State and local regulations.
The processing of the waste by Evoqua Water Technologies LLC completes all of the Certificate Holder's responsibilities under the Federal Resource Conservation and Recovery Act and the California Hazardous Waste Control Act.

APPENDIX B

LABORATORY ANALYTICAL DATA

APPENDIX C

MANN-KENDALL STATISTICAL ANALYSIS

Del Amo Mann Kendall Trend Evaluation on Select Wells		
Monitor Well	**Short-Term Mann-Kendall Result***	**Longer-Term Mann-Kendall Result****
Benzene (Water Table)		
PZL0009	Decreasing	Insufficient Data
PZL0011	Decreasing	Insufficient Data
PZL0013	Decreasing	Insufficient Data
PZL0018	No Trend	No Trend
PZL0020	Decreasing	Decreasing
PZL0026	Decreasing	Insufficient Data
SWL0003	Decreasing	Insufficient Data
SWL0004	Decreasing	Insufficient Data
SWL0008	Decreasing	Decreasing
SWL0044	Decreasing	Insufficient Data
SWL0051	Decreasing	Insufficient Data
SWL0059	Insufficient Data	Insufficient Data
SWL0068	Insufficient Data	Insufficient Data
XMW-01HD	Insufficient Data	Insufficient Data
XMW-04HD	Decreasing	Insufficient Data
XMW-28	Decreasing	Insufficient Data
XMW-29	Decreasing	No Trend
Benzene (MBFB)		
SWL0029	No Trend	Insufficient Data
SWL0032	Insufficient Data	Insufficient Data
SWL0041	No Trend	Insufficient Data
SWL0048	Increasing	Insufficient Data
SWL0050	No Trend	Insufficient Data
SWL0060	Insufficient Data	Insufficient Data
Benzene (MBFC)		
SWL0054	Decreasing	Insufficient Data
SWL0065	Insufficient Data	Insufficient Data
XBF-13	Decreasing	Insufficient Data
Benzene (Gage)		
SWL0063	Insufficient Data	Insufficient Data
SWL0066	Insufficient Data	Insufficient Data
TOTALS		
Increasing	**1**	**0**
No Trend	**4**	**2**
Decreasing	**15**	**2**
Insufficient Data	**8**	**24**

Notes:

All wells analyzed for trends in Total Xylenes concentrations

* Short-Term result utilizes last eight sampling events.

** Longer-Term result utilizes last 16 sampling events.

Mann Kendall Trend Evaluation

Contaminant: Benzene (Water Table)

Monitoring Inputs

Well ID	PLZ0009	PLZ0011	PLZ0013	PLZ0018	PLZ0020
Event	ug/l	ug/l	ug/l	ug/l	ug/l
1	9000	86000	570000	0.75	350000
2	1200	77000	590000	0.5	400000
3	550	43000	520000	0.5	580000
4	680	38000	470000	0.5	470000
5	290	40000	400000	0.68	570000
6	170	36000	460000	0.5	540000
7	72	8100	300000	0.27	480000
8	11	120	330000	0.53	480000
9				1.4	410000
10				20000	510000
11				4200	290000
12				2500	530000
13				0.5	410000
14				63000	370000
15				1700	190000
16				0.5	280000

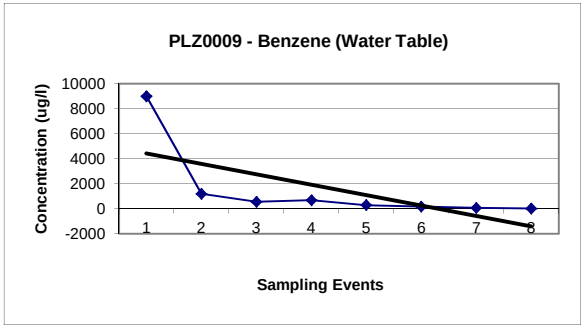
Mann-Kendall Results

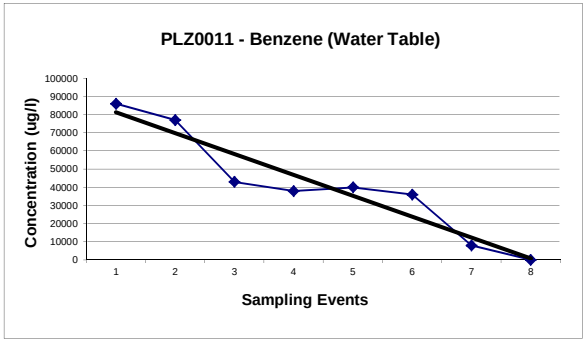
8 Event Evaluation

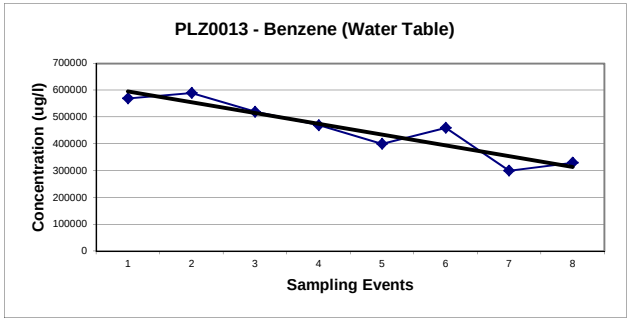
PLZ0009	Decreasing
PLZ0011	Decreasing
PLZ0013	Decreasing
PLZ0018	No Trend
PLZ0020	Decreasing

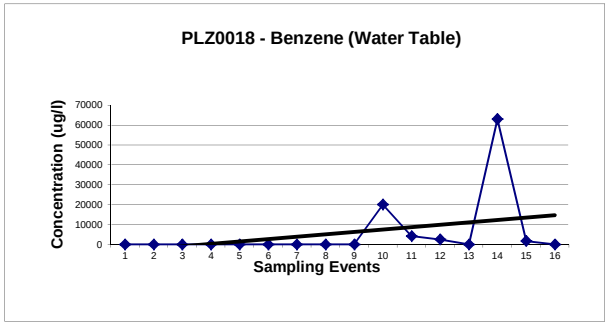
16 Event Evaluation

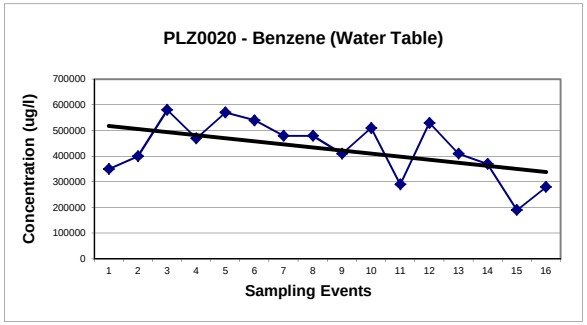
PLZ0009	Insufficient Data
PLZ0011	Insufficient Data
PLZ0013	Insufficient Data
PLZ0018	No Trend
PLZ0020	Decreasing











