

August 1, 2014

Project No. 073-93368-06.09A

Jerome Cruz
Washington Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008

**RE: SEA-TAC DEVELOPMENT SITE (MASTERPARK LOT C) PERFORMANCE GROUNDWATER
MONITORING REPORT – SECOND QUARTER 2014**

Dear Jerome:

Golder Associates Inc. (Golder) completed performance groundwater monitoring at the Sea-Tac Development Site (MasterPark Lot C) May 28 and 29, 2014. Groundwater sampling was conducted in accordance with the Compliance Monitoring Plan, Sea-Tac Development Site (Golder 2011)¹. Groundwater samples were collected from monitoring wells MW-06, MW-07, MW-09, MW-12, MW-13, MW-17A, MW-18, MW-19, MW-20, MW-21, MW-22, and PORT-MW-B (Figure 1). Monitoring wells MW-07, MW-09, MW-12, MW-13, MW-17A, MW-18, and MW-22 are completed to monitor the approximate groundwater plume boundary. Monitoring wells MW-06, MW-19, MW-20, MW-21, and PORT-MW-B are completed to monitor background concentrations. Static water elevations were collected at all site wells, which also include MW-01, MW-05, MW-08A, MW-10, MW-11, MW-14, MW-15, and MW-16.

1.0 SAMPLING PROTOCOL

Groundwater sampling was conducted in accordance with the Compliance Monitoring Plan, Sea-Tac Development Site (Golder 2011)¹, and included the following activities:

- Measurement of static water elevations at monitoring wells
- Well purging to ensure sample representativeness with the newly installed dedicated submersible bladder pumping systems
- Measurement of field parameters including: pH, specific conductance, temperature, dissolved oxygen, and turbidity
- Collection of all purge water in appropriate containers for on-site storage prior to disposal
- Collection of representative and quality assurance / quality control (QA/QC) samples in appropriate containers
- Analyses of groundwater for volatile organic compounds (VOCs, EPA Method 8260C): ethylene dibromide (EDB), naphthalene, and n-hexane; diesel and motor oil range Northwest Total Petroleum Hydrocarbons (Method NWTPH-D); gasoline range Northwest Total Petroleum Hydrocarbons, benzene, toluene, ethylbenzene, and xylene (NWTPH-Gx/BTEX)

¹Golder Associates Inc. (Golder). 2011. Attachment E: Compliance Monitoring Plan Sea-Tac Development Site, SeaTac Washington. November 2.



The attached Appendix A presents the laboratory analytical reports for all analyses. Sampling activities were documented on Sample Integrity Data Sheets (SIDS), which are provided in Appendix B. Appendix C presents the Data Validation Memorandum. Appendix D provides summary data tables for all sampling events. Table 1 presents water depth measurements and elevations that were collected from wells prior to sampling activities.

2.0 SECOND QUARTER 2014 GROUNDWATER SAMPLING RESULTS

Following sample collection, all bottles were sealed, labeled, and placed in an iced cooler until delivery to the laboratory. All groundwater samples from monitoring wells were transported under chain-of-custody procedures to Analytical Resources Incorporated (ARI), of Tukwila, Washington, for analysis. Upon receipt of laboratory data reports, data underwent a Data Validation Review. Results were compared to State of Washington Model Toxics Control Act (MTCA) Method A or B clean-up levels (CULs) and Secondary Maximum Containment Levels (MCLs), whichever value is more protective.

The analytical results indicate that groundwater conditions have improved significantly from those observed during the historical groundwater monitoring during the remedial investigation and since the startup of the In-situ Air Sparging (IAS)-Soil Vapor Extraction (SVE) system. Table 2 presents the field parameter measurements and laboratory analytical results for each groundwater sample.

Results for NWTPH-Gasoline exceeded the MTCA Method A limit for groundwater when benzene is present (0.8 milligrams per liter [mg/L]) in wells MW-07, MW-09, MW-22, and the field duplicate at MW-22 (MW-22-DUP). NWTPH-Gx was detected but the value was less than the MTCA standard in wells MW-12, MW-13, and MW-18. NWTPH-Gx was non-detect in wells MW-06, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B.

The MTCA standard for benzene (5 micrograms per liter [$\mu\text{g/L}$]) was exceeded in wells MW-07, MW-09, and MW-18. Benzene was detected in MW-12, MW-17A, MW-22, and MW-22-DUP, but was less than the MTCA standard. Benzene was non-detect in wells MW-06, MW-13, MW-19, MW-20, MW-21, and PORT-MW-B.

There were detections of toluene and/or ethylbenzene in wells MW-07, MW-09, MW-12, MW-13, MW-18, MW-19, MW-22, and MW-22-DUP, but the values did not exceed the MTCA standard (640 $\mu\text{g/L}$ for toluene and 700 $\mu\text{g/L}$ for ethylbenzene) except for ethylbenzene in MW-22 and MW-22-DUP. Toluene and ethylbenzene were non-detect in wells MW-06, MW-17A, MW-20, MW-21, and PORT-MW-B.

Results for total xylenes exceeded the MTCA Method A standard (1,000 $\mu\text{g/L}$) in wells MW-07, MW-22, and MW-22-DUP. Xylenes were detected, but below the standard in MW-09, MW-12, MW-13, MW-18, and MW-19 and were non-detect in wells MW-06, MW-17A, MW-20, MW-21, and PORT-MW-B.

Ethylene dibromide (EDB) results were non-detect for all samples. The reporting limits were raised for samples from MW-07 and MW-09 due to high levels of BTEX. More information is provided in the Data Validation Memorandum in Appendix C. The method detection limits (MDLs) for EDB for all samples were greater than the MTCA CULs.

N-hexane was detected, and below the MTCA Method B level (480 $\mu\text{g/L}$) in wells MW-07, MW-09, MW-13, MW-18, MW-19, MW-22, and MW-22-DUP. N-hexane was non-detect in wells MW-06, MW-12, MW-17A, MW-20, MW-21, and PORT-MW-B.

Naphthalene was detected above the MTCA limit (160 $\mu\text{g/L}$) in wells MW-07, MW-22, and MW-22-DUP. Naphthalene was also detected, but below the MTCA limit in wells MW-09, MW-17A, and MW-18. Naphthalene was non-detect in wells MW-06, MW-12, MW-13, MW-19, MW-20, MW-21, and PORT-MW-B.

Results for NWTPH-Diesel were detected above the MTCA Method A limit (0.5 mg/L) in wells MW-07, MW-09, MW-22, and MW-22-DUP. NWTPH-Diesel was detected, but below the MTCA limit in wells MW-12, MW-13, and MW-18. NWTPH-Diesel was non-detect in MW-06, MW-17A, MW-19, MW-20, MW-21, and PORT-MW-B. The highest concentrations of diesel were detected in groundwater from monitoring well MW-07 at 11 mg/L, while all other diesel concentrations were less than 2.3 mg/L or non-detect. Results for NWTPH-Motor Oil were non-detect at less than 0.20 mg/L for all samples.

3.0 DATA QUALITY ASSURANCE /VALIDATION

Data underwent a data validation review and is presented in detail in Appendix C. In general, the data were acceptable, with qualification as estimated (J) applied to the result for naphthalene in the initial analysis of the sample from MW-22 due to a surrogate being out of control high. The result was not reported since it was reanalyzed at a dilution. N-hexane results for the dilution of MW-22-DUP and MW-06 were qualified as estimated (J or UJ) due to continuing calibrations (CCALs) being out of control. Diesel results for samples MW-09, MW-13, MW-18, MW-07, MW-07 (diluted result), MW-12, MW-22, and MW-22-DUP were also qualified as estimated (J) due to unidentifiable hydrocarbons. Results for naphthalene in samples MW-06, MW-21, MW-13, and MW-12 were qualified as non-detect (U) at the limit of quantitation (LOQ) due to method blank contamination. Results for naphthalene in samples MW-17A, and MW-18 were qualified as estimated with a result biased high (J+) due to the method blank contamination. Samples MW-07, MW-22, and MW-22-DUP had to be re-analyzed at a dilution due to high levels of analytes. The diluted results are reported and are detailed in Appendix C. Results for QA/QC samples (field blanks, trip blanks, and field duplicate) were acceptable. No other issues were noted.

4.0 SUMMARY

The analytical results for the second quarter 2014 groundwater sampling indicate that there continues to be significant improvements to the groundwater conditions following the startup of the IAS-SVE system and since the first quarter (February 2014) groundwater sampling event. For the February 2014 sampling, there were 24 results that were greater than the MTCA CULs, compared to only 13 results above the MTCA CULs for the second quarter (May 2014) sampling event. The only on-site wells containing compounds with results above MTCA CULs in May 2014 were MW-07 and MW-09, with the exception of MW-18 containing benzene just above the MTCA CULs at 6.6 µg/L (compared to the 5 µg/L MTCA CUL). MW-07 and MW-09 are located just outside of the zone mostly influenced by the IAS-SVE system and may take longer to respond to the treatment. The only off-site well containing compounds with results above the MTCA CULs in May 2014 was MW-22, although two off-site monitoring wells (MW-15 and MW-16) that had detected contaminants over MTCA CULs during the remedial investigation (RI) are not sampled for performance monitoring. Wells MW-12 and MW-13 showed the greatest drop in concentrations with NWTPH-Gx levels going from 7.5 mg/L and 8.6 mg/L to 0.12 mg/L and 0.13 mg/L, respectively. Benzene in MW-12 and MW-13 went from 30 µg/L and 79 µg/L to 2.0 µg/L and <0.25 µg/L, respectively. Toluene, ethylbenzene, total xylenes, and naphthalene in MW-12 and MW-13 also showed significant decreases in concentrations. The wells inside of the IAS and SVE system area have significant reductions and are almost meeting performance goals. Refer to Appendix D for summary data tables for comparisons with the February 2014 performance monitoring results.

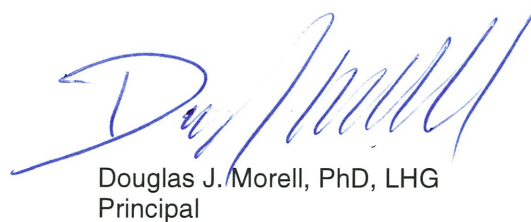
If you have any questions or require any additional information, please contact Douglas Morell at (425) 883-0777.

Sincerely

GOLDER ASSOCIATES INC.



Jill Lamberts
Project Environmental Scientist



Douglas J. Morell, PhD, LHG
Principal

cc: Roger McCracken
Tamarah Knapp-Hancock
Kevin Collette
Doug Rigoni

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JL/DJM/ks

TABLES

Table 1: Second Quarter 2014 Groundwater Elevation Data, Sea-Tac Development Site, SeaTac, Washington

Sample Location ID	Date/Time Sampled	Well Data			Water Levels		
		Total Well Depth (feet bgs)	Screened Interval (feet bgs)	Casing Diameter (inches)	TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)
MW-01 ^b	5/28/2014 16:08	51.0	41-51	2	361.38	48.73	312.65
MW-05 ^b	5/28/2014 8:51	58.0	48-58	2	364.26	53.75	310.51
MW-06 ^c	5/28/2014 8:44	60.0	50-60	2	369.68	-	-
MW-07 ^b	5/28/2014 15:45	53.5	43.5-53.5	2	358.69	47.65	311.04
MW-08A	5/28/2014 15:22	54.0	44-54	2	359.16	48.44	310.72
MW-09 ^b	5/28/2014 9:04	57.0	47.5-57	2	362.13	51.41	310.72
MW-10	5/28/2014 16:17	90.0	80-90	2	360.18	50.02	310.16
MW-11 ^b	5/28/2014 15:38	57.0	42-57	2	357.53	46.52	311.01
MW-12 ^b	5/28/2014 16:40	67.0	52-67	2	364.83	51.58	313.25
MW-13 ^b	5/28/2014 16:32	65.0	50-65	2	365.42	55.62	309.80
MW-14 ^b	5/28/2014 16:24	65.0	50-65	2	363.76	53.1	310.66
MW-15	5/28/2014 11:02	65.0	50-65	2	364.67	53.88	310.79
MW-16	5/28/2014 14:49	73.7	64-74	2	377.63	67.05	310.58
MW-17A ^a	5/28/2014 13:30	95.0	80-95	2	394.00	84	310.00
MW-18 ^b	5/28/2014 15:55	62.0	47-62	2	360.45	49.75	310.70
MW-19	5/28/2014 15:30	58.0	43-58	2	356.61	45.74	310.87
MW-20	5/28/2014 14:35	113.1	103-113	2	416.61	106.66	309.95
MW-21	5/28/2014 14:24	109.8	95-110	2	412.85	102.61	310.24
MW-22	5/28/2014 9:54	95.0	80-95	2	393.31	82.72	310.59
MW-23	5/28/2014 11:20	57.5	42.5-57.5	2	354.94	44.07	310.87
PORT-MW-B ^c	5/28/2014 12:00	99.0	79-99	2	400.00	89.5	310.50

Notes:

- Not measured or not available
- feet bgs Feet below ground surface
- feet bmp Feet below measuring point
- feet msl Feet above mean sea level
- TOC Top of casing inside PVC well
- ^a Well not surveyed, elevation estimated.
- ^b IAS/SVE in operation. Suction may be affecting WLs.
- ^c Top of pump is above water level - not measured.