Mann Kendall Trend Evaluation

Contaminant: **Benzene (Water Table)**

Monitoring Inputs

Well ID	PLZ0026	SWL0003	SWL0004	SWL0008
Event	ug/l	ug/l	ug/l	ug/l
1	2700	340000	920000	25000
2	3900	430000	870000	12000
3	2400	350000	870000	11000
4	1100	330000	950000	24000
5	620	340000	820000	23000
6	2000	150000	610000	2300
7	91	170000	610000	25000
8	53	2.1	46000	1700
9				9300
10				49000
11				21000
12				810
13				340
14				140
15				52
16				12

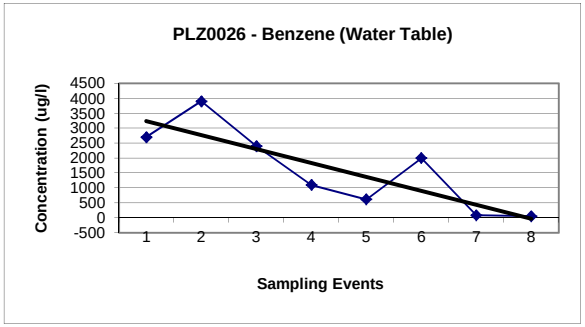
Mann-Kendall Results

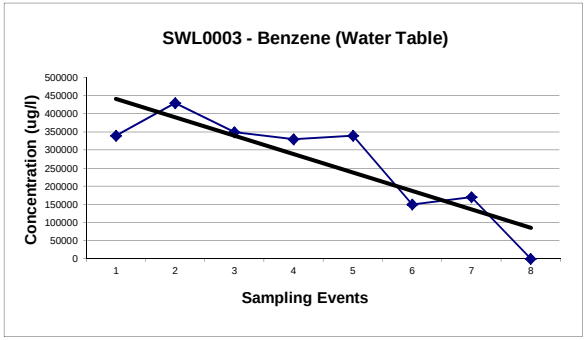
8 Event Evaluation

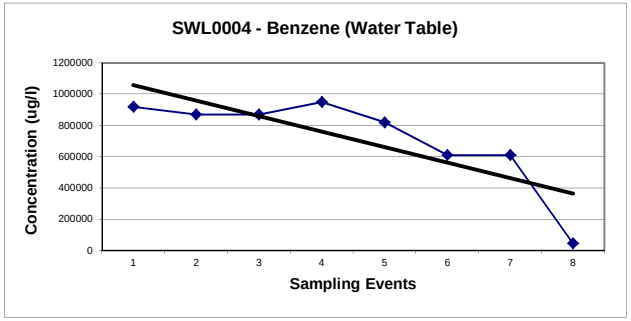
PLZ0026	Decreasing
SWL0003	Decreasing
SWL0004	Decreasing
SWL0008	Decreasing

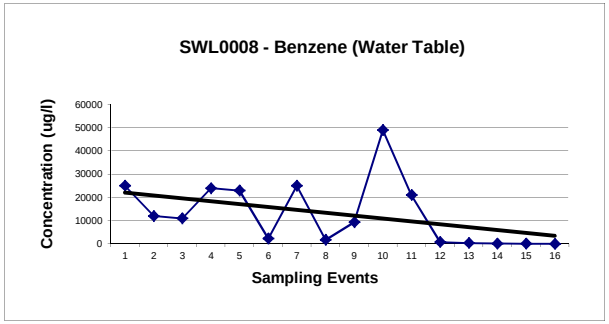
16 Event Evaluation

PLZ0026	Insufficient Data
SWL0003	Insufficient Data
SWL0004	Insufficient Data
SWL0008	Decreasing









Mann Kendall Trend Evaluation

Contaminant: Benzene (Water Table)

Monitoring Inputs

Well ID	SWL0044	SWL0051	SWL0059	SWL0068	XMW-01HD
Event	ug/l	ug/l	ug/l	ug/l	ug/l
1	5700	8.4	9.3	280000	62
2	56000	7.9	5	150000	
3	28	12		150000	
4	4.5	5			
5	50	0.61			
6	1.1	0.57			
7	0.82	4			
8	2.1	0.5			
9					
10					
11					
12					
13					
14					
15					
16					

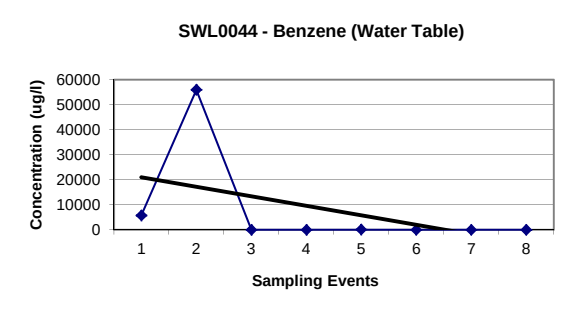
Mann-Kendall Results

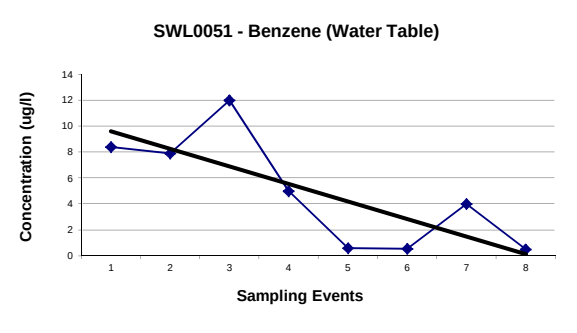
8 Event Evaluation

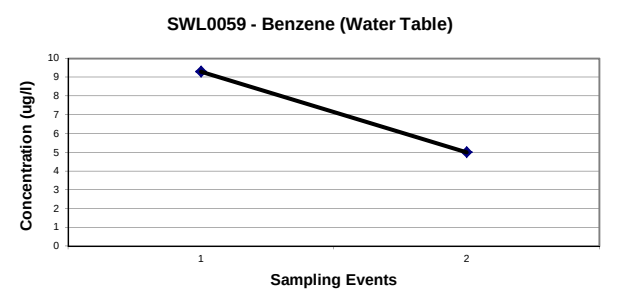
SWL0044	Decreasing
SWL0051	Decreasing
SWL0059	Insufficient Data
SWL0068	Insufficient Data
XMW-01HD	Insufficient Data

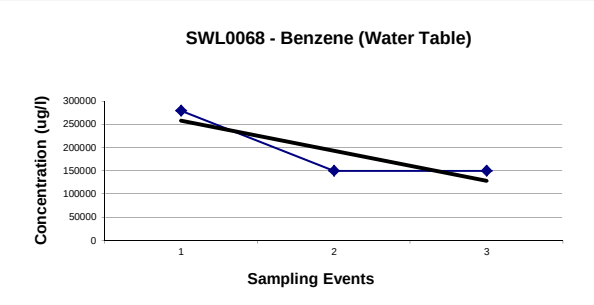
16 Event Evaluation

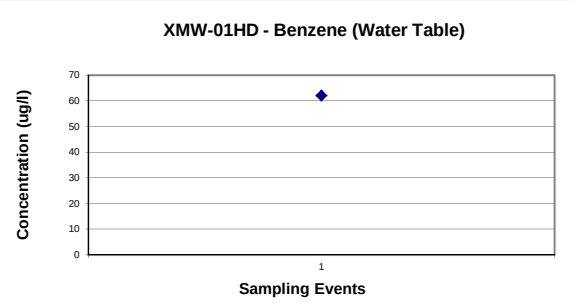
SWL0044	Insufficient Data
SWL0051	Insufficient Data
SWL0059	Insufficient Data
SWL0068	Insufficient Data
XMW-01HD	Insufficient Data











Mann Kendall Trend Evaluation

Contaminant: **Benzene (Water Table)**

Monitoring Inputs

Well ID	XMW-04HD	XMW-28	XMW-29
Event	ug/l	ug/l	ug/l
1	980000	150000	6600
2	900000	170000	24000
3	800000	140000	96000
4	890000	72000	150000
5	670000	100000	180000
6	310000	69000	240000
7	430000	44000	5700
8	330000	22000	110000
9			420000
10			580000
11			380000
12			47000
13			170000
14			100000
15			73000
16			36000

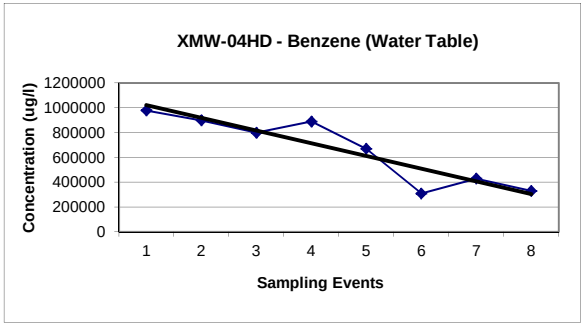
Mann-Kendall Results

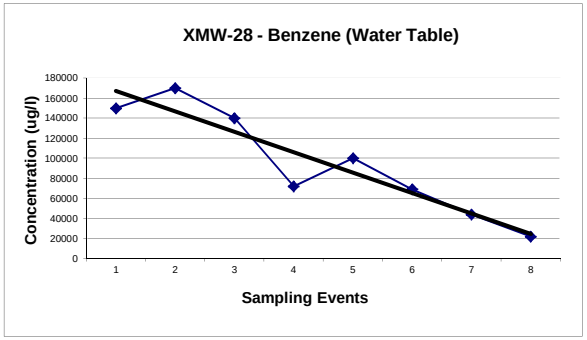
8 Event Evaluation

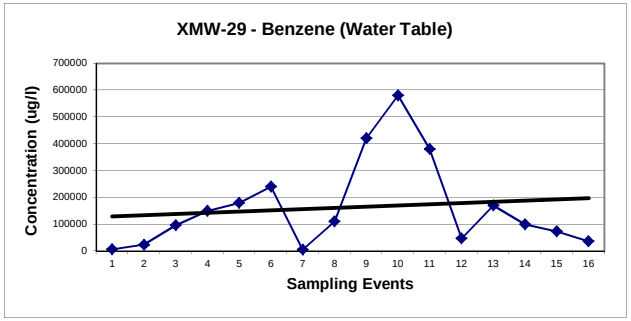
XMW-04HD	Decreasing
XMW-28	Decreasing
XMW-29	Decreasing

16 Event Evaluation

XMW-04HD	Insufficient Data
XMW-28	Insufficient Data
XMW-29	No Trend







Mann Kendall Trend Evaluation

Contaminant: Benzene (MBFB)

Monitoring Inputs

Well ID	SWL0029	SWL0032	SWL0041	SWL0048	SWL0050
Event	ug/l	ug/l	ug/l	ug/l	ug/l
1	1.1	660000	8500	33000	69000
2	1.7		5900	38000	74000
3	0.88		1600	22000	46000
4	0.75		330	49000	62000
5	1.1		550	59000	46000
6	1.3		22000	190000	84000
7	1.7		11000	180000	78000
8	0.65		1.8	180000	2700
9					
10					
11					
12					
13					
14					
15					
16					