Table 2: Second Quarter 2014 Groundwater Field Parameters and Analytical Data, Sea-Tac Development Site, SeaTac, Washington

Sample Location ID	Date/Time Sampled ^c	Field Parameters								Analytical Data									
		TOC Elevation (feet msl)	Depth to Water (feet btoc)	Groundwater Elevation (feet msl)	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	NWTPH-Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (ethylene dibromide) (µg/L) ^f	N-hexane (µg/L)	Naphthalene (µg/L)	NWTPH-Diesel (mg/L)	NWTPH-Motor Oil (mg/L)
MW-06 ^j	5/28/2014 16:00	369.7	-	-	6.14	14.3	454.0	1.03	3.71	<0.10	<0.25	<0.25	<0.25	<0.50	<0.07	<0.20 UJ	<0.50	<0.10	<0.20
MW-07 ^b	5/29/2014 16:15	358.7	47.7	311.0	6.65	16.4	379.0	0.13	2.84	27	14	80	190	1811	<1.5	140	210 B	11 J	<0.20
MW-09 ^b	5/29/2014 13:50	362.1	51.4	310.7	6.44	15.0	295.1	0.14	1.01	7.8	32	9.4	170	112	<0.37	5.6	92 B	2.3 J	<0.20
MW-12 ^b	5/29/2014 17:05	364.8	51.6	313.3	7.87	16.7	251.6	11.77	5.99	0.12	2.0	4.3	1.6	4.15	<0.07	<0.20	<0.50	0.34 J	<0.20
MW-13 ^b	5/29/2014 14:40	365.4	55.6	309.8	6.84	14.7	181.8	10.59	4.24	0.14	<0.25	<0.25	0.85	18.5	<0.07	0.11 J	<0.50	0.32	<0.20
MW-17A ^a	5/29/2014 11:30	394.0	84.0	310.0	6.22	12.2	175.4	2.06	39.7	<0.10	0.25	<0.25	<0.25	<0.50	<0.07	<0.20	0.62 J+	<0.10	<0.20
MW-18 ^b	5/29/2014 15:25	360.5	49.8	310.7	7.98	15.2	369.0	10.60	7.95	0.14	6.6	1.5	4.7	9.20	<0.07	0.64	0.84 J+	0.33 J	<0.20
MW-19	5/29/2014 12:50	356.6	45.7	310.9	6.96	13.7	289.7	0.04	0.42	<0.10	<0.25	0.40	<0.25	0.58	<0.07	0.30	<0.50	<0.10	<0.20
MW-20	5/29/2014 10:35	416.6	106.7	310.0	6.73	12.3	256.5	6.37	0.82	<0.10	<0.25	<0.25	<0.25	<0.50	<0.07	<0.20	<0.50	<0.10	<0.20
MW-21	5/29/2014 9:45	412.9	102.6	310.2	6.15	12.5	276.9	6.28	1.71	<0.10	<0.25	<0.25	<0.25	<0.50	<0.07	<0.20	<0.50	<0.10	<0.20
MW-22	5/28/2014 10:40	393.3	82.7	310.6	6.73	13.2	383.0	0.3	2.26	18	3.9	9.7	940	1900	<0.07	8.6	420 B	1.7 J	<0.20
MW-22 Duplicate	5/28/2014 10:45	-	-	-	-	-	-	-	-	18	4.0	9.5	910	1900	<0.07	8.3	400 B	2 J	<0.20
PORT-MW-B ^a	5/28/2014 12:45	400.0	89.5	310.5	6.50	14.2	317.0	4.63	98.3	<0.10	<0.25	<0.25	<0.25	<0.50	<0.07	<0.20	<0.50	<0.10	<0.20
Clean-up Level		MTCA Method A for Groundwater (unrestricted landuse)								0.8 ^d /1.0 ^e	5 ^g	1000 ^g	700 ^g	1000 ^h	0.01 ^h	NSA	160	0.5	0.5
		MTCA Method B for Groundwater (unrestricted landuse)								NSA	5 ⁱ	640	800	1600	0.022	480	160	NSA	NSA

- Notes:
- feet bgs

Feet below ground surface

-

Not measured or not available
- feet bmp

Feet below measuring point

Result exceeds Clean-up Level (CUL)
- feet msl

Feet above mean sea level

mg/L

Milligrams per liter
- ^a

Well not surveyed, elevation estimated.

µg/L

Micrograms per liter
- ^b

IAS/SVE in operation. Suction may be affecting WLs.

NTU

Nephelometric Turbidity Unit
- ^c

Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time.

µmhos/cm

Micromhos per centimeter
- ^d

When benzene is present.

<

Analyte not detected above the reporting limit shown
- ^e

When benzene is not present.

MTCA

Model Toxics Control Act
- ^f

Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs.

MCL

Maximum Containment Level
- ^g

Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs

NSA

No Standard Available
- ^h

Value is more protective than Federal MCLs.

TOC

Top of casing inside PVC well
- ⁱ

MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws.

°C

Degrees Celsius
- ^j

Top of pump is above water level - not measured.

J

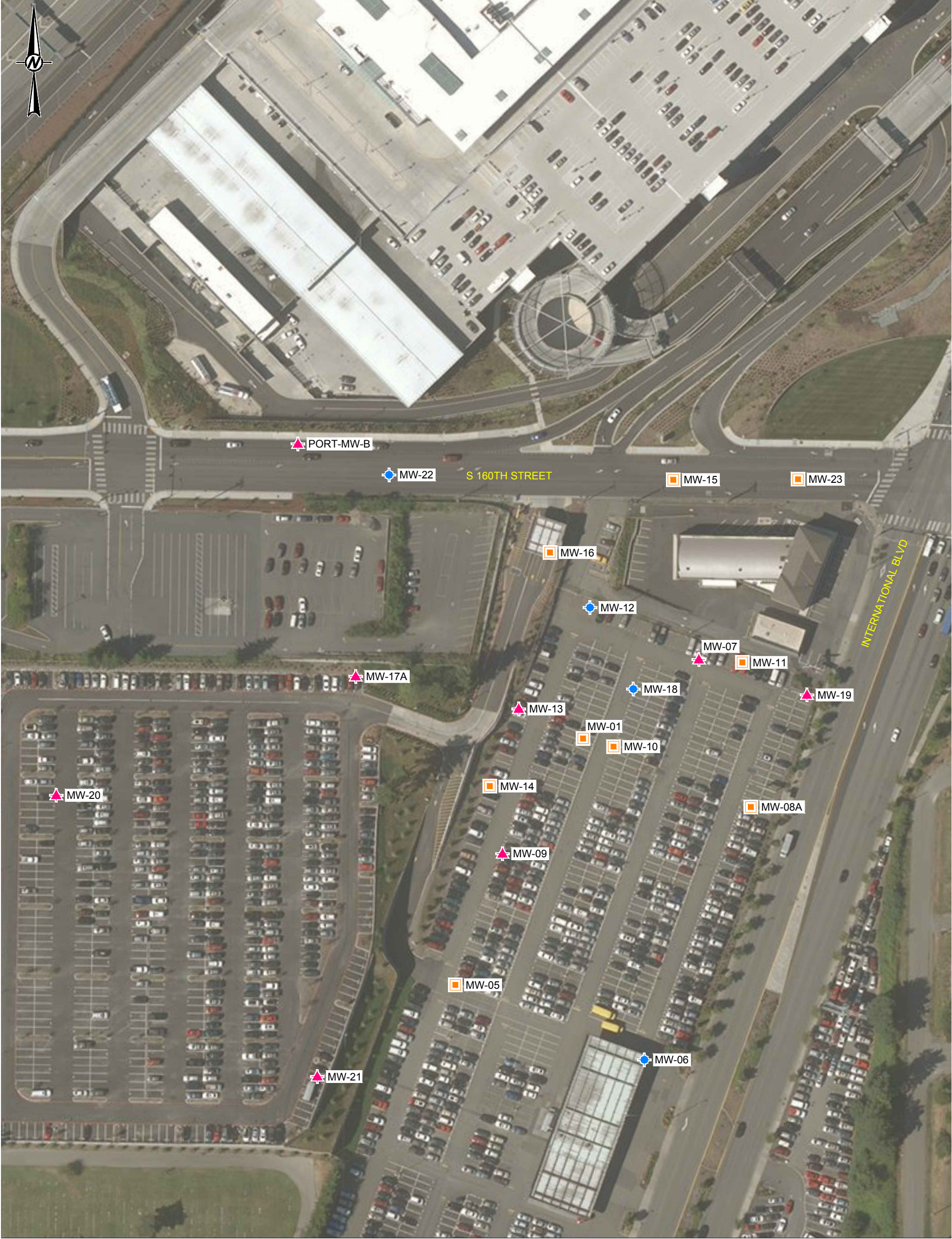
The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
- UJ

The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
- J+

The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.
- B

Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the

FIGURE



NOT FOR CONSTRUCTION

LEGEND

MW-14

MONITORING WELL - GROUNDWATER ELEVATIONS MEASURED

MW-09

MONITORING WELL - COMPLIANCE

MW-01

MONITORING WELL - NATURAL ATTENUATION

NOTES

1. MONITORING WELL LOCATIONS ARE APPROXIMATE.

REFERENCE

IMAGE COURTESY OF USGS EARTHSTAR GEOGRAPHICS

CLIENT
RIDDELL-WILLIAMS

CONSULTANT



YYYY-MM-DD	2014-04-01
PREPARED	REDMOND
DESIGN	JL
REVIEW	DM
APPROVED	

PROJECT
SEATAC DEVELOPMENT SITE
MASTER PARK LOT C

TITLE
GROUNDWATER MONITORING LOCATIONS

PROJECT No.	U+0000	Rev.	FIGURE
073-93368x06.09A		B	1

APPENDIX A
LABORATORY ANALYTICAL RESULTS



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 12, 2014

Mr. Doug Morell
Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, WA 98052

Re: Project: MasterPark Lot C
ARI Job No.: YL76

Dear Doug:

Please find enclosed Chain-of-Custody record (COC), sample receipt documentation, and the final results for the project referenced above. Analytical Resources, Inc. (ARI) accepted four water samples and trip blanks on May 28, 2014. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The samples were analyzed NWTPH-Dx, NWTPH-Gx/BETX, and VOCs, as requested on the COC. Quality control analyses have been included for your review.

The VOCs method blanks contained naphthalene. All associated samples that contain analyte have been flagged with a "B" qualifier.

The 6/11/14 VOCs CCAL is out of control low for hexane. All associated samples that contain analyte have been flagged with a "Q" qualifier.

The VOCs surrogate DCE is out of control high for MPLOT-MW-22-052814. The sample was re-analyzed at a dilution with surrogate recoveries in control.

There were no other anomalies associated with the analyses.

An electronic copy of this report and all associated raw data will remain electronically on file at ARI. Please feel free to contact me if you have any questions or require any additional information.

Respectfully,
ANALYTICAL RESOURCES, INC.



Kelly Bottom
Client Services Manager
(206) 695-6211
kellyb@arilabs.com

Chain of Custody Record & Laboratory Analysis Request

* Please analyze under existing MSA b7Cw folder # MKL

ARI Assigned Number: 976	Turn-around Requested: Standard
ARI Client Company: Golder Associates	Phone: 425 883 0777
Client Contact: Douglas Morell, Jill Lamberts	
Client Project Name: Master Park Lot C	
Client Project #: 07393368-06+09A	Samplers: Jill Lamberts

Page: 1 of 1	
Date: 5/28/2014	Ice Present? Y
No. of Coolers: 1	Cooler Temps: 4.6



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No Containers	Analysis Requested						Notes/Comments
					AWTPH-Gx BTEX	EDB * Report to * MDL	N-hexane	Naphthalene	NWTPH-Ox		
Trip Blank	5/28/14	—	W	3	X	X	X	X			
MPLOT-C-MW-22-052814	↓	1040	W	7	X	X	X	X	X		
MPLOT-C-MW-22-DUP-052814		1045	W	7	X	X	X	X	X		
MPLOT-C-MW-6-052814		1600	W	7	X	X	X	X	X		
PORT-MW-B-052814		1245	W	7	X	X	X	X	X		
Comments/Special Instructions *Ecology E/m EDD. Pls cc jlamberts@golder.com dmorell@golder.com	Relinquished by: (Signature) <i>Jill Lamberts</i> Printed Name: Jill Lamberts Company: Golder Date & Time: 5/28/14 1714		Received by: (Signature) <i>Jennifer Mittsop</i> Printed Name: Jennifer Mittsop Company: ARI Date & Time: 5/28/14 1714		Relinquished by: (Signature) _____ Printed Name: _____ Company: _____ Date & Time: _____		Received by: (Signature) _____ Printed Name: _____ Company: _____ Date & Time: _____				

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

976-000002



Cooler Receipt Form

ARI Client: Golder

Project Name: Master Park Lot C

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: YL76

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? _____

YES (NO)

Were custody papers included with the cooler? _____

YES (NO)

Were custody papers properly filled out (ink, signed, etc.) _____

YES (NO)

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: _____

4.6

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID# 90877952

Cooler Accepted by: JM

Date: 5/28/14

Time: 1714

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____ YES (NO)

What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? _____ NA YES (NO)

Were all bottles sealed in individual plastic bags? _____ YES (NO)

Did all bottles arrive in good condition (unbroken)? _____ YES (NO)

Were all bottle labels complete and legible? _____ YES (NO)

Did the number of containers listed on COC match with the number of containers received? _____ YES (NO)

Did all bottle labels and tags agree with custody papers? _____ YES (NO)

Were all bottles used correct for the requested analyses? _____ YES (NO)

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... (NA) YES (NO)

Were all VOC vials free of air bubbles? ... NA YES (NO)

Was sufficient amount of sample sent in each bottle? _____ YES (NO)

Date VOC Trip Blank was made at ARI... _____ NA 5-17-14

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment _____ Split by: _____

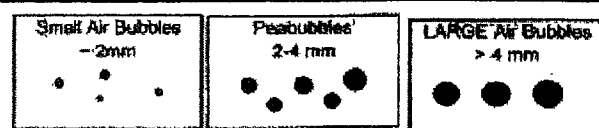
Samples Logged by: JS Date: 5-29-14 Time: 944

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report



ARI Job No: YL76
Client: Golder Associates
Project Event: 073-93368-06-09A
Project Name: Master Park Lot C

Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1. MPLOT-MW-22-052814	YL76A	14-10327	Water	05/28/14 10:40	05/28/14 17:14
2. MPLOT-MW-22-DUP-052814	YL76B	14-10328	Water	05/28/14 10:45	05/28/14 17:14
3. MPLOT-MW-6-052814	YL76C	14-10329	Water	05/28/14 16:00	05/28/14 17:14
4. PORT-MW-B-052814	YL76D	14-10330	Water	05/28/14 12:45	05/28/14 17:14
5. Trip Blanks	YL76E	14-10331	Water	05/28/14	05/28/14 17:14


**ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS**

 NWTPHD by GC/FID
 Extraction Method: SW3510C
 Page 1 of 1

 QC Report No: YL76-Golder Associates
 Project: Master Park Lot C
 073-93368-06-09A

Matrix: Water

Date Received: 05/28/14

 Data Release Authorized: 
 Reported: 06/09/14

ARI ID	Sample ID	Analysis Date	DF	Range	Result	RL	MDL
MB-053014 14-10327	Method Blank	06/02/14 FID9	1.0	Diesel Range	< 0.10 U	0.10	0.02
				Motor Oil Range	< 0.20 U	0.20	0.04
				HC ID	---		
				o-Terphenyl	82.8%		
YL76A 14-10327	MPLOT-MW-22-052814	06/02/14 FID9	1.0	Diesel	1.7	0.10	0.02
				Motor Oil	< 0.20 U	0.20	0.04
				HC ID	DRO		
				o-Terphenyl	80.5%		
YL76B 14-10328	MPLOT-MW-22-DUP-052814	06/02/14 FID9	1.0	Diesel	2.0	0.10	0.02
				Motor Oil	< 0.20 U	0.20	0.04
				HC ID	DRO		
				o-Terphenyl	84.6%		
YL76C 14-10329	MPLOT-MW-6-052814	06/02/14 FID9	1.0	Diesel	< 0.10 U	0.10	0.02
				Motor Oil	< 0.20 U	0.20	0.04
				HC ID	---		
				o-Terphenyl	92.5%		
YL76D 14-10330	PORT-MW-B-052814	06/02/14 FID9	1.0	Diesel	< 0.10 U	0.10	0.02
				Motor Oil	< 0.20 U	0.20	0.04
				HC ID	---		
				o-Terphenyl	88.1%		

Reported in mg/L (ppm)

Diesel quantitation on total peaks in the range from C12 to C24.
 Motor Oil quantitation on total peaks in the range from C24 to C38.
 HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in
 ranges are not identifiable.

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YL76-Golder Associates
Project: Master Park Lot C
073-93368-06-09A

<u>Client ID</u>	<u>OTER</u>	<u>TOT OUT</u>
MB-053014	82.8%	0
LCS-053014	87.7%	0
LCSD-053014	93.3%	0
MPLOT-MW-22-052814	80.5%	0
MPLOT-MW-22-DUP-052814	84.6%	0
MPLOT-MW-6-052814	92.5%	0
PORT-MW-B-052814	88.1%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(50-150)	(50-150)

Prep Method: SW3510C
Log Number Range: 14-10327 to 14-10330

ORGANICS ANALYSIS DATA SHEET

NWTPHD by GC/FID

Page 1 of 1

Sample ID: LCS-053014

LCS/LCSD

Lab Sample ID: LCS-053014

LIMS ID: 14-10327

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/09/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 05/30/14

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 06/02/14 17:02

Final Extract Volume LCS: 1.0 mL

LCSD: 06/02/14 17:23

LCSD: 1.0 mL

Instrument/Analyst LCS: FID9/JLW

Dilution Factor LCS: 1.00

LCSD: FID9/JLW

LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	2.72	3.00	90.7%	2.86	3.00	95.3%	5.0%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	87.7%	93.3%

Results reported in mg/L

RPD calculated using sample concentrations per SW846.

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water
 Date Received: 05/28/14
 ARI Job: YL76
 Project: Master Park Lot C
 073-93368-06-09A

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
14-10327-053014MB1	Method Blank	500 mL	1.00 mL	05/30/14
14-10327-053014LCS1	Lab Control	500 mL	1.00 mL	05/30/14
14-10327-053014LCSD1	Lab Control Dup	500 mL	1.00 mL	05/30/14
14-10327-YL76A	MPLOT-MW-22-052814	500 mL	1.00 mL	05/30/14
14-10328-YL76B	MPLOT-MW-22-DUP-052814	500 mL	1.00 mL	05/30/14
14-10329-YL76C	MPLOT-MW-6-052814	500 mL	1.00 mL	05/30/14
14-10330-YL76D	PORT-MW-B-052814	500 mL	1.00 mL	05/30/14

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
 Page 1 of 1

Sample ID: MPLOTG-MW-22-052814
SAMPLE

Lab Sample ID: YL76A
 LIMS ID: 14-10327
 Matrix: Water
 Data Release Authorized: *AS*
 Reported: 06/05/14

QC Report No: YL76-Golder Associates
 Project: Master Park Lot C
 Event: 073-93368-06-09A
 Date Sampled: 05/28/14
 Date Received: 05/28/14

Date Analyzed: 06/04/14 14:47
 Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
 Dilution Factor: 10.0

CAS Number	Analyte	DL	LOQ	Result
71-43-2	Benzene	0.28	2.5	3.9
108-88-3	Toluene	0.14	2.5	9.7
100-41-4	Ethylbenzene	0.28	2.5	940
179601-23-1	m,p-Xylene	0.22	5.0	1,900
95-47-6	o-Xylene	0.27	2.5	< 2.5 U

Gasoline Range Hydrocarbons	0.57	1.0	18	GAS ID
				GAS

BETX Surrogate Recovery

Trifluorotoluene	92.2%
Bromobenzene	92.8%

Gasoline Surrogate Recovery

Trifluorotoluene	90.7%
Bromobenzene	90.3%

BETX values reported in µg/L (ppb)
 Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
 GRO: Positive result that does not match an identifiable gasoline pattern.
 Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

TPHG by Method NWTPHG

Page 1 of 1

Sample ID: MPLOTG-MW-22-DUP-052814
SAMPLE

Lab Sample ID: YL76B

LIMS ID: 14-10328

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/05/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Date Analyzed: 06/04/14 15:17

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 10.0

CAS Number	Analyte	DL	LOQ	Result
71-43-2	Benzene	0.28	2.5	4.0
108-88-3	Toluene	0.14	2.5	9.5
100-41-4	Ethylbenzene	0.28	2.5	910
179601-23-1	m,p-Xylene	0.22	5.0	1,900
95-47-6	o-Xylene	0.27	2.5	< 2.5 U

Gasoline Range Hydrocarbons	0.57	1.0	18	GAS ID
				GAS

BETX Surrogate Recovery

Trifluorotoluene	92.8%
Bromobenzene	95.2%

Gasoline Surrogate Recovery

Trifluorotoluene	91.0%
Bromobenzene	92.1%

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

TPHG by Method NWTPHG

Page 1 of 1

Sample ID: MPLOTG-MW-6-052814

SAMPLE

Lab Sample ID: YL76C

LIMS ID: 14-10329

Matrix: Water

Data Release Authorized: *M*

Reported: 06/05/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Date Analyzed: 06/04/14 15:46

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

CAS Number	Analyte	DL	LOQ	Result
71-43-2	Benzene	0.028	0.25	< 0.25 U
108-88-3	Toluene	0.014	0.25	< 0.25 U
100-41-4	Ethylbenzene	0.028	0.25	< 0.25 U
179601-23-1	m,p-Xylene	0.022	0.50	< 0.50 U
95-47-6	o-Xylene	0.027	0.25	< 0.25 U

Gasoline Range Hydrocarbons	0.057	0.10	< 0.10 U	GAS ID ---
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BETX Surrogate Recovery

Trifluorotoluene	94.9%
Bromobenzene	94.5%

Gasoline Surrogate Recovery

Trifluorotoluene	93.7%
Bromobenzene	92.7%

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1



Sample ID: PORT-MW-B-052814
SAMPLE

Lab Sample ID: YL76D

LIMS ID: 14-10330

Matrix: Water

Data Release Authorized: *A*

Reported: 06/05/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Date Analyzed: 06/04/14 16:15

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

CAS Number	Analyte	DL	LOQ	Result
71-43-2	Benzene	0.028	0.25	< 0.25 U
108-88-3	Toluene	0.014	0.25	< 0.25 U
100-41-4	Ethylbenzene	0.028	0.25	< 0.25 U
179601-23-1	m,p-Xylene	0.022	0.50	< 0.50 U
95-47-6	o-Xylene	0.027	0.25	< 0.25 U

Gasoline Range Hydrocarbons	0.057	0.10	< 0.10 U	GAS ID ---
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BETX Surrogate Recovery

Trifluorotoluene	96.6%
Bromobenzene	94.7%

Gasoline Surrogate Recovery

Trifluorotoluene	94.8%
Bromobenzene	93.5%

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
 Page 1 of 1

Sample ID: Trip Blanks
SAMPLE

Lab Sample ID: YL76E
 LIMS ID: 14-10331
 Matrix: Water
 Data Release Authorized: *[Signature]*
 Reported: 06/05/14

QC Report No: YL76-Golder Associates
 Project: Master Park Lot C
 Event: 073-93368-06-09A
 Date Sampled: 05/28/14
 Date Received: 05/28/14

Date Analyzed: 06/04/14 13:49
 Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
 Dilution Factor: 1.00

CAS Number	Analyte	DL	LOQ	Result
71-43-2	Benzene	0.028	0.25	< 0.25 U
108-88-3	Toluene	0.014	0.25	< 0.25 U
100-41-4	Ethylbenzene	0.028	0.25	< 0.25 U
179601-23-1	m,p-Xylene	0.022	0.50	< 0.50 U
95-47-6	o-Xylene	0.027	0.25	< 0.25 U

Gasoline Range Hydrocarbons	0.057	0.10	< 0.10 U	GAS ID ---
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BETX Surrogate Recovery

Trifluorotoluene	96.3%
Bromobenzene	92.6%

Gasoline Surrogate Recovery

Trifluorotoluene	92.6%
Bromobenzene	91.2%

BETX values reported in µg/L (ppb)
 Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
 GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: YL76
Matrix: Water

QC Report No: YL76-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A

Client ID	TFT	BBZ	TOT OUT
MB-060414	91.9%	92.0%	0
LCS-060414	93.3%	93.0%	0
LCSD-060414	93.3%	93.5%	0
MPLOT-MW-22-05281	92.2%	92.8%	0
MPLOT-MW-22-DUP-0	92.8%	95.2%	0
MPLOT-MW-6-052814	94.9%	94.5%	0
PORT-MW-B-052814	96.6%	94.7%	0
Trip Blanks	96.3%	92.6%	0

		LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(5 mL PV)	(80-120)	(80-120)
(TFT) = Trifluorotoluene	(15 mL PV)	(79-120)	(80-120)
(BBZ) = Bromobenzene	(5 mL PV)	(80-120)	(77-120)
(BBZ) = Bromobenzene	(15 mL PV)	(79-120)	(80-120)

Log Number Range: 14-10327 to 14-10331

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: YL76
Matrix: Water

QC Report No: YL76-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A


Client ID	TFT	BBZ	TOT OUT
MB-060414	90.3%	90.2%	0
LCS-060414	91.7%	91.2%	0
LCSD-060414	91.2%	91.2%	0
MPLOT-MW-22-05281	90.7%	90.3%	0
MPLOT-MW-22-DUP-0	91.0%	92.1%	0
MPLOT-MW-6-052814	93.7%	92.7%	0
PORT-MW-B-052814	94.8%	93.5%	0
Trip Blanks	92.6%	91.2%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-120)	(80-120)
(BBZ) = Bromobenzene	(80-120)	(80-120)

Log Number Range: 14-10327 to 14-10331

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
 Page 1 of 1

Sample ID: MB-060414
METHOD BLANK

Lab Sample ID: MB-060414
 LIMS ID: 14-10327
 Matrix: Water
 Data Release Authorized: 
 Reported: 06/05/14

QC Report No: YL76-Golder Associates
 Project: Master Park Lot C
 Event: 073-93368-06-09A
 Date Sampled: NA
 Date Received: NA

Date Analyzed: 06/04/14 12:41
 Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
 Dilution Factor: 1.00

CAS Number	Analyte	DL	LOQ	Result
71-43-2	Benzene	0.028	0.25	< 0.25 U
108-88-3	Toluene	0.014	0.25	< 0.25 U
100-41-4	Ethylbenzene	0.028	0.25	< 0.25 U
179601-23-1	m,p-Xylene	0.022	0.50	< 0.50 U
95-47-6	o-Xylene	0.027	0.25	< 0.25 U

Gasoline Range Hydrocarbons	0.57	0.10	< 0.10 U	GAS ID ---
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BETX Surrogate Recovery

Trifluorotoluene	91.9%
Bromobenzene	92.0%

Gasoline Surrogate Recovery

Trifluorotoluene	90.3%
Bromobenzene	90.2%

BETX values reported in µg/L (ppb)
 Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
 GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: LCS-060414

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060414

LIMS ID: 14-10327

Matrix: Water

Data Release Authorized: *B*

Reported: 06/05/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 06/04/14 11:43

Purge Volume: 5.0 mL

LCSD: 06/04/14 12:12

Instrument/Analyst LCS: PID1/PKC

Dilution Factor LCS: 1.0

LCSD: PID1/PKC

LCSD: 1.0

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzene	8.00	7.00	114%	7.89	7.00	113%	1.4%
Toluene	59.2	49.4	120%	58.8	49.4	119%	0.7%
Ethylbenzene	14.0	12.3	114%	13.9	12.3	113%	0.7%
m,p-Xylene	46.3	40.0	116%	45.4	40.0	114%	2.0%
o-Xylene	17.8	15.3	116%	17.5	15.3	114%	1.7%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	93.3%	93.3%
Bromobenzene	93.0%	93.5%

ORGANICS ANALYSIS DATA SHEET

TPHG by Method NWTPHG

Page 1 of 1

Sample ID: LCS-060414

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060414

LIMS ID: 14-10327

Matrix: Water

Data Release Authorized: *AB*

Reported: 06/05/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 06/04/14 11:43

Purge Volume: 5.0 mL

LCSD: 06/04/14 12:12

Instrument/Analyst LCS: PID1/PKC

Dilution Factor LCS: 1.0

LCSD: PID1/PKC

LCSD: 1.0

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	1.04	1.00	104%	0.99	1.00	99.0%	4.9%

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	91.7%	91.2%
Bromobenzene	91.2%	91.2%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1



Sample ID: MPLOTG-MW-22-052814

SAMPLE

Lab Sample ID: YL76A

LIMS ID: 14-10327

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Instrument/Analyst: NT2/LH

Date Analyzed: 05/29/14 18:54

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	200 E
110-54-3	Hexane	0.10	0.20	8.6

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	137%
d8-Toluene	106%
Bromofluorobenzene	98.6%
d4-1,2-Dichlorobenzene	86.4%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MPL0TC-MW-22-052814

Page 1 of 1

DILUTION

Lab Sample ID: YL76A


QC Report No: YL76-Golder Associates

LIMS ID: 14-10327

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: 

Date Sampled: 05/28/14

Reported: 06/12/14

Date Received: 05/28/14

Instrument/Analyst: NT2/PAB

Sample Amount: 0.50 mL

Date Analyzed: 06/10/14 19:15

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	1.5	4.0	< 4.0 U
91-20-3	Naphthalene	2.4	10	420 B
110-54-3	Hexane	1.9	4.0	6.8

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	96.0%
d8-Toluene	95.7%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	101%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED


Sample ID: MPLOTG-MW-22-DUP-052814

SAMPLE

Lab Sample ID: YL76B

LIMS ID: 14-10328

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Instrument/Analyst: NT2/LH

Date Analyzed: 05/29/14 19:21

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	210 E
110-54-3	Hexane	0.10	0.20	8.3

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	127%
d8-Toluene	108%
Bromofluorobenzene	104%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOTG-MW-22-DUP-052814

DILUTION

Lab Sample ID: YL76B

LIMS ID: 14-10328

Matrix: Water

Data Release Authorized: *AS*

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/11/14 11:17

Sample Amount: 0.50 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	1.5	4.0	< 4.0 U
91-20-3	Naphthalene	2.4	10	400 B
110-54-3	Hexane	1.9	4.0	6.0 Q

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	94.4%
d8-Toluene	97.1%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MPL0TC-MW-6-052814

Page 1 of 1

SAMPLE

Lab Sample ID: YL76C

QC Report No: YL76-Golder Associates

LIMS ID: 14-10329

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: *JB*

Date Sampled: 05/28/14

Reported: 06/12/14

Date Received: 05/28/14

Instrument/Analyst: NT2/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/11/14 11:44

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	0.32 JB
110-54-3	Hexane	0.10	0.20	< 0.20 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	100%
Bromofluorobenzene	91.5%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED


Sample ID: PORT-MW-B-052814

SAMPLE

Lab Sample ID: YL76D

LIMS ID: 14-10330

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/28/14

Date Received: 05/28/14

Instrument/Analyst: NT2/LH

Date Analyzed: 05/29/14 20:15

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	< 0.50 U
110-54-3	Hexane	0.10	0.20	< 0.20 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	99.7%
d8-Toluene	99.1%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	103%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: Trip Blanks
SAMPLE

Page 1 of 1

Lab Sample ID: YL76E


QC Report No: YL76-Golder Associates

LIMS ID: 14-10331

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: 

Date Sampled: 05/28/14

Reported: 06/12/14

Date Received: 05/28/14

Instrument/Analyst: NT2/LH

Sample Amount: 10.0 mL

Date Analyzed: 05/29/14 18:01

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	< 0.50 U
110-54-3	Hexane	0.10	0.20	< 0.20 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	99.2%
Bromofluorobenzene	94.0%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1




Sample ID: MB-052914A

METHOD BLANK

Lab Sample ID: MB-052914A

LIMS ID: 14-10330

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT2/LH

Date Analyzed: 05/29/14 17:34

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	< 0.50 U
110-54-3	Hexane	0.10	0.20	< 0.20 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	99.9%
Bromofluorobenzene	92.0%
d4-1,2-Dichlorobenzene	104%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MB-061014A

Page 1 of 1

METHOD BLANK

Lab Sample ID: MB-061014A


QC Report No: YL76-Golder Associates

LIMS ID: 14-10327

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: 

Date Sampled: NA

Reported: 06/12/14

Date Received: NA

Instrument/Analyst: NT2/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/10/14 17:02

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	0.14 J
110-54-3	Hexane	0.10	0.20	< 0.20 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	98.3%
Bromofluorobenzene	96.6%
d4-1,2-Dichlorobenzene	101%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

Sample ID: MB-061114A

METHOD BLANK

Lab Sample ID: MB-061114A

LIMS ID: 14-10328

Matrix: Water

Data Release Authorized: *AB*

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/11/14 10:44

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

CAS Number	Analyte	DL	LOQ	Result
106-93-4	1,2-Dibromoethane	0.07	0.20	< 0.20 U
91-20-3	Naphthalene	0.12	0.50	0.15 J
110-54-3	Hexane	0.10	0.20	< 0.20 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	99.1%
Bromofluorobenzene	91.2%
d4-1,2-Dichlorobenzene	99.1%

VOA SURROGATE RECOVERY SUMMARY



Matrix: Water

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-061014A	Method Blank	10	102%	98.3%	96.6%	101%	0
LCS-061014A	Lab Control	10	97.9%	95.4%	103%	97.6%	0
LCSD-061014A	Lab Control Dup	10	97.0%	99.5%	99.6%	96.2%	0
YL76A	MPLOT-MW-22-052814	10	137%*	106%	98.6%	86.4%	1
YL76ADL	MPLOT-MW-22-052814	10	96.0%	95.7%	102%	101%	0
MB-061114A	Method Blank	10	100%	99.1%	91.2%	99.1%	0
LCS-061114A	Lab Control	10	90.4%	99.2%	104%	98.1%	0
LCSD-061114A	Lab Control Dup	10	106%	96.7%	100%	98.0%	0
YL76B	MPLOT-MW-22-DUP-052814	10	127%	108%	104%	104%	0
YL76BDL	MPLOT-MW-22-DUP-052814	10	94.4%	97.1%	100%	102%	0
YL76C	MPLOT-MW-6-052814	10	103%	100%	91.5%	104%	0
MB-052914A	Method Blank	10	105%	99.9%	92.0%	104%	0
LCS-052914A	Lab Control	10	97.6%	104%	94.3%	101%	0
LCSD-052914A	Lab Control Dup	10	99.5%	102%	94.3%	101%	0
YL76D	PORT-MW-B-052814	10	99.7%	99.1%	100%	103%	0
YL76E	Trip Blanks	10	106%	99.2%	94.0%	104%	0

LCS/MB LIMITS

QC LIMITS

SW8260C

(DCE) = d4-1,2-Dichloroethane
 (TOL) = d8-Toluene
 (BFB) = Bromofluorobenzene
 (DCB) = d4-1,2-Dichlorobenzene

(80-120)
 (80-120)
 (80-120)
 (80-120)

(80-130)
 (80-120)
 (80-120)
 (80-120)

Prep Method: SW5030B

Log Number Range: 14-10327 to 14-10331

YL76 : 00025

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

Sample ID: LCS-052914A

LAB CONTROL SAMPLE

Lab Sample ID: LCS-052914A

LIMS ID: 14-10330

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT2/LH

LCSD: NT2/LH

Date Analyzed LCS: 05/29/14 16:41

LCSD: 05/29/14 17:08

Sample Amount LCS: 10.0 mL

LCSD: 10.0 mL

Purge Volume LCS: 10.0 mL

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,2-Dibromoethane	10.1	10.0	101%	9.74	10.0	97.4%	3.6%
Naphthalene	9.00	10.0	90.0%	8.96	10.0	89.6%	0.4%
Hexane	8.16	10.0	81.6%	8.59	10.0	85.9%	5.1%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	97.6%	99.5%
d8-Toluene	104%	102%
Bromofluorobenzene	94.3%	94.3%
d4-1,2-Dichlorobenzene	101%	101%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-061014A

Page 1 of 1

LAB CONTROL SAMPLE

Lab Sample ID: LCS-061014A

LIMS ID: 14-10327

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/12/14

QC Report No: YL76-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Instrument/Analyst LCS: NT2/PAB

LCSD: NT2/PAB

Date Analyzed LCS: 06/10/14 16:09

LCSD: 06/10/14 16:35

Sample Amount LCS: 10.0 mL

LCSD: 10.0 mL

Purge Volume LCS: 10.0 mL

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,2-Dibromoethane	9.26	10.0	92.6%	9.95	10.0	99.5%	7.2%
Naphthalene	9.39 B	10.0	93.9%	9.36 B	10.0	93.6%	0.3%
Hexane	8.16	10.0	81.6%	8.49	10.0	84.9%	4.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	97.9%	97.0%
d8-Toluene	95.4%	99.5%
Bromofluorobenzene	103%	99.6%
d4-1,2-Dichlorobenzene	97.6%	96.2%

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-061114A

Page 1 of 1

LAB CONTROL SAMPLE

Lab Sample ID: LCS-061114A

QC Report No: YL76-Golder Associates

LIMS ID: 14-10328

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: *AB*

Date Sampled: NA

Reported: 06/12/14

Date Received: NA

Instrument/Analyst LCS: NT2/PAB

Sample Amount LCS: 10.0 mL

LCSD: NT2/PAB

LCSD: 10.0 mL

Date Analyzed LCS: 06/11/14 09:50

Purge Volume LCS: 10.0 mL

LCSD: 06/11/14 10:17

LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,2-Dibromoethane	9.12	10.0	91.2%	9.49	10.0	94.9%	4.0%
Naphthalene	8.74 B	10.0	87.4%	9.58 B	10.0	95.8%	9.2%
Hexane	8.73 Q	10.0	87.3%	8.66 Q	10.0	86.6%	0.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	90.4%	106%
d8-Toluene	99.2%	96.7%
Bromofluorobenzene	104%	100%
d4-1,2-Dichlorobenzene	98.1%	98.0%



Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 12, 2014

Mr. Doug Morell
Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, WA 98052

Re: Project: MasterPark Lot C
ARI Job No.: YL92

Dear Doug:

Please find enclosed Chain-of-Custody record (COC), sample receipt documentation, and the final results for the project referenced above. Analytical Resources, Inc. (ARI) accepted ten water samples and trip blanks on May 29, 2014. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The samples were analyzed NWTPH-Dx, NWTPH-Gx/BETX, and VOCs, as requested on the COC. Quality control analyses have been included for your review.

The VOCs method blanks contained naphthalene. All associated samples that contain analyte have been flagged with a "B" qualifier.

The BTEX matrix spike and matrix spike duplicate are out of control high for several compounds in association with sample MPLOT-MW-17A-052914.

There were no other anomalies associated with the analyses.

An electronic copy of this report and all associated raw data will remain electronically on file at ARI. Please feel free to contact me if you have any questions or require any additional information.

Respectfully,
ANALYTICAL RESOURCES, INC.


Kelly Bottem
Client Services Manager
(206) 695-6211
kellyb@arilabs.com

Chain of Custody Record & Laboratory Analysis Request

* Please analyze under existing MSA from Olander + ATK L

ARI Assigned Number: <i>yL92</i>	Turn-around Requested: <i>Standard</i>
ARI Client Company: <i>Golder Associates</i>	Phone: <i>425 883 0777</i>
Client Contact: <i>Douglas Morell, Jill Lamberts</i>	
Client Project Name: <i>Masterpunk lot C</i>	
Client Project #: <i>073-93368-0609A</i>	Samplers: <i>Lamberts</i>

Page: <i>1</i>	of <i>2</i>
Date: <i>5/29/14</i>	Ice Present? <i>Y</i>
No. of Coolers: <i>2</i>	Cooler Temps: <i>59.4.8</i>



Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested							Notes/Comments
					NWTPH-Gx BTEX	EDB * Report to MDL*	N-hexane	Naphthalene	NWTPH-Dx			
<i>Trip Blank</i>	<i>5/29/14</i>	<i>—</i>	<i>DI</i>	<i>4</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>MPLOT-C-MW-21-052914</i>		<i>0945</i>	<i>W</i>	<i>87</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-MW-20-052914</i>		<i>1035</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-MW-17A-052914</i>		<i>1130</i>	<i>W</i>	<i>21</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			<i>MS/MSD</i>
<i>MPLOT-C-MW-9-052914</i>		<i>1350</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-MW-19-052914</i>		<i>1250</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-MW-13-052914</i>		<i>1440</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-MW-18-052914</i>		<i>1525</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-MW-7-052914</i>		<i>1615</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
<i>MPLOT-C-FB-052914</i>		<i>1540</i>	<i>W</i>	<i>7</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>			
Comments/Special Instructions <i>Ecology EIM EDD</i> <i>Pls cc. jlamberts@golder.com</i> <i>dmorell@golder.com</i>	Relinquished by (Signature) <i>Jill Lamberts</i>		Received by (Signature) <i>A. Volgardsen</i>		Relinquished by (Signature)		Received by (Signature)					
	Printed Name: <i>J. Lamberts</i>		Printed Name: <i>A. Volgardsen</i>		Printed Name		Printed Name					
	Company: <i>Golder</i>		Company: <i>ARI</i>		Company:		Company:					
	Date & Time: <i>5/29/14 1746</i>		Date & Time: <i>5/29/14 1746</i>		Date & Time:		Date & Time:					

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

* Please analyze under existing M84 btwn Golden + AR



Golden + AR I

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Sample ID Cross Reference Report



ARI Job No: YL92
Client: Golder Associates
Project Event: 073-93368-06-09A
Project Name: Master Park Lot C

| Sample ID | ARI
Lab ID | ARI
LIMS ID | Matrix | Sample Date/Time | VTSR |
|------------------------|---------------|----------------|--------|------------------|----------------|
| 1. MPLOT-MW-21-052914 | YL92A | 14-10399 | Water | 05/29/14 09:45 | 05/29/14 17:46 |
| 2. MPLOT-MW-20-052914 | YL92B | 14-10400 | Water | 05/29/14 10:35 | 05/29/14 17:46 |
| 3. MPLOT-MW-17A-052914 | YL92C | 14-10401 | Water | 05/29/14 11:30 | 05/29/14 17:46 |
| 4. MPLOT-MW-9-052914 | YL92D | 14-10402 | Water | 05/29/14 13:50 | 05/29/14 17:46 |
| 5. MPLOT-MW-19-052914 | YL92E | 14-10403 | Water | 05/29/14 12:50 | 05/29/14 17:46 |
| 6. MPLOT-MW-13-052914 | YL92F | 14-10404 | Water | 05/29/14 14:40 | 05/29/14 17:46 |
| 7. MPLOT-MW-18-052914 | YL92G | 14-10405 | Water | 05/29/14 15:25 | 05/29/14 17:46 |
| 8. MPLOT-MW-7-052914 | YL92H | 14-10406 | Water | 05/29/14 16:15 | 05/29/14 17:46 |
| 9. MPLOT-FB-052914 | YL92I | 14-10407 | Water | 05/29/14 15:40 | 05/29/14 17:46 |
| 10. MPLOT-MW-12-052914 | YL92J | 14-10408 | Water | 05/29/14 17:05 | 05/29/14 17:46 |
| 11. Trip Blank | YL92K | 14-10409 | Water | 05/29/14 | 05/29/14 17:46 |



Cooler Receipt Form

ARI Client: Golder

Project Name: Master Part LotC

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: YL92

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? _____

YES

NO

Were custody papers included with the cooler? _____

YES

NO

Were custody papers properly filled out (ink, signed, etc.) _____

YES

NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time: 1746

5.9 4.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90877952

Cooler Accepted by: AN Date: 5/29/14 Time: 1746

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? _____

YES

NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other _____

Was sufficient ice used (if appropriate)? _____

NA

YES

NO

Were all bottles sealed in individual plastic bags? _____

YES

NO

Did all bottles arrive in good condition (unbroken)? _____

YES

NO

Were all bottle labels complete and legible? _____

YES

NO

Did the number of containers listed on COC match with the number of containers received? _____

YES

NO

Did all bottle labels and tags agree with custody papers? _____

YES

NO

Were all bottles used correct for the requested analyses? _____

YES

NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ..