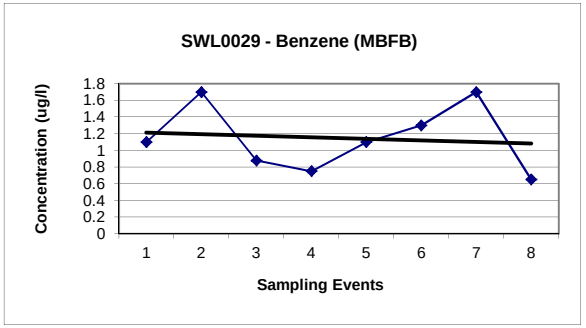
Mann-Kendall Results

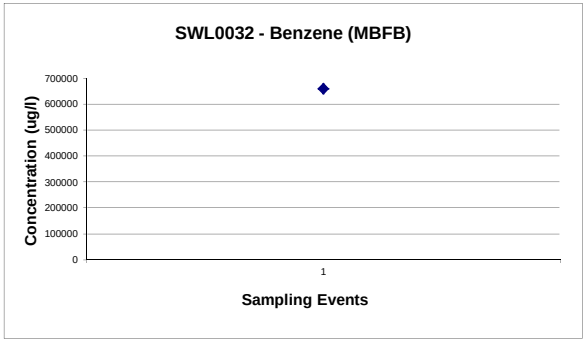
8 Event Evaluation

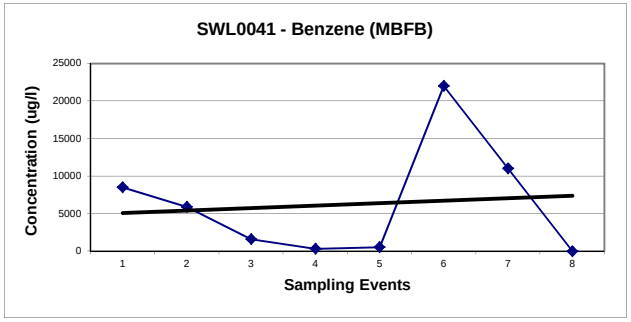
SWL0029	No Trend
SWL0032	Insufficient Data
SWL0041	No Trend
SWL0048	Increasing
SWL0050	No Trend

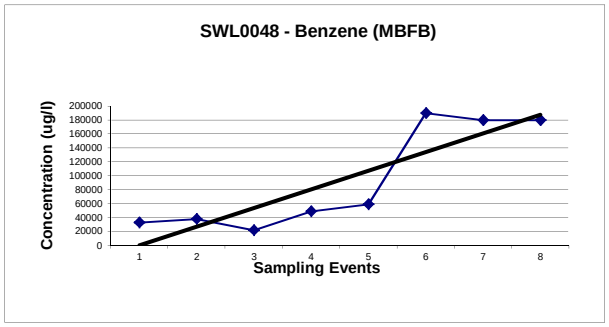
16 Event Evaluation

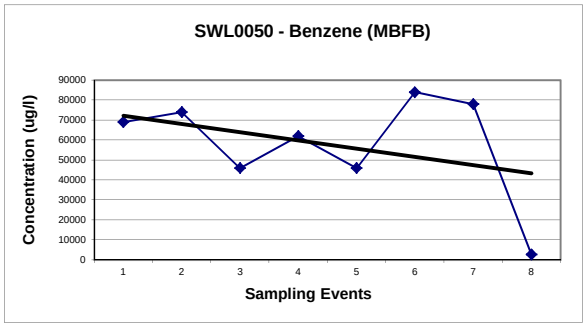
SWL0029	Insufficient Data
SWL0032	Insufficient Data
SWL0041	Insufficient Data
SWL0048	Insufficient Data
SWL0050	Insufficient Data











Mann Kendall Trend Evaluation

Contaminant: Benzene (MBFB)

Monitoring Inputs

Well ID	SWL0060
Event	ug/l
1	11
2	15
3	240
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

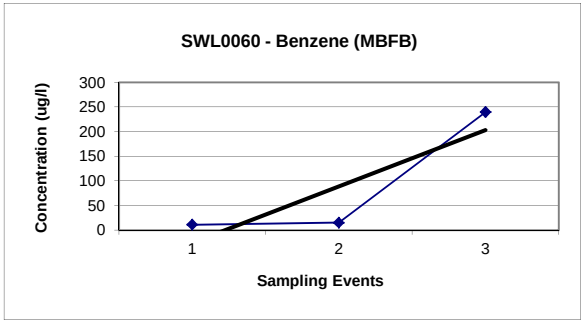
Mann-Kendall Results

8 Event Evaluation

SWL0060	Insufficient Data

16 Event Evaluation

SWL0060	Insufficient Data



Mann Kendall Trend Evaluation

Contaminant: Benzene (MBFC)

Monitoring Inputs

Well ID	SWL0054	SWL0065
Event	ug/l	ug/l
1	14	180000
2	16	340000
3	11	190000
4	6.7	95000
5	5.5	470
6	12	
7	1.8	
8	1.3	
9		
10		
11		
12		
13		
14		
15		
16		

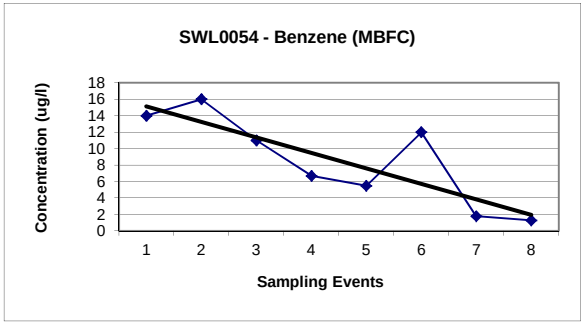
Mann-Kendall Results

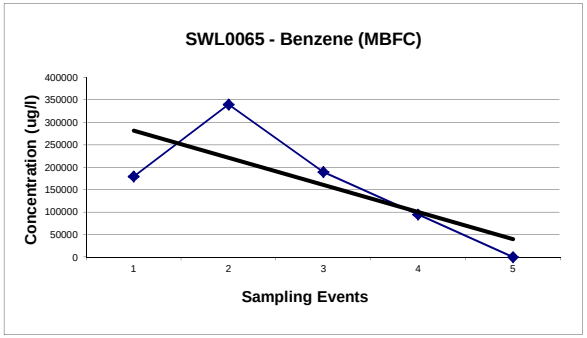
8 Event Evaluation

SWL0054	Decreasing
SWL0065	Insufficient Data

16 Event Evaluation

SWL0054	Insufficient Data
SWL0065	Insufficient Data





Mann Kendall Trend Evaluation

Contaminant: Benzene (MBFC)

Monitoring Inputs

Well ID	XBF-13
Event	ug/l
1	15000
2	21000
3	20000
4	22000
5	19000
6	8700
7	1200
8	3.9
9	
10	
11	
12	
13	
14	
15	
16	

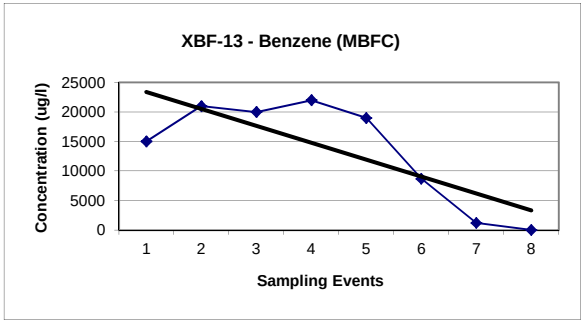
Mann-Kendall Results

8 Event Evaluation

XBF-13	Decreasing

16 Event Evaluation

XBF-13	Insufficient Data



Mann Kendall Trend Evaluation

Contaminant: Benzene (Gage)