NA

YES

NO

Were all VOC vials free of air bubbles? _____

NA

YES

NO

Was sufficient amount of sample sent in each bottle? _____

YES

NO

Date VOC Trip Blank was made at ARI _____

NA

5-23-14 5-29-14

Was Sample Split by ARI: NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: TS Date: 5-30-14 Time: 830

**** Notify Project Manager of discrepancies or concerns ****

| Sample ID on Bottle | Sample ID on COC | Sample ID on Bottle | Sample ID on COC |
|---------------------|------------------|---------------------|------------------|
| | | | |
| | | | |
| | | | |
| | | | |

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____

| | | | |
|--------------------------------------|---------------------------------|--|---|
| Small Air Bubbles
-2mm
 | Peabubbles
2-4 mm
 | LARGE Air Bubbles
> 4 mm
 | Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm) |
|--------------------------------------|---------------------------------|--|---|

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MPLOTG-MW-21-052914

Page 1 of 1

SAMPLE

Lab Sample ID: YL92A

QC Report No: YL92-Golder Associates

LIMS ID: 14-10399

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: *B*

Date Sampled: 05/29/14

Reported: 06/12/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/10/14 20:35

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|----------------|--------------------|-------------|-------------|----------------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.32 JB |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 101% |
| d8-Toluene | 100% |
| Bromofluorobenzene | 91.1% |
| d4-1,2-Dichlorobenzene | 99.1% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MPLOTG-MW-20-052914

Page 1 of 1

SAMPLE

Lab Sample ID: YL92B

QC Report No: YL92-Golder Associates

LIMS ID: 14-10400

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: *B*

Date Sampled: 05/29/14

Reported: 06/12/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Sample Amount: 10.0 mL

Date Analyzed: 06/10/14 21:02

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|----------------|--------------------|-------------|-------------|----------------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.14 JB |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 101% |
| d8-Toluene | 100% |
| Bromofluorobenzene | 91.4% |
| d4-1,2-Dichlorobenzene | 101% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOTG-MW-17A-052914

SAMPLE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *AK*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 21:29

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|----------------|--------------------|-------------|-------------|---------------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.62 B |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 99.8% |
| d8-Toluene | 98.9% |
| Bromofluorobenzene | 90.4% |
| d4-1,2-Dichlorobenzene | 101% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MPLOTG-MW-9-052914

Page 1 of 1

SAMPLE

Lab Sample ID: YL92D

QC Report No: YL92-Golder Associates

LIMS ID: 14-10402

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: *AB*

Date Sampled: 05/29/14

Reported: 06/12/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Sample Amount: 2.00 mL

Date Analyzed: 06/10/14 18:11

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|-----|---------|
| 106-93-4 | 1,2-Dibromoethane | 0.37 | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 0.59 | 2.5 | 92 B |
| 110-54-3 | Hexane | 0.48 | 1.0 | 5.6 |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 97.9% |
| d8-Toluene | 97.3% |
| Bromofluorobenzene | 99.8% |
| d4-1,2-Dichlorobenzene | 101% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED


Sample ID: MPLOT-MW-19-052914

SAMPLE

Lab Sample ID: YL92E

LIMS ID: 14-10403

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 21:56

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|----------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | < 0.50 U |
| 110-54-3 | Hexane | 0.10 | 0.20 | 0.30 |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 97.3% |
| d8-Toluene | 99.5% |
| Bromofluorobenzene | 96.6% |
| d4-1,2-Dichlorobenzene | 102% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPL0TC-MW-13-052914

SAMPLE

Lab Sample ID: YL92F

LIMS ID: 14-10404

Matrix: Water

Data Release Authorized: *JB*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 22:23

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|----------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.21 JB |
| 110-54-3 | Hexane | 0.10 | 0.20 | 0.11 J |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 108% |
| d8-Toluene | 95.0% |
| Bromofluorobenzene | 104% |
| d4-1,2-Dichlorobenzene | 103% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPL0TC-MW-18-052914

SAMPLE

Lab Sample ID: YL92G

LIMS ID: 14-10405

Matrix: Water

Data Release Authorized: *AS*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 22:49

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|----------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.84 B |
| 110-54-3 | Hexane | 0.10 | 0.20 | 0.64 |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 101% |
| d8-Toluene | 98.7% |
| Bromofluorobenzene | 97.4% |
| d4-1,2-Dichlorobenzene | 100% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1


Sample ID: MPLOT-MW-7-052914

SAMPLE

Lab Sample ID: YL92H

LIMS ID: 14-10406

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 18:40

Sample Amount: 0.50 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|-----|-----|---------|
| 106-93-4 | 1,2-Dibromoethane | 1.5 | 4.0 | < 4.0 U |
| 91-20-3 | Naphthalene | 2.4 | 10 | 210 B |
| 110-54-3 | Hexane | 1.9 | 4.0 | 140 |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 102% |
| d8-Toluene | 98.9% |
| Bromofluorobenzene | 100% |
| d4-1,2-Dichlorobenzene | 103% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOTG-FB-052914

SAMPLE

Lab Sample ID: YL92I

LIMS ID: 14-10407

Matrix: Water

Data Release Authorized: *AS*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 23:16

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|----------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | < 0.50 U |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 102% |
| d8-Toluene | 98.5% |
| Bromofluorobenzene | 94.9% |
| d4-1,2-Dichlorobenzene | 101% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

Sample ID: MPLOT-MW-12-052914

SAMPLE

Lab Sample ID: YL92J

LIMS ID: 14-10408

Matrix: Water

Data Release Authorized: *JB*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 23:43

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|----------------|--------------------|-------------|-------------|----------------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.35 JB |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 98.9% |
| d8-Toluene | 98.0% |
| Bromofluorobenzene | 94.8% |
| d4-1,2-Dichlorobenzene | 99.9% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C


Sample ID: Trip Blank
SAMPLE

Page 1 of 1

Lab Sample ID: YL92K

LIMS ID: 14-10409

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/11/14 00:09

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|----------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | < 0.50 U |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 102% |
| d8-Toluene | 95.1% |
| Bromofluorobenzene | 98.5% |
| d4-1,2-Dichlorobenzene | 102% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

Sample ID: MB-061014A


METHOD BLANK

ANALYTICAL
RESOURCES
INCORPORATED 

Lab Sample ID: MB-061014A

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/10/14 17:02

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|----------------|--------------------|-------------|-------------|---------------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | < 0.20 U |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | 0.14 J |
| 110-54-3 | Hexane | 0.10 | 0.20 | < 0.20 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 102% |
| d8-Toluene | 98.3% |
| Bromofluorobenzene | 96.6% |
| d4-1,2-Dichlorobenzene | 101% |

VOA SURROGATE RECOVERY SUMMARY



Matrix: Water

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
073-93368-06-09A

| ARI ID | Client ID | FV | DCE | TOL | BFB | DCB | TOT OUT |
|--------------|---------------------|----|-------|-------|-------|-------|---------|
| YL92A | MPLOT-MW-21-052914 | 10 | 101% | 100% | 91.1% | 99.1% | 0 |
| YL92B | MPLOT-MW-20-052914 | 10 | 101% | 100% | 91.4% | 101% | 0 |
| MB-061014A | Method Blank | 10 | 102% | 98.3% | 96.6% | 101% | 0 |
| LCS-061014A | Lab Control | 10 | 97.9% | 95.4% | 103% | 97.6% | 0 |
| LCSD-061014A | Lab Control Dup | 10 | 97.0% | 99.5% | 99.6% | 96.2% | 0 |
| YL92C | MPLOT-MW-17A-052914 | 10 | 99.8% | 98.9% | 90.4% | 101% | 0 |
| YL92CMS | MPLOT-MW-17A-052914 | 10 | 96.5% | 96.2% | 101% | 98.3% | 0 |
| YL92CMSD | MPLOT-MW-17A-052914 | 10 | 104% | 100% | 102% | 98.9% | 0 |
| YL92D | MPLOT-MW-9-052914 | 10 | 97.9% | 97.3% | 99.8% | 101% | 0 |
| YL92E | MPLOT-MW-19-052914 | 10 | 97.3% | 99.5% | 96.6% | 102% | 0 |
| YL92F | MPLOT-MW-13-052914 | 10 | 108% | 95.0% | 104% | 103% | 0 |
| YL92G | MPLOT-MW-18-052914 | 10 | 101% | 98.7% | 97.4% | 100% | 0 |
| YL92H | MPLOT-MW-7-052914 | 10 | 102% | 98.9% | 100% | 103% | 0 |
| YL92I | MPLOT-FB-052914 | 10 | 102% | 98.5% | 94.9% | 101% | 0 |
| YL92J | MPLOT-MW-12-052914 | 10 | 98.9% | 98.0% | 94.8% | 99.9% | 0 |
| YL92K | Trip Blank | 10 | 102% | 95.1% | 98.5% | 102% | 0 |

LCS/MB LIMITS

QC LIMITS

SW8260C

(DCE) = d4-1,2-Dichloroethane
(TOL) = d8-Toluene
(BFB) = Bromofluorobenzene
(DCB) = d4-1,2-Dichlorobenzene

(80-120)
(80-120)
(80-120)
(80-120)

(80-130)
(80-120)
(80-120)
(80-120)

Prep Method: SW5030B
Log Number Range: 14-10399 to 14-10409

YL92:00018

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1


Sample ID: MPL0TC-MW-17A-052914

MATRIX SPIKE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: 

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst MS: NT2/PAB

MSD: NT2/PAB

Date Analyzed MS: 06/11/14 00:36

MSD: 06/11/14 01:03

Sample Amount MS: 10.0 mL

MSD: 10.0 mL

Purge Volume MS: 10.0 mL

MSD: 10.0 mL

| Analyte | Sample | MS | Spike
Added-MS | MS
Recovery | MSD | Spike
Added-MSD | MSD
Recovery | RPD |
|-------------------|----------|--------|-------------------|----------------|--------|--------------------|-----------------|------|
| 1,2-Dibromoethane | < 0.20 U | 10.2 | 10.0 | 102% | 10.0 | 10.0 | 100% | 2.0% |
| Naphthalene | 0.62 B | 11.2 B | 10.0 | 106% | 11.7 B | 10.0 | 111% | 4.4% |
| Hexane | < 0.20 U | 12.5 | 10.0 | 125% | 12.7 | 10.0 | 127% | 1.6% |

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: MPL0TC-MW-17A-052914

Page 1 of 1

MATRIX SPIKE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *A*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/11/14 00:36

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|--------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | --- |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | --- |
| 110-54-3 | Hexane | 0.10 | 0.20 | --- |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 96.5% |
| d8-Toluene | 96.2% |
| Bromofluorobenzene | 101% |
| d4-1,2-Dichlorobenzene | 98.3% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOT-C-MW-17A-052914

MATRIX SPIKE DUPLICATE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/12/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Instrument/Analyst: NT2/PAB

Date Analyzed: 06/11/14 01:03

Sample Amount: 10.0 mL

Purge Volume: 10.0 mL

| CAS Number | Analyte | DL | LOQ | Result |
|------------|-------------------|------|------|--------|
| 106-93-4 | 1,2-Dibromoethane | 0.07 | 0.20 | --- |
| 91-20-3 | Naphthalene | 0.12 | 0.50 | --- |
| 110-54-3 | Hexane | 0.10 | 0.20 | --- |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|------------------------|-------|
| d4-1,2-Dichloroethane | 104% |
| d8-Toluene | 100% |
| Bromofluorobenzene | 102% |
| d4-1,2-Dichlorobenzene | 98.9% |

ORGANICS ANALYSIS DATA SHEET

Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: LCS-061014A

Page 1 of 1

LAB CONTROL SAMPLE

Lab Sample ID: LCS-061014A


QC Report No: YL92-Golder Associates

LIMS ID: 14-10401

Project: Master Park Lot C

Matrix: Water

073-93368-06-09A

Data Release Authorized: 

Date Sampled: NA

Reported: 06/12/14

Date Received: NA

Instrument/Analyst LCS: NT2/PAB

Sample Amount LCS: 10.0 mL

LCSD: NT2/PAB

LCSD: 10.0 mL

Date Analyzed LCS: 06/10/14 16:09

Purge Volume LCS: 10.0 mL

LCSD: 06/10/14 16:35

LCSD: 10.0 mL

| Analyte | LCS | Spike
Added-LCS | LCS
Recovery | LCSD | Spike
Added-LCSD | LCSD
Recovery | RPD |
|-------------------|--------|--------------------|-----------------|--------|---------------------|------------------|------|
| 1,2-Dibromoethane | 9.26 | 10.0 | 92.6% | 9.95 | 10.0 | 99.5% | 7.2% |
| Naphthalene | 9.39 B | 10.0 | 93.9% | 9.36 B | 10.0 | 93.6% | 0.3% |
| Hexane | 8.16 | 10.0 | 81.6% | 8.49 | 10.0 | 84.9% | 4.0% |

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

| | LCS | LCSD |
|------------------------|-------|-------|
| d4-1,2-Dichloroethane | 97.9% | 97.0% |
| d8-Toluene | 95.4% | 99.5% |
| Bromofluorobenzene | 103% | 99.6% |
| d4-1,2-Dichlorobenzene | 97.6% | 96.2% |

**ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS**

 NWTPHD by GC/FID
 Extraction Method: SW3546
 Page 1 of 2

 QC Report No: YL92-Golder Associates
 Project: Master Park Lot C
 073-93368-06-09A

Matrix: Water

Date Received: 05/29/14

 Data Release Authorized: *AB*
 Reported: 06/10/14

| ARI ID | Sample ID | Analysis Date | DF | Range | Result | RL | MDL |
|-----------------------|----------------------|-------------------|-----|---|--|--------------|--------------|
| YL92A
14-10399 | MPL0TC-MW-21-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | < 0.10 U
< 0.20 U

111% | 0.10
0.20 | 0.02
0.04 |
| YL92B
14-10400 | MPL0TC-MW-20-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | < 0.10 U
< 0.20 U

105% | 0.10
0.20 | 0.02
0.04 |
| MB-053014
14-10401 | Method Blank | 06/04/14
FID3B | 1.0 | Diesel Range
Motor Oil Range
HC ID
o-Terphenyl | < 0.10 U
< 0.20 U

104% | 0.10
0.20 | 0.02
0.04 |
| YL92C
14-10401 | MPL0TC-MW-17A-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | < 0.10 U
< 0.20 U

113% | 0.10
0.20 | 0.02
0.04 |
| YL92D
14-10402 | MPL0TC-MW-9-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | 2.3
< 0.20 U
DRO
69.8% | 0.10
0.20 | 0.02
0.04 |
| YL92E
14-10403 | MPL0TC-MW-19-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | < 0.10 U
< 0.20 U

109% | 0.10
0.20 | 0.02
0.04 |
| YL92F
14-10404 | MPL0TC-MW-13-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | 0.32
< 0.20 U
DIESEL
90.5% | 0.10
0.20 | 0.02
0.04 |
| YL92G
14-10405 | MPL0TC-MW-18-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | 0.33
< 0.20 U
DRO
93.8% | 0.10
0.20 | 0.02
0.04 |
| YL92H
14-10406 | MPL0TC-MW-7-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | 14 E
< 0.20 U
DRO
75.5% | 0.10
0.20 | 0.02
0.04 |
| YL92H DL
14-10406 | MPL0TC-MW-7-052914 | 06/06/14
FID9 | 10 | Diesel
Motor Oil
HC ID
o-Terphenyl | 11
< 2.0 U
DRO
64.7% | 1.0
2.0 | 0.22
0.44 |
| YL92I
14-10407 | MPL0TC-FB-052914 | 06/04/14
FID3B | 1.0 | Diesel
Motor Oil
HC ID
o-Terphenyl | < 0.10 U
< 0.20 U

108% | 0.10
0.20 | 0.02
0.04 |

**ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS**

NWTPHD by GC/FID
Extraction Method: SW3546
Page 2 of 2

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
073-93368-06-09A

Matrix: Water

Date Received: 05/29/14

Data Release Authorized: *[Signature]*
Reported: 06/10/14

| ARI ID | Sample ID | Analysis Date | DF | Range | Result | RL | MDL |
|----------|--------------------|---------------|-----|---------------|-------------|------|------|
| YL92J | MPLOT-MW-12-052914 | 06/04/14 | 1.0 | Diesel | 0.34 | 0.10 | 0.02 |
| 14-10408 | | FID3B | | Motor Oil | < 0.20 U | 0.20 | 0.04 |
| | | | | HC ID | DRO | | |
| | | | | o-Terphenyl | 98.1% | | |

Reported in mg/L (ppm)

Diesel quantitation on total peaks in the range from C12 to C24.
Motor Oil quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in ranges are not identifiable.

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
073-93368-06-09A

| <u>Client ID</u> | <u>OTER</u> | <u>TOT OUT</u> |
|--------------------------|-------------|----------------|
| MPLOTG-MW-21-052914 | 111% | 0 |
| MPLOTG-MW-20-052914 | 105% | 0 |
| MB-053014 | 104% | 0 |
| LCS-053014 | 91.8% | 0 |
| LCSD-053014 | 87.9% | 0 |
| MPLOTG-MW-17A-052914 | 113% | 0 |
| MPLOTG-MW-17A-052914 MS | 91.6% | 0 |
| MPLOTG-MW-17A-052914 MSD | 94.4% | 0 |
| MPLOTG-MW-9-052914 | 69.8% | 0 |
| MPLOTG-MW-19-052914 | 109% | 0 |
| MPLOTG-MW-13-052914 | 90.5% | 0 |
| MPLOTG-MW-18-052914 | 93.8% | 0 |
| MPLOTG-MW-7-052914 | 75.5% | 0 |
| MPLOTG-MW-7-052914 DL | 64.7% | 0 |
| MPLOTG-FB-052914 | 108% | 0 |
| MPLOTG-MW-12-052914 | 98.1% | 0 |

LCS/MB LIMITS QC LIMITS

(OTER) = o-Terphenyl

(50-150)

(50-150)

Prep Method: SW3546
Log Number Range: 14-10399 to 14-10408

ORGANICS ANALYSIS DATA SHEET

NWTPHD by GC/FID


Page 1 of 1

**Sample ID: MPlotC-MW-17A-052914
MS/MSD**

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: 

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Extracted MS/MSD: 05/30/14

Sample Amount MS: 500 mL

MSD: 500 mL

Date Analyzed MS: 06/04/14 19:00

Final Extract Volume MS: 1.0 mL

MSD: 06/04/14 19:25

MSD: 1.0 mL

Instrument/Analyst MS: FID3B/JLW

Dilution Factor MS: 1.00

MSD: FID3B/JLW

MSD: 1.00

| Range | Sample | MS | Spike
Added-MS | MS
Recovery | MSD | Spike
Added-MSD | MSD
Recovery | RPD |
|--------|----------|------|-------------------|----------------|------|--------------------|-----------------|------|
| Diesel | < 0.10 U | 3.06 | 3.00 | 102% | 3.11 | 3.00 | 104% | 1.6% |

TPHD Surrogate Recovery

| | MS | MSD |
|-------------|-------|-------|
| o-Terphenyl | 91.6% | 94.4% |

Results reported in mg/L

RPD calculated using sample concentrations per SW846.

ORGANICS ANALYSIS DATA SHEET

NWTPHD by GC/FID

Page 1 of 1



Sample ID: LCS-053014

LCS/LCSD

Lab Sample ID: LCS-053014

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

073-93368-06-09A

Date Sampled: NA

Date Received: NA

Date Extracted LCS/LCSD: 05/30/14

Sample Amount LCS: 500 mL

LCSD: 500 mL

Date Analyzed LCS: 06/04/14 16:55

Final Extract Volume LCS: 1.0 mL

LCSD: 06/04/14 17:20

LCSD: 1.0 mL

Instrument/Analyst LCS: FID3B/JLW

Dilution Factor LCS: 1.00

LCSD: FID3B/JLW

LCSD: 1.00

| Range | LCS | Spike
Added-LCS | LCS
Recovery | LCSD | Spike
Added-LCSD | LCSD
Recovery | RPD |
|--------|------|--------------------|-----------------|------|---------------------|------------------|------|
| Diesel | 3.01 | 3.00 | 100% | 2.92 | 3.00 | 97.3% | 3.0% |

TPHD Surrogate Recovery

| | LCS | LCSD |
|-------------|-------|-------|
| o-Terphenyl | 91.8% | 87.9% |

Results reported in mg/L

RPD calculated using sample concentrations per SW846.

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water
Date Received: 05/29/14

ARI Job: YL92
Project: Master Park Lot C
073-93368-06-09A

| ARI ID | Client ID | Samp
Amt | Final
Vol | Prep
Date |
|----------------------|---------------------|-------------|--------------|--------------|
| 14-10399-YL92A | MPLOT-MW-21-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10400-YL92B | MPLOT-MW-20-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10401-053014MB1 | Method Blank | 500 mL | 1.00 mL | 05/30/14 |
| 14-10401-053014LCS1 | Lab Control | 500 mL | 1.00 mL | 05/30/14 |
| 14-10401-053014LCSD1 | Lab Control Dup | 500 mL | 1.00 mL | 05/30/14 |
| 14-10401-YL92C | MPLOT-MW-17A-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10401-YL92CMS | MPLOT-MW-17A-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10401-YL92CMSD | MPLOT-MW-17A-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10402-YL92D | MPLOT-MW-9-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10403-YL92E | MPLOT-MW-19-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10404-YL92F | MPLOT-MW-13-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10405-YL92G | MPLOT-MW-18-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10406-YL92H | MPLOT-MW-7-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10407-YL92I | MPLOT-FB-052914 | 500 mL | 1.00 mL | 05/30/14 |
| 14-10408-YL92J | MPLOT-MW-12-052914 | 500 mL | 1.00 mL | 05/30/14 |

Sample ID: MPL0TC-MW-21-052914
SAMPLE

Lab Sample ID: YL92A
LIMS ID: 14-10399
Matrix: Water
Data Release Authorized:
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: 05/29/14
Date Received: 05/29/14

Date Analyzed: 06/05/14 13:37
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 103% |
| Bromobenzene | 99.6% |

Gasoline Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 101% |
| Bromobenzene | 99.4% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Sample ID: MPLOT-MW-20-052914
SAMPLE

Lab Sample ID: YL92B

LIMS ID: 14-10400

Matrix: Water

Data Release Authorized: 

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/05/14 14:06

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 105% |
| Bromobenzene | 103% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 104% |
| Bromobenzene | 103% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Sample ID: MPLOTG-MW-17A-052914
SAMPLE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/05/14 14:35

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | 0.25 |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 102% |
| Bromobenzene | 101% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 101% |
| Bromobenzene | 100% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
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ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOTG-MW-9-052914
SAMPLE

Lab Sample ID: YL92D

LIMS ID: 14-10402

Matrix: Water

Data Release Authorized: *AS*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/05/14 16:03

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|--------|
| 71-43-2 | Benzene | 0.028 | 0.25 | 32 |
| 108-88-3 | Toluene | 0.014 | 0.25 | 9.4 |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | 170 |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | 110 |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | 1.6 |

| | | | |
|-----------------------------|-------|------|-----|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | 7.8 |
|-----------------------------|-------|------|-----|

GAS ID
GAS

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 113% |
| Bromobenzene | 112% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 108% |
| Bromobenzene | 112% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Sample ID: MPLOT-MW-19-052914
SAMPLE

Lab Sample ID: YL92E
LIMS ID: 14-10403
Matrix: Water
Data Release Authorized: *[Signature]*
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: 05/29/14
Date Received: 05/29/14

Date Analyzed: 06/05/14 17:30
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|--------------------|-------------------|--------------|-------------|-------------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | 0.40 |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | 0.58 |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 103% |
| Bromobenzene | 102% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 103% |
| Bromobenzene | 102% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
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ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOT-MW-13-052914
SAMPLE

Lab Sample ID: YL92F

LIMS ID: 14-10404

Matrix: Water

Data Release Authorized:

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/05/14 17:59

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | 0.85 |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | 18 |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | 0.54 |

| | | | | |
|-----------------------------|-------|------|------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | 0.14 | GAS ID
GAS |
|-----------------------------|-------|------|------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 102% |
| Bromobenzene | 102% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 102% |
| Bromobenzene | 101% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1



Sample ID: MPLOTG-MW-18-052914
SAMPLE

Lab Sample ID: YL92G
LIMS ID: 14-10405
Matrix: Water
Data Release Authorized:
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: 05/29/14
Date Received: 05/29/14

Date Analyzed: 06/05/14 18:29
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | 6.6 |
| 108-88-3 | Toluene | 0.014 | 0.25 | 1.5 |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | 4.7 |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | 9.2 |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | 0.14 | GAS ID
GAS |
|-----------------------------|-------|------|------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 104% |
| Bromobenzene | 102% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 102% |
| Bromobenzene | 101% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1



Sample ID: MPLOTG-MW-7-052914
SAMPLE

Lab Sample ID: YL92H

LIMS ID: 14-10406

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/09/14 15:53

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 10.0

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|------|-----|--------|
| 71-43-2 | Benzene | 0.28 | 2.5 | 14 |
| 108-88-3 | Toluene | 0.14 | 2.5 | 80 |
| 100-41-4 | Ethylbenzene | 0.28 | 2.5 | 190 |
| 179601-23-1 | m,p-Xylene | 0.22 | 5.0 | 1,800 |
| 95-47-6 | o-Xylene | 0.27 | 2.5 | 11 |

| | | | | |
|-----------------------------|------|-----|----|---------------|
| Gasoline Range Hydrocarbons | 0.57 | 1.0 | 27 | GAS ID
GAS |
|-----------------------------|------|-----|----|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 102% |
| Bromobenzene | 103% |

Gasoline Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 99.5% |
| Bromobenzene | 102% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
TPHG by Method NWTPHG
Page 1 of 1



Sample ID: MPLOTG-FB-052914
SAMPLE

Lab Sample ID: YL92I

LIMS ID: 14-10407

Matrix: Water

Data Release Authorized: *AB*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/09/14 16:22

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 104% |
| Bromobenzene | 102% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 103% |
| Bromobenzene | 102% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Sample ID: MPLOTG-MW-12-052914
SAMPLE

Lab Sample ID: YL92J

LIMS ID: 14-10408

Matrix: Water

Data Release Authorized:

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/05/14 19:56

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|--------|
| 71-43-2 | Benzene | 0.028 | 0.25 | 2.0 |
| 108-88-3 | Toluene | 0.014 | 0.25 | 4.3 |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | 1.6 |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | 3.3 |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | 0.85 |

| | | | | |
|-----------------------------|-------|------|------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | 0.12 | GAS ID
GAS |
|-----------------------------|-------|------|------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 103% |
| Bromobenzene | 103% |

Gasoline Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 102% |
| Bromobenzene | 102% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

ORGANICS ANALYSIS DATA SHEET

BETX by Method SW8021BMod

TPHG by Method NWTPHG

Page 1 of 1

**Sample ID: Trip Blank
SAMPLE**

Lab Sample ID: YL92K

LIMS ID: 14-10409

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed: 06/05/14 13:07

Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 105% |
| Bromobenzene | 101% |

Gasoline Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 102% |
| Bromobenzene | 99.5% |


BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Sample ID: MB-060514
METHOD BLANK

Lab Sample ID: MB-060514
LIMS ID: 14-10399
Matrix: Water
Data Release Authorized: 
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: NA
Date Received: NA

Date Analyzed: 06/05/14 12:08
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|-------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.057 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|-------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 97.3% |
| Bromobenzene | 96.6% |

Gasoline Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 96.1% |
| Bromobenzene | 95.8% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.

GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

Sample ID: MB-060914
METHOD BLANK

Lab Sample ID: MB-060914
LIMS ID: 14-10406
Matrix: Water
Data Release Authorized: *AB*
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: NA
Date Received: NA

Date Analyzed: 06/09/14 11:32
Instrument/Analyst: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor: 1.00

| CAS Number | Analyte | DL | LOQ | Result |
|-------------|--------------|-------|------|----------|
| 71-43-2 | Benzene | 0.028 | 0.25 | < 0.25 U |
| 108-88-3 | Toluene | 0.014 | 0.25 | < 0.25 U |
| 100-41-4 | Ethylbenzene | 0.028 | 0.25 | < 0.25 U |
| 179601-23-1 | m,p-Xylene | 0.022 | 0.50 | < 0.50 U |
| 95-47-6 | o-Xylene | 0.027 | 0.25 | < 0.25 U |

| | | | | |
|-----------------------------|------|------|----------|---------------|
| Gasoline Range Hydrocarbons | 0.57 | 0.10 | < 0.10 U | GAS ID
--- |
|-----------------------------|------|------|----------|---------------|

BETX Surrogate Recovery

| | |
|------------------|------|
| Trifluorotoluene | 100% |
| Bromobenzene | 100% |

Gasoline Surrogate Recovery

| | |
|------------------|-------|
| Trifluorotoluene | 100% |
| Bromobenzene | 99.6% |

BETX values reported in µg/L (ppb)
Gasoline values reported in mg/L (ppm)

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

BETX WATER SURROGATE RECOVERY SUMMARY

ARI Job: YL92
Matrix: Water

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A

| Client ID | TFT | BBZ | TOT OUT |
|-----------------------|------------|------------|----------------|
| MB-060514 | 97.3% | 96.6% | 0 |
| LCS-060514 | 103% | 102% | 0 |
| LCSD-060514 | 99.4% | 97.2% | 0 |
| MPLOT-MW-21-05291 | 103% | 99.6% | 0 |
| MPLOT-MW-20-05291 | 105% | 103% | 0 |
| MPLOT-MW-17A-0529 | 102% | 101% | 0 |
| MPLOT-MW-17A-0529 MS | 104% | 105% | 0 |
| MPLOT-MW-17A-0529 MSD | 104% | 104% | 0 |
| MPLOT-MW-9-052914 | 113% | 112% | 0 |
| MPLOT-MW-19-05291 | 103% | 102% | 0 |
| MPLOT-MW-13-05291 | 102% | 102% | 0 |
| MPLOT-MW-18-05291 | 104% | 102% | 0 |
| MB-060914 | 100% | 100% | 0 |
| LCS-060914 | 92.0% | 93.1% | 0 |
| LCSD-060914 | 97.9% | 99.2% | 0 |
| MPLOT-MW-7-052914 | 102% | 103% | 0 |
| MPLOT-FB-052914 | 104% | 102% | 0 |
| MPLOT-MW-12-05291 | 103% | 103% | 0 |
| Trip Blank | 105% | 101% | 0 |

| | | LCS/MB LIMITS | QC LIMITS |
|--------------------------|------------|----------------------|------------------|
| (TFT) = Trifluorotoluene | (5 mL PV) | (80-120) | (80-120) |
| (TFT) = Trifluorotoluene | (15 mL PV) | (79-120) | (80-120) |
| (BBZ) = Bromobenzene | (5 mL PV) | (80-120) | (77-120) |
| (BBZ) = Bromobenzene | (15 mL PV) | (79-120) | (80-120) |

Log Number Range: 14-10399 to 14-10409

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: YL92
Matrix: Water

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A

| Client ID | TFT | BBZ | TOT OUT |
|-----------------------|-------|-------|---------|
| MB-060514 | 96.1% | 95.8% | 0 |
| LCS-060514 | 100% | 99.8% | 0 |
| LCSD-060514 | 97.5% | 95.6% | 0 |
| MPLOT-MW-21-05291 | 101% | 99.4% | 0 |
| MPLOT-MW-20-05291 | 104% | 103% | 0 |
| MPLOT-MW-17A-0529 | 101% | 100% | 0 |
| MPLOT-MW-17A-0529 MS | 102% | 103% | 0 |
| MPLOT-MW-17A-0529 MSD | 103% | 102% | 0 |
| MPLOT-MW-9-052914 | 108% | 112% | 0 |
| MPLOT-MW-19-05291 | 103% | 102% | 0 |
| MPLOT-MW-13-05291 | 102% | 101% | 0 |
| MPLOT-MW-18-05291 | 102% | 101% | 0 |
| MB-060914 | 100% | 99.6% | 0 |
| LCS-060914 | 91.9% | 92.6% | 0 |
| LCSD-060914 | 97.4% | 97.8% | 0 |
| MPLOT-MW-7-052914 | 99.5% | 102% | 0 |
| MPLOT-FB-052914 | 103% | 102% | 0 |
| MPLOT-MW-12-05291 | 102% | 102% | 0 |
| Trip Blank | 102% | 99.5% | 0 |


| | | |
|--------------------------|----------------------|------------------|
| | LCS/MB LIMITS | QC LIMITS |
| (TFT) = Trifluorotoluene | (80-120) | (80-120) |
| (BBZ) = Bromobenzene | (80-120) | (80-120) |

Log Number Range: 14-10399 to 14-10409

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Page 1 of 1



Sample ID: LCS-060514
LAB CONTROL SAMPLE

Lab Sample ID: LCS-060514
LIMS ID: 14-10399
Matrix: Water
Data Release Authorized: 
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 06/05/14 11:09
LCSD: 06/05/14 11:39
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor LCS: 1.0
LCSD: 1.0

| Analyte | LCS | Spike
Added-LCS | LCS
Recovery | LCSD | Spike
Added-LCSD | LCSD
Recovery | RPD |
|-----------------------------|------|--------------------|-----------------|------|---------------------|------------------|------|
| Gasoline Range Hydrocarbons | 1.05 | 1.00 | 105% | 1.02 | 1.00 | 102% | 2.9% |

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

| | LCS | LCSD |
|------------------|-------|-------|
| Trifluorotoluene | 100% | 97.5% |
| Bromobenzene | 99.8% | 95.6% |

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1



Sample ID: LCS-060514
LAB CONTROL SAMPLE

Lab Sample ID: LCS-060514
LIMS ID: 14-10399
Matrix: Water
Data Release Authorized: *[Signature]*
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 06/05/14 11:09
LCSD: 06/05/14 11:39
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor LCS: 1.0
LCSD: 1.0

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|--------------|------|-----------------|--------------|------|------------------|---------------|------|
| Benzene | 8.05 | 7.00 | 115% | 7.85 | 7.00 | 112% | 2.5% |
| Toluene | 59.4 | 49.4 | 120% | 58.1 | 49.4 | 118% | 2.2% |
| Ethylbenzene | 14.2 | 12.3 | 115% | 13.8 | 12.3 | 112% | 2.9% |
| m,p-Xylene | 46.7 | 40.0 | 117% | 45.6 | 40.0 | 114% | 2.4% |
| o-Xylene | 17.8 | 15.3 | 116% | 17.4 | 15.3 | 114% | 2.3% |

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

| | LCS | LCSD |
|------------------|------|-------|
| Trifluorotoluene | 103% | 99.4% |
| Bromobenzene | 102% | 97.2% |

ORGANICS ANALYSIS DATA SHEET

TPHG by Method NWTPHG

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED


Sample ID: LCS-060914

LAB CONTROL SAMPLE

Lab Sample ID: LCS-060914

LIMS ID: 14-10406

Matrix: Water

Data Release Authorized: 

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: NA

Date Received: NA

Date Analyzed LCS: 06/09/14 10:34

LCSD: 06/09/14 11:03

Instrument/Analyst LCS: PID1/PKC

LCSD: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor LCS: 1.0

LCSD: 1.0

| Analyte | LCS | Spike
Added-LCS | LCS
Recovery | LCSD | Spike
Added-LCSD | LCSD
Recovery | RPD |
|-----------------------------|------|--------------------|-----------------|------|---------------------|------------------|------|
| Gasoline Range Hydrocarbons | 1.02 | 1.00 | 102% | 1.01 | 1.00 | 101% | 1.0% |

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

| | LCS | LCSD |
|------------------|-------|-------|
| Trifluorotoluene | 91.9% | 97.4% |
| Bromobenzene | 92.6% | 97.8% |

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1



Sample ID: LCS-060914
LAB CONTROL SAMPLE

Lab Sample ID: LCS-060914
LIMS ID: 14-10406
Matrix: Water
Data Release Authorized: *AS*
Reported: 06/10/14

QC Report No: YL92-Golder Associates
Project: Master Park Lot C
Event: 073-93368-06-09A
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 06/09/14 10:34
LCSD: 06/09/14 11:03
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL
Dilution Factor LCS: 1.0
LCSD: 1.0

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|--------------|------|-----------------|--------------|------|------------------|---------------|------|
| Benzene | 6.98 | 7.00 | 99.7% | 7.24 | 7.00 | 103% | 3.7% |
| Toluene | 52.5 | 49.4 | 106% | 54.4 | 49.4 | 110% | 3.6% |
| Ethylbenzene | 13.1 | 12.3 | 107% | 13.5 | 12.3 | 110% | 3.0% |
| m,p-Xylene | 41.9 | 40.0 | 105% | 43.8 | 40.0 | 110% | 4.4% |
| o-Xylene | 16.4 | 15.3 | 107% | 17.1 | 15.3 | 112% | 4.2% |

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

| | LCS | LCSD |
|------------------|-------|-------|
| Trifluorotoluene | 92.0% | 97.9% |
| Bromobenzene | 93.1% | 99.2% |

ORGANICS ANALYSIS DATA SHEET

TPHG by Method NWTPHG

Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOTG-MW-17A-052914

MATRIX SPIKE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *AB*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed MS: 06/05/14 15:04

MSD: 06/05/14 15:33

Instrument/Analyst MS: PID1/PKC

MSD: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor MS: 1.0

MSD: 1.0

| Analyte | Sample | MS | Spike
Added-MS | MS
Recovery | MSD | Spike
Added-MSD | MSD
Recovery | RPD |
|--------------------------------------|--------|------|-------------------|----------------|------|--------------------|-----------------|-----|
| Gasoline Range Hydrocarbons < 0.10 U | 1.14 | 1.00 | 114% | 1.15 | 1.00 | 115% | 0.9% | |

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

| | MS | MSD |
|------------------|------|------|
| Trifluorotoluene | 102% | 103% |
| Bromobenzene | 103% | 102% |

ORGANICS ANALYSIS DATA SHEET
BETX by Method SW8021BMod
Page 1 of 1

ANALYTICAL
RESOURCES
INCORPORATED

Sample ID: MPLOTG-MW-17A-052914
MATRIX SPIKE

Lab Sample ID: YL92C

LIMS ID: 14-10401

Matrix: Water

Data Release Authorized: *[Signature]*

Reported: 06/10/14

QC Report No: YL92-Golder Associates

Project: Master Park Lot C

Event: 073-93368-06-09A

Date Sampled: 05/29/14

Date Received: 05/29/14

Date Analyzed MS: 06/05/14 15:04

MSD: 06/05/14 15:33

Instrument/Analyst MS: PID1/PKC

MSD: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor MS: 1.0

MSD: 1.0

| Analyte | Sample | MS | Spike
Added-MS | MS
Recovery | MSD | Spike
Added-MSD | MSD
Recovery | RPD |
|--------------|----------|------|-------------------|----------------|------|--------------------|-----------------|------|
| Benzene | 0.25 | 8.89 | 7.00 | 123% | 8.91 | 7.00 | 124% | 0.2% |
| Toluene | < 0.25 U | 64.1 | 49.4 | 130% | 64.6 | 49.4 | 131% | 0.8% |
| Ethylbenzene | < 0.25 U | 15.4 | 12.3 | 125% | 15.4 | 12.3 | 125% | 0.0% |
| m,p-Xylene | < 0.50 U | 50.4 | 40.0 | 126% | 50.6 | 40.0 | 126% | 0.4% |
| o-Xylene | < 0.25 U | 19.3 | 15.3 | 126% | 19.6 | 15.3 | 128% | 1.5% |

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

BETX Surrogate Recovery

| | MS | MSD |
|------------------|------|------|
| Trifluorotoluene | 104% | 104% |
| Bromobenzene | 105% | 104% |

APPENDIX B
SAMPLE INTEGRITY DATA SHEETS (SIDS)

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-93368-06.09A

Site Location SeaTac, WA Sample ID MPL0TC-MW-6- 0528/14

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/28/2014 Time 1600

Media Water Station MW-6

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: — Free Product Thickness: none

Date & Time of Measurement: — No WL collected. Top of pump is above WL

Measurements are in feet below top of well casing.

Sample Intake Point: 60 ft below top of well casing

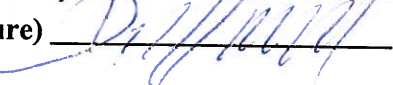
Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature)  Date 5/28/2014

Supervisor (signature)  Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-6
Date 5/28/2014
Time Begin Purge 1520
Time Collect Sample 1600

(p14)

[illegible]

Comments:

Nitrogen Tank: 110 psi
Throttle: 50 psi
Cycle ID: 103 (105/55)
CPM: 4
Purge Rate: ~200 mL/min
PID: 0.0 ppm

Water level fluctuation with pump cycle: *NA*

Sampler's Initials JSL

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID MPLOTG-MW-7- 052914

Sampling Location At end of sample tubing MPLOTG-FB- 052914

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/2014 Time 1615 , 1540 (FB)

Media Water Station MW-7

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 47.65 Free Product Thickness: none

Date & Time of Measurement: 5/28/14 @ 15:45

Measurements are in feet below top of well casing.

Sample Intake Point: 52 ft below top of well casing

Sample Description clear , TPH odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) 

Date 5/29/2014

Supervisor (signature) 

Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-7

Date 5/29/2014

Time Begin Purge 1536

Time Collect Sample 1615

(1540 for FB)

(pH)

[illegible]

Comments:

Трето до

Nitrogen Tank: 110 psi

Throttle: 40 psi

Cycle ID: 50 (20110)

CPM: 2Purge Rate: ~250 mL/min

PID: 00 ppm

* collected FB @ MW-7 @ 1540
by pouring lab-provided DI
water into bottle set

MPL0TC-FB-052914

- * Can hear/feel suction in well

Water level fluctuation with pump cycle: N_A

Sampler's Initials JSP

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID MPLOT-C-MW-9- 052914

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/14 Time 1350

Media Water Station MW-9

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 51.41 Free Product Thickness: None

Date & Time of Measurement: 5/28/14 @ 9:04

Measurements are in feet below top of well casing.

Sample Intake Point: 54 ft below top of well casing

Sample Description clear, ^{TPH} ~~no~~ odor (slight)

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) [Signature] Date 5/29/14

Supervisor (signature) [Signature] Date 5/30/2014

(pH)

Comments:

Nitrogen Tank: 110 psi
Throttle: 60 psi
Cycle ID: 103
CPM: 4 (10/5)
Purge Rate: 250 mL/min
PID: 0.0 ppm

Sampler's Initials JSR

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A
 Site Location SeaTac, WA Sample ID MPLOT-C-MW-12-052914

Sampling Location At end of sample tubing
Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/14 Time 1705

Media Water Station MW-12

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 51.58 Free Product Thickness: none

Date & Time of Measurement: 5/28/2014 @ 1640

Measurements are in feet below top of well casing.