Monitoring Inputs

Well ID	SWL0063	SWL0066
Event	ug/l	ug/l
1	520	1
2	520	2.5
3	550	0.29
4	890	420
5	480	
6	460	
7	35	
8		
9		
10		
11		
12		
13		
14		
15		
16		

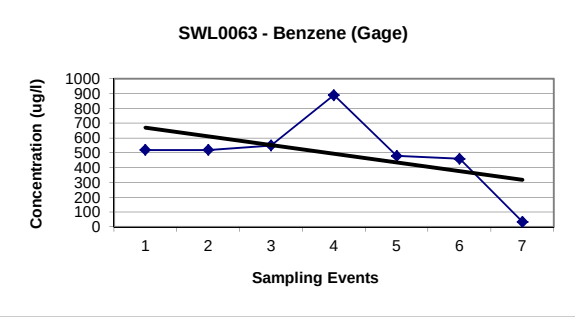
Mann-Kendall Results

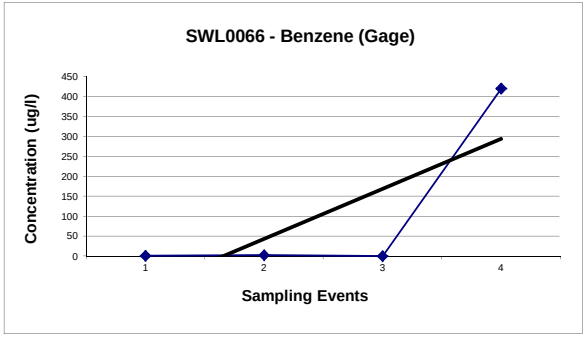
8 Event Evaluation

SWL0063	Insufficient Data
SWL0066	Insufficient Data

16 Event Evaluation

SWL0063	Insufficient Data
SWL0066	Insufficient Data





APPENDIX D

DATA VALIDATION MEMORANDUM

URS

Data Validation Memorandum
2020 East First Street
Santa Ana, CA 92705
Telephone - (714) 835-6886
Fax: (909) 980-1399

TO:	Erich Weaver	**FILE:**	29500829.08
FROM:	Lily Bayati, Analytical Services Group	**SITE**:	Del Amo - 2014 GW Sampling Event
DATE:	November 17, 2014		

SUBJECT: Summary of Data Validation for Eurofins/Calscience Reports: 14-09-0299, 14-09-0318, 14-09-0438, 14-09-0439, 14-09-0538, 14-09-0539, 14-09-0656, 14-09-0657, 14-09-0756, 14-09-0757, 14-09-0919, 14-09-0920, 14-09-1056, 14-09-2079, and 14-09-2095

Introduction

This report summarizes the findings of the data validation of 94 water samples (including eight field duplicates), 15 trip blanks, and 18 equipment blanks. These samples were collected September 4-25, 2014 as part of the 2014 Groundwater (GW) Sampling Event at Del Amo Superfund Site. Eurofins/Calscience Laboratories in Garden Grove, California performed all analyzes. The samples are listed in Table 1 included at the end of this document. The data were reviewed in accordance with URS Standard Operating Procedures, and the principles presented in *USEPA National Functional Guidelines For Inorganics Superfund Data Review (*EPA, 2010, 2014*)*, and *USEPA National Functional Guidelines for Superfund Organic Methods Data Review* (EPA, 2008, 2014).

Overall Assessment

The data reported in these packages, as qualified, are considered to be usable for meeting project objectives. All results are considered to be valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for the project is 100%. Additionally, because all samples in this data set were collected and analyzed under similar prescribed conditions, the data within this set are considered to be comparable.

1.0 Data Review Narratives

Ninety-four (94) water samples, and 18 equipment blanks were collectively analyzed for volatile organic compounds (VOCs; EPA method 8260B), methane (RSK-175M), alkalinity (Standard method; SM 2320B), nitrate, sulfate (EPA method 300.0), ferrous iron (SM 3500-FeB), carbon dioxide (SM 4500-CO2D), manganese (EPA method 6010B); and one water sample was analyzed for gasoline range organics (GRO; EPA method 8015B modified). In addition, 15 trip blanks were analyzed for VOCs (EPA method 8260B). The laboratory data were reviewed to evaluate compliance with these methods and the quality of the data reported (EPA Superfund Stage 2A/2B validation). Full validation including recalculation (EPA Superfund Stage 4A validation) was performed on more than 10% of the laboratory data. The following summarizes the results of this review.

The areas of review are listed below. A check mark (✓) indicates an area of review in which all data were acceptable. A crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Data Completeness
- ⊗ Holding Times and Preservation

⊗ Calibrations (Full Validation)
✓ Internal Standards (Full Validation)
✓ GC/MS Instrument Performance Check Samples (Full Validation)
⊗ Interference Check Samples; ICS (Full Validation)
⊗ Blanks
✓ System Monitoring Compounds (Surrogates)
✓ Laboratory Control Samples (LCS)
⊗ Matrix Spike/Matrix Spike Duplicate Samples (MS/MSD)
✓ Field Duplicates
✓ Laboratory Duplicates
✓ Analyte Identification and Quantitation

1.1 Data Completeness

All analyses were performed as requested on the chain-of-custody records (COCs). The laboratory reported all requested analyses and the deliverable data reports were complete.

1.2 Holding Times and Preservation

All analyses were performed within the method-specified holding times with the exception listed in the following table. In addition, all samples were collected and preserved appropriately.

Method	Sample	Analyte	Date Sampled	Date Prepared	Date Analyzed	Qualifier
EPA 300.0	**GWS2441**	Nitrate	9/8/14	9/10/14	9/10/14	**J**
Note: Initial analysis was within holding time. However, due to required dilution, sample was re-analyzed outside of holding time.						

1.3 Calibration (Full Validation)

1.3.1 Initial Calibration (IC)

Appropriate initial calibrations were performed for each analyte for each method. Compliance requirements for each method were met and did not require data qualification with the following exception.

Method/ IC Date	Analyte	Qualified Sample(s)	Qualifier
EPA 8260B 8/30/14	trans-1,3-Dichloropropene	**GWS2432, GWS2457, GWS2489 GWS2459, GWS2436, GWS2408 GWS2458, GWS2472, GWS2446 GWS2468, GWS2443, GWS2471**	**UJ/J**

1.3.2 Initial Calibration Verification, Continuing Calibration Verification (ICV, CCV)

The acceptance criteria for all ICVs and CCVs were met or did not require qualification with the following exception.

Method / CCV Date	Analyte	Qualified Sample(s)	Qualifier
EPA 8260B 9/5/14	Bromomethane	**GWS2432, GWS2457, GWS2489 GWS2459, GWS2436, GWS2408 GWS2458, GWS2472, GWS2446 GWS2468, GWS2443, GWS2471**	**UJ/J**

1.3.3 Initial Calibration Blanks, Continuing Calibration Blanks (ICB, CCB)

Manganese was not detected in the ICBs and CCBs.

1.4 Internal Standards (Full Validation)

All internal standard retention times were within ±30 seconds of the associated continuing calibration internal standard retention time. All internal standard area counts were within the acceptance criteria (>50% and <200%) of the associated continuing calibrations internal standard area counts.

1.5 GC/MS Instrument Performance Check Samples (Full Validation)

Compliance requirements for instrument performance check samples were met for EPA 8260B.

1.6 Interference Check Samples; ICS (Full Validation)

ICSs were analyzed at the proper frequency and location during the analytical runs for the manganese analyses. All ICS results met acceptance criteria with the following exception. For samples **GWS2436** and **GWS2414**, ICS A value was above acceptance criteria. Consequently, the results for manganese for these samples were qualified as estimated (J+).

1.7 Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed. Target analytes were either not detected in the associated method blanks, trip blanks, and equipment blanks or did not require data qualification with the following exceptions.

Method	Blank	Analyte	Concentration	Qualified Samples	Qualifier
RSK-175M	**FBS2045**	Methane	0.073 ug/L	**GWW2452**	**U**
	FBS2041	Methane	0.069 ug/L	**GWS2438**	
	FBS2042	Methane	0.064 ug/L	**GWS2441**	
	FBS2060	Methane	0.40 ug/L	**GWS2462**	
	FBS2061	Methane	0.078 ug/L	**GWS2416**	
EPA 8260B	**FBS2061**	Benzene	0.21 ug/L	**GWS2434, GWS2496**	
Note: FBS = Equipment Blank					

1.8 System Monitoring Compounds (Surrogates)

Appropriate numbers of surrogate compounds were spiked into each sample for the EPA 8260B, and 8015B analyses. All surrogate compound recoveries were within the laboratory's statistically determined acceptance ranges.

1.9 Laboratory Control Samples (LCS)

LCSs were prepared and analyzed at the proper frequency for each analysis. All LCS and LCS duplicate (LCSD) recoveries reported and relative percent differences (RPDs) between the results (for applicable analytical batches) were within the laboratory's statistically determined acceptance ranges. These LCS results indicate that the level of accuracy demonstrated by the analytical method with respect to a clean sample matrix is acceptable.

1.10 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Several project samples were utilized for the MS/MSD analyses. The average recoveries of all MS/MSDs reported and the RPDs between the results were either within the laboratory's statistically determined acceptance ranges or did not require qualification with the following exceptions.

Method	Sample	Analyte	Average Recovery	RPD	Qualified Samples	Qualifier
EPA 8260B	**GWS2484**	Trichloroethene	55%*	3	**GWS2484, GWS2488, GWS2414 GWS2482, GWS2452**	**UJ/J**
EPA 6010B	**GWS2445**	Manganese	84.5%*	5	**GWS2466, GWS2498 GWS2454, GWS2445, GWS2415**	
Notes: * Outlier						

1.11 Field Duplicates

The following samples were submitted to the laboratory as field duplicate pairs.

Primary Sample	Field Duplicate
GWS2473	GWS2501
GWS2494	GWS2425
GWS2435	GWS2497
GWS2466	GWS2498
GWS2426	GWS2495
GWS2485	GWS2499
GWS2450	GWS2500
GWS2412	GWS2493

Acceptable field and analytical precision was demonstrated for all analytes for all field duplicate pairs.

1.12 Laboratory Duplicates

Acceptable analytical precision was demonstrated for all laboratory duplicate analyses.

1.13 Target Analyte Identification and Quantitation (Full Validation)

All analytes reported and the reporting limits obtained comply with project specifications. All dilutions were appropriate. In addition, this data review process included result recalculation and transcription error checking from the raw data for more than 10% of the data. All results checked were confirmed.

Table 1
Eurofins/ Calscience Laboratories

Sample	SDG	Sample Number	Date Sampled	Analysis Performed
GWS2432	14-09-0299	14-09-0299-1	9/4/14	EPA 8260B
GWS2457	14-09-0299	14-09-0299-2	9/4/14	EPA 8260B
GWS2489	14-09-0299	14-09-0299-3	9/4/14	EPA 8260B
GWS2459	14-09-0299	14-09-0299-4	9/4/14	EPA 8260B
GWS2436	14-09-0299	14-09-0299-5	9/4/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2408	14-09-0299	14-09-0299-6	9/4/14	EPA 8260B
FBS2023 (Trip Blank)	14-09-0299	14-09-0299-7	9/4/14	EPA 8260B
FBS2038 (Equipment Blank)	14-09-0299	14-09-0299-8	9/4/14	EPA 8260B
FBS2022 (Trip Blank)	14-09-0318	14-09-0318-1	9/4/14	EPA 8260B
GWS2458	14-09-0318	14-09-0318-2	9/4/14	EPA 8260B
GWS2472	14-09-0318	14-09-0318-3	9/4/14	EPA 8260B
GWS2446	14-09-0318	14-09-0318-4	9/4/14	EPA 8260B
GWS2468	14-09-0318	14-09-0318-5	9/4/14	EPA 8260B
GWS2443	14-09-0318	14-09-0318-6	9/4/14	EPA 8260B
GWS2471	14-09-0318	14-09-0318-7	9/4/14	EPA 8260B
FBS2037 (Equipment Blank)	14-09-0318	14-09-0318-8	9/4/14	EPA 8260B
FBS2025 (Trip Blank)	14-09-0438	14-09-0438-1	9/5/14	EPA 8260B
GWS2479	14-09-0438	14-09-0438-2	9/5/14	EPA 8260B
GWS2467	14-09-0438	14-09-0438-3	9/5/14	EPA 8260B
GWS2470	14-09-0438	14-09-0438-4	9/5/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2473	14-09-0438	14-09-0438-5	9/5/14	EPA 8260B
GWS2501 (Field Duplicate of GWS2473)	14-09-0438	14-09-0438-6	9/5/14	EPA 8260B
GWS2428	14-09-0438	14-09-0438-7	9/5/14	EPA 8260B
FBS2040 (Equipment Blank)	14-09-0438	14-09-0438-8	9/5/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2024 (Trip Blank)	14-09-0439	14-09-0439-1	9/5/14	EPA 8260B
GWS2484	14-09-0439	14-09-0439-2	9/5/14	EPA 8260B
GWS2488	14-09-0439	14-09-0439-3	9/5/14	EPA 8260B
GWS2414	14-09-0439	14-09-0439-4	9/5/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2045 (Equipment Blank)	14-09-0439	14-09-0439-5	9/5/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2039 (Equipment Blank)	14-09-0439	14-09-0439-6	9/5/14	EPA 8260B
GWS2482	14-09-0439	14-09-0439-7	9/5/14	EPA 8260B
GWS2452	14-09-0439	14-09-0439-8	9/5/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2027 (Trip Blank)	14-09-0538	14-09-0538-1	9/8/14	EPA 8260B

Table 1
Eurofins/ Calscience Laboratories

Sample	SDG	Sample Number	Date Sampled	Analysis Performed
GWS2409	14-09-0538	14-09-0538-2	9/8/14	EPA 8260B
GWS2410	14-09-0538	14-09-0538-3	9/8/14	EPA 8260B
GWS2421	14-09-0538	14-09-0538-4	9/8/14	EPA 8260B
GWS2422	14-09-0538	14-09-0538-5	9/8/14	EPA 8260B
GWS2438	14-09-0538	14-09-0538-6	9/8/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2430	14-09-0538	14-09-0538-7	9/8/14	EPA 8260B
FBS2046 (Equipment Blank)	14-09-0538	14-09-0538-8	9/8/14	EPA 8260B
FBS2041 (Equipment Blank)	14-09-0538	14-09-0538-9	9/8/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2026 (Trip Blank)	14-09-0539	15-09-0539-1	9/8/14	EPA 8260B
GWS2429	14-09-0539	15-09-0539-2	9/8/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2453	14-09-0539	15-09-0539-3	9/8/14	EPA 8260B
GWS2494	14-09-0539	15-09-0539-4	9/8/14	EPA 8260B
GWS2425 (Field Duplicate of GWS2494)	14-09-0539	15-09-0539-5	9/8/14	EPA 8260B
GWS2437	14-09-0539	15-09-0539-6	9/8/14	EPA 8260B
GWS2441	14-09-0539	15-09-0539-7	9/8/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2481	14-09-0539	15-09-0539-8	9/8/14	EPA 8260B
GWS2423	14-09-0539	15-09-0539-9	9/8/14	EPA 8260B
FBS2042 (Equipment Blank)	14-09-0539	15-09-0539-10	9/8/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2028 (Trip Blank)	14-09-0656	14-09-0656-1	9/9/14	EPA 8260B
GWS2502	14-09-0656	14-09-0656-2	9/9/14	EPA 8260B
GWS2460	14-09-0656	14-09-0656-3	9/9/14	EPA 8260B
GWS2476	14-09-0656	14-09-0656-4	9/9/14	EPA 8260B
GWS2480	14-09-0656	14-09-0656-5	9/9/14	EPA 8260B
GWS2483	14-09-0656	14-09-0656-6	9/9/14	EPA 8260B
GWS2492	14-09-0656	14-09-0656-7	9/9/14	EPA 8260B
FBS2044 (Equipment Blank)	14-09-0656	14-09-0656-8	9/9/14	EPA 8260B
FBS2029 (Trip Blank)	14-09-0657	14-09-0657-1	9/9/14	EPA 8260B
GWS2442	14-09-0657	14-09-0657-2	9/9/14	EPA 8260B
GWS2439	14-09-0657	14-09-0657-3	9/9/14	EPA 8260B
GWS2474	14-09-0657	14-09-0657-4	9/9/14	EPA 8260B
GWS2435	14-09-0657	14-09-0657-5	9/9/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2497 (Field Duplicate of GWS2435)	14-09-0657	14-09-0657-6	9/9/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2449	14-09-0657	14-09-0657-7	9/9/14	EPA 8260B
GWS2431	14-09-0657	14-09-0657-8	9/9/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB

Table 1
Eurofins/ Calscience Laboratories

Sample	SDG	Sample Number	Date Sampled	Analysis Performed
FBS2043 (Equipment Blank)	14-09-0657	14-09-0657-9	9/9/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2031 (Trip Blank)	14-09-0756	14-09-0756-1	9/10/14	EPA 8260B
GWS2486	14-09-0756	14-09-0756-2	9/10/14	EPA 8260B
GWS2440	14-09-0756	14-09-0756-3	9/10/14	EPA 8260B
GWS2418	14-09-0756	14-09-0756-4	9/10/14	EPA 8260B
GWS2455	14-09-0756	14-09-0756-5	9/10/14	EPA 8260B
GWS2478	14-09-0756	14-09-0756-6	9/10/14	EPA 8260B
GWS2448	14-09-0756	14-09-0756-7	9/10/14	EPA 8260B
GWS2487	14-09-0756	14-09-0756-8	9/10/14	EPA 8260B
FBS2048 (trip Blank)	14-09-0756	14-09-0756-9	9/10/14	EPA 8260B
FBS2049 (Equipment Blank)	14-09-0756	14-09-0756-10	9/10/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2030 (Trip Blank)	14-09-0757	14-09-0757-1	9/10/14	EPA 8260B
GWS2469	14-09-0757	14-09-0757-2	9/10/14	EPA 8260B
GWS2424	14-09-0757	14-09-0757-3	9/10/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2444	14-09-0757	14-09-0757-4	9/10/14	EPA 8260B
GWS2417	14-09-0757	14-09-0757-5	9/10/14	EPA 8260B
GWS2411	14-09-0757	14-09-0757-6	9/10/14	EPA 8260B
GWS2491	14-09-0757	14-09-0757-7	9/10/14	EPA 8260B
FBS2047 (Equipment Blank)	14-09-0757	14-09-0757-8	9/10/14	EPA 8260B
FBS2033 (Trip Blank)	14-09-0919	14-09-0919-1	9/11/14	EPA 8260B
GWS2451	14-09-0919	14-09-0919-2	9/11/14	EPA 8260B
GWS2413	14-09-0919	14-09-0919-3	9/11/14	EPA 8260B
GWS2463	14-09-0919	14-09-0919-4	9/11/14	EPA 8260B
GWS2466	14-09-0919	14-09-0919-5	9/11/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2498 (Field Duplicate of GWS2466)	14-09-0919	14-09-0919-6	9/11/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2426	14-09-0919	14-09-0919-7	9/11/14	EPA 8260B
GWS2495 (Field Duplicate of GWS2426)	14-09-0919	14-09-0919-8	9/11/14	EPA 8260B
GWS2420	14-09-0919	14-09-0919-9	9/11/14	EPA 8260B
FBS2050 (Equipment Blank)	14-09-0919	14-09-0919-10	9/11/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2032 (Trip Blank)	14-09-0920	14-09-0920-1	9/11/14	EPA 8260B
GWS2454	14-09-0920	14-09-0920-2	9/11/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2485	14-09-0920	14-09-0920-3	9/11/14	EPA 8260B
GWS2499 (Field Duplicate of GWS2485)	14-09-0920	14-09-0920-4	9/11/14	EPA 8260B

Table 1
Eurofins/ Calscience Laboratories

Sample	SDG	Sample Number	Date Sampled	Analysis Performed
GWS2445	14-09-0920	14-09-0920-5	9/11/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2447	14-09-0920	14-09-0920-6	9/11/14	EPA 8260B
GWS2415	14-09-0920	14-09-0920-7	9/11/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2450	14-09-0920	14-09-0920-8	9/11/14	EPA 8260B
GWS2500 (Field Duplicate of GWS2450)	14-09-0920	14-09-0920-9	9/11/14	EPA 8260B
FBS2051 (Equipment Blank)	14-09-0920	14-09-0920-10	9/11/14	EPA 8260B
FBS2036 (Trip Blank)	14-09-1056	14-09-1056-1	9/12/14	EPA 8260B
GWS2427	14-09-1056	14-09-1056-2	9/12/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2052 (Equipment Blank)	14-09-1056	14-09-1056-3	9/12/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2034 (Trip Blank)	14-09-2079	14-09-2079-1	9/25/14	EPA 8260B
GWS2433	14-09-2079	14-09-2079-2	9/25/14	EPA 8260B
GWS2462	14-09-2079	14-09-2079-3	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2490	14-09-2079	14-09-2079-4	9/25/14	EPA 8260B
GWS2477	14-09-2079	14-09-2079-5	9/25/14	EPA 8260B
GWS2456	14-09-2079	14-09-2079-6	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2475	14-09-2079	14-09-2079-7	9/25/14	EPA 8260B
FBS2060 (Equipment Blank)	14-09-2079	14-09-2079-8	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2035 (Trip Blank)	14-09-2095	14-09-2095-1	9/25/14	EPA 8260B
GWS2412	14-09-2095	14-09-2095-2	9/25/14	EPA 8260B
GWS2493 (Field Duplicate of GWS2412)	14-09-2095	14-09-2095-3	9/25/14	EPA 8260B
GWS2416	14-09-2095	14-09-2095-4	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2464	14-09-2095	14-09-2095-5	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
GWS2434	14-09-2095	14-09-2095-6	9/25/14	EPA 8260B
GWS2496	14-09-2095	14-09-2095-7	9/25/14	EPA 8260B
GWS2465	14-09-2095	14-09-2095-8	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
FBS2061 (Equipment Blank)	14-09-2095	14-09-2095-9	9/25/14	EPA 8260B, 6010B, 300.0; RSK-175M SM 4500-CO2D, 2320B, 3500-FeB
IWS0278	14-09-2095	14-09-2095-10	9/25/14	EPA 8260B

SDG:	Sample Delivery Group		
EPA 8260B:	Volatile Organic Compounds (VOCs)	EPA 6010B:	Manganese
EPA 300.0:	Nitrate, Sulfate	EPA 8015B:	Gasoline Range Organics
RSK-175M:	Methane	SM 3500-FeB:	Ferrous Iron
SM4500-CO2D:	Carbon Dioxide	SM 2320:	Alkalinity

ATTACHMENT A
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by URS Data Review Team

DATA QUALIFIER DEFINITIONS FOR ORGANIC ANALYES

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

UJ The analyte was not detected 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.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

DATA QUALIFIER DEFINITIONS FOR INORGANIC ANALYSES

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

UJ The analyte was analyzed for, but was not detected. The reported sample quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control (QC) criteria. The analyte may or may not be present in the sample.

URS DATA QUALIFIER DEFINITIONS — REASON CODE DEFINITIONS

a Analytical sequence deficiency or omission.
b Gross compound breakdown (4,4'-DDT/Endrin).
c Calibration failure; poor or unstable response.
d Laboratory duplicate imprecision.
e Laboratory duplicate control sample imprecision.
f Field duplicate imprecision.
g Poor chromatography.
h Holding time violation.
i Internal standard failure.
j Poor mass spectrographic performance.
k Serial dilution imprecision.
l Laboratory control sample recovery failure.
m Matrix spike/matrix spike duplicate recovery failure.
n Interference check sample recovery failure.
o Calibration blank contamination (metals/inorganics only).
p Preparation blank contamination (metals/inorganics only).
q Quantitation outside linear range.
r Linearity failure in initial calibration.
s Surrogate spike recovery failure (GC organics and GC/MS organics only).
t Instrument tuning failure.
u No valid confirmation column (GC Organics only).
v Value is estimated below the MDA (Rads only).
w Retention time (RT) outside of RT window.
x Field blank contamination.
y Trip blank contamination.
z Method blank contamination.

INTERPRETATION KEY

The following example shows how an analytical result which includes qualifiers assigned by both the URS data review team and the analytical laboratory could be displayed in the data tables:

<5.20 Uz | JB

The qualifier assigned by the URS data review team precedes the "|"; the qualifier assigned by the laboratory follows it. In this example, the result is qualified as a non-detection data to the bias introduced by contamination of the associated method blank. Presence of the analyte in the method blank is indicated by the laboratory qualifier (B). The qualifier assigned by the URS data review team (Uz) indicates that the analyte concentration is considered to be below the adjusted detection limit (quantitation limit) based on the level of contamination in the method blank.