Sample Intake Point: 59 ft below top of well casing

Sample Description clear, TPH odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature)  Date 5/29/2014
 Supervisor (signature)  Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-12

Date 5/29/2014

Time Begin Purge 1625

Time Collect Sample 1705

(p4)

[illegible]

Comments:

Nitrogen Tank: 110 psi
Throttle: 40 psi
Cycle ID: 50 (~~20/10~~) 103
CPM: 2 (10/5)
Purge Rate: ~200 mL/min
PID: 00 ppm

- * ^{minimal} ~~no~~ suction or blowing noted @ this location, but there are a lot of bubbles in line. Did some troubleshooting but could not determine cause of bubbles.
- * Lots of brown specks in water

Water level fluctuation with pump cycle: n/a

Sampler's Initials jsl

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A
 Site Location SeaTac, WA Sample ID MPLOTG-MW-13- 052914

Sampling Location At end of sample tubing
Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/14 Time 1440

Media Water Station MW-13

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 55.62 Free Product Thickness: none

Date & Time of Measurement: 5/28/2014 @ 1632

Measurements are in feet below top of well casing.

Sample Intake Point: 60 ft below top of well casing

Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) [Signature] Date 5/29/2014

Supervisor (signature) [Signature] Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-13
 Date 5/29/2014
 Time Begin Purge 1400
 Time Collect Sample 1440

(pH)

| Water Level
feet bmp | Time | Volume
Purged | pH | Conductivity
(uS/cm) | Temp.
(°C) | DO
(mg/L) | Turbidity
(NTU) |
|-------------------------|------|------------------|------|-------------------------|---------------|--------------|--------------------|
| | 1410 | | 6.84 | 183.2 | 14.5 | 10.59 | 6.29 |
| | 1415 | | 6.72 | 185.5 | 14.6 | 8.76 | 5.20 |
| | 1420 | | 6.72 | 187.6 | 14.8 | 8.20 | 2.91 |
| | 1425 | | 6.77 | 186.8 | 14.8 | 9.31 | 2.45 |
| | 1430 | | 6.80 | 185.6 | 14.8 | 9.95 | 2.21 |
| | 1435 | | 6.84 | 181.8 | 14.7 | 10.59 | 4.24 |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments:

* Can hear/feel suction from well.

Nitrogen Tank: 110 psi
 Throttle: 50 psi
 Cycle ID: 50 (20/10)
 CPM: 2
 Purge Rate: 12.50 mL/min
 PID: 0.0 ppm

Water level fluctuation with pump cycle: NASampler's Initials JSI

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID MPLOT-C-MW-17A-052914

Sampling Location At end of sample tubing +MS/MSD Volume

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/2014 Time 1130

Media Water Station MW-17A

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 84.00 Free Product Thickness: none

Date & Time of Measurement: 5/28/2014 @ 13:30

Measurements are in feet below top of well casing.

Sample Intake Point: 90 ft below top of well casing

Sample Description clear, no odor, turbid

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| 3x (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| 3x (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) [Signature] Date 5/29/2014

Supervisor (signature) [Signature] Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW 17A
Date 5/29/2014
Time Begin Purge 1050
Time Collect Sample 1130

(pH)

[illegible]

Comments:

Nitrogen Tank: 110 psi
Throttle: 60 psi
Cycle ID: 50 (2/10)
CPM: 2
Purge Rate: ~250 mL/min
PID: 00 ppm

- Collected MSimsd Volume

- turbid, clearing slightly by end of purge

Water level fluctuation with pump cycle: *n/a*

Sampler's Initials JS

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID MPL0TC-MW-18- 052914

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/2014 Time 1525

Media Water Station MW-18

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 49.74 Free Product Thickness: none

Date & Time of Measurement: 5/29/2014 @ 15:55

Measurements are in feet below top of well casing.

Sample Intake Point: 54 ft below top of well casing

Sample Description clear, slight TPH odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) Jill Lohler Date 5/29/2014

Supervisor (signature) [Signature] Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-18
Date 5/29/2014
Time Begin Purge 1449
Time Collect Sample 1525

(pH)

[illegible]

Comments:

Nitrogen Tank: 110 psi
Throttle: 40 psi
Cycle ID: 50 (20/10)
CPM: 20
Purge Rate: ~250 mL/min
PID: 0.0 ppm

Water level fluctuation with pump cycle: *NA*

Sampler's Initials JS

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A
 Site Location SeaTac, WA Sample ID MPL0TC-MW-19- 052914

Sampling Location At end of sample tubing
Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/14 Time 1250

Media Water Station MW-19

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 45.74 Free Product Thickness: none

Date & Time of Measurement: 5/28/14 @ 15:30

Measurements are in feet below top of well casing.

Sample Intake Point: 50 ft below top of well casing

Sample Description Clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) [Signature]

Date 5/29/14

Supervisor (signature) [Signature]

Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-19

Date 5/29/14

Time Begin Purge 1210

Time Collect Sample 1250[illegible]

Comments:

Nitrogen Tank: 110 psi

Throttle: 50 psi

Cycle ID: 50 (20/10)

CPM: 2Purge Rate: ~ 250 mL/min

PID: 0.6 ppm

Water level fluctuation with pump cycle: n/a

Sampler's Initials JS

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID MPLOTTC-MW-20- 052914

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/14 Time 1035

Media Water Station MW-20

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 106.66 Free Product Thickness: none

Date & Time of Measurement: 5/28/2014 @ 1435

Measurements are in feet below top of well casing.

Sample Intake Point: 111 ft below top of well casing

Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature)  Date 5/29/2014

Supervisor (signature)  Date 5/30/2014

Time Collect Sample 1035[illegible]

Nitrogen Tank: 110 psi
Throttle: 70 psi
Cycle ID: 50 (20s/10s)
CPM: 2
Purge Rate: 2250 mL/min
PID: 0.0 ppm

Water level fluctuation with pump cycle: *NA*

Sampler's Initials JSI

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID MPLOTG-MW-21-052914

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/29/2014 Time 0945

Media Water Station MW-21

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 102.61 Free Product Thickness: none

Date & Time of Measurement: 5/28/14 @ 14:24

Measurements are in feet below top of well casing.

Sample Intake Point: 107 ft below top of well casing

Sample Description clear, no odor

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) [Signature]

Date 5/29/2014

Supervisor (signature) [Signature]

Date 5/30/2014

(p14)

Comments: * Can hear suction from well.

Nitrogen Tank: 110 psi
Throttle: 70 psi
Cycle ID: 50 (20s/10s)
CPM: 2
Purge Rate: ~250 mL/min
PID: 0.0 ppm

Water level fluctuation with pump cycle: N/A

field_parameters.xlsxMasterPark

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A
 Site Location SeaTac, WA Sample ID MPLOT-C-MW-22- 5/28/14
 Sampling Location At end of sample tubing MPLOT-C-MW-22-DUP- 5/28/14

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/28/14 Time 1040, 1045 (dup)

Media Water Station MW-22

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 82.72 Free Product Thickness: none

Date & Time of Measurement: 5/28/14 00954

Measurements are in feet below top of well casing.


Sample Intake Point: 89 ft below top of well casing

Sample Description clear, no odor - possible slight TPH odor

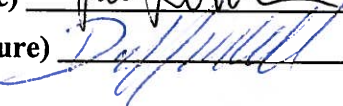
Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|--------------------------|--------------------------|------------------|---------------------|
| (5 x 2) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| 2x (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) 

Date 5/28/2014

Supervisor (signature) 

Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID MW-22

Date 5/28/2014

Time Begin Purge 1003

Time Collect Sample 1040, 1045 (dup)

(PH)

[illegible]

Comments:

Nitrogen Tank: 110 psi

Throttle: 55 psi

Cycle ID: 50

CPM: 2

Purge Rate: ~ 250 mL/min

PID: 0.00 ppm

Water level fluctuation with pump cycle: N/A

Sampler's Initials JS

SAMPLE INTEGRITY DATA SHEET

Plant/Site Master Park Lot C Project No. 073-96668-06.09A

Site Location SeaTac, WA Sample ID PORT-MW-B- 052814

Sampling Location At end of sample tubing

Low Flow Sampling

Technical Procedure Reference(s) App E – Compliance Monitoring Plant Plan (Golder, Nov 2011)

Type of Sampler QED Controller and Bladder Pump – Dedicated Tubing

Date 5/28/2014 Time 1245

Media Water Station PORT-MW-B

Sample Type: grab time composite space composite

Sample Acquisition Measurements (depth, volume of static well water and purged water, etc.)

Static Water Level: 89.56 Free Product Thickness: 0 - none

Date & Time of Measurement: 5/28/14 12:00

Measurements are in feet below top of well casing.

Sample Intake Point: 80 ft below top of well casing 94ft btoc (added 5 ft)

Sample Description clear, no odor. Slightly turbid.

Field Measurements on Sample (pH, conductivity, etc.)

See Field Parameters Sheet

| <u>Aliquot Amount</u> | <u>Analysis</u> | <u>Container</u> | <u>Preservative</u> |
|-----------------------|--------------------------|------------------|---------------------|
| (5) 40 mL | NWTPH-gasoline & BTEX | VOA vial | HCl |
| | EDB (ethylene dibromide) | | |
| | N-hexane | | |
| | Naphthalene | | |
| (2) 500 mL | NTWPH-Dx | Amber Glass | none |
| | | | |
| | | | |

Sampler (signature) [Signature] Date 5/28/2014

Supervisor (signature) [Signature] Date 5/30/2014

FIELD PARAMETERS SHEET

Well ID PORT-MW-B
Date 5/28/2014
Time Begin Purge 1206
Time Collect Sample 1245

(pH)

[illegible]

Comments:

Nitrogen Tank: 110 psi
Throttle: 55 psi
Cycle ID: 50 (20 s / 10 s)
CPM: 2
Purge Rate: ~100 mL/min
PID: 0.0 ppm

Water level fluctuation with pump cycle: ~~NA~~ 89.45 'b to c

Sampler's Initials jsl

APPENDIX C
DATA VALIDATION MEMORANDUM

DATA VALIDATION CHECKLIST

| | |
|----------------------------------|--|
| Project Name: | Masterpark Lot C – Seatac Development Site |
| Project Number: | 073-93368.06.09A |
| Sample Identification(s): | Trip Blank-052814, MPLOT-MW-06-052814, MPLOT-MW-21-052914, MPLOT-MW-17A-052914, MPLOT-MW-19-052914, MPLOT-MW-09-052914, MPLOT-MW-13-052914, MPLOT-MW-18-052914, MPLOT-FB-052914, MPLOT-MW-07-052914, MPLOT-MW-12-052914, Trip Blank-052914, MPLOT-MW-20-052914, MPLOT-MW-22-052814, MPLOT-MW-22-DUP-052814, PORT-MW-B-052814 |
| Sample Date(s): | 5/28/2014 and 5/29/2014 |
| Sample Team: | Jill Lamberts, Aaron Rydecki, Golder Associates |
| Sample Matrix: | Aqueous |
| Analyzing Laboratory: | Analytical Resources Inc (ARI) – Tukwila WA |
| Analyses: | NWTPH-Gx/BTEX, EPA 8260C (EDB, N-hexane, Naphthalene) NWPTH-Dx |
| Laboratory Report No.: | YL76 and YL92 |

FIELD DATA PACKAGE DOCUMENTATION

| Field Sampling Logs: | Reported | | Performance Acceptable | | Not Required |
|--|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Sampling dates noted | | X | | X | |
| 2. Sampling team indicated | | X | | X | |
| 3. Sampling identification traceable to location collected | | X | | X | |
| 4. Sample location | | X | | X | |
| 5. Collection technique (bailer, pump, etc.) | | X | | X | |
| 6. Sample container type | | X | | X | |
| 7. Preservation methods | | X | | X | |
| 8. Chain-of-custody form completed | | X | | X | |
| 9. Required analytical methods requested | | X | | X | |
| 10. Field sample logs completed properly and signed | | X | | X | |
| 11. Number and type of field QC samples collected | | X | | X | |
| 12. Field equipment calibration | | X | | X | |
| 13. Field equipment decontamination | | X | | X | |

QC – quality control

COMMENTS:

Performance was acceptable.

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

| | Reported | | Performance Acceptable | | Not Required |
|---|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Sample results | | X | | X | |
| 2. Parameters analyzed | | X | | X | |
| 3. Method of analysis | | X | | X | |
| 4. Reporting limits of analysis | | X | | X | |
| 5. Sample collection date | | X | | X | |
| 6. Laboratory sample received date | | X | | X | |
| 7. Sample preparation/extraction date | | X | | X | |
| 8. Sample analysis date | | X | | X | |
| 9. Copy of chain-of-custody form signed by lab sample custodian | | X | | X | |
| 10. Narrative summary of QA or sample problems provided | | X | | X | |

QA – quality assurance

COMMENTS:

Performance was acceptable, with the following exceptions and/or notes:

- Cooler temperatures were all $4 \pm 2^{\circ}\text{C}$.
- 2 Trip Blanks, 12 samples, 1 field duplicate, and 1 field blank submitted per work plan.

ORGANIC ANALYSES

| EDB, N-hexane, Naphthalene (EPA 8260C) | Reported | | Performance Acceptable | | Not Required |
|--|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Holding times | | X | | X | |
| 2. Reporting limits | | X | | X | |
| 3. Blanks | | | | | |
| a. Method blanks | | X | X | | |
| b. Field blanks and Trip Blanks | | X | | X | |
| 4. Laboratory control sample (LCS) %R | | X | | X | |
| 5. Matrix spike (MS) %R | | X | | X | |
| 6. LCS duplicate (LCSD) %R | | X | | X | |
| 7. MS duplicate (MSD) %R | | X | | X | |
| 8. MS / MSD RPD | | X | | X | |
| 9. LCS / LCSD RPD | | X | | X | |
| 10. Surrogate %R | | X | X | | |
| 11. Laboratory Duplicate RPD | X | | | | X |
| 12. Field duplicate comparison | | X | | X | |

%R – percent recovery

RPD – relative percent difference

COMMENTS:

Performance was acceptable, with the following exceptions and/or notes:

- SDG YL76: Method blanks, MB-061014A and MB-061114A contained naphthalene. Lab qualified detections as 'B' (*analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample*). MB-061014A has naphthalene at 0.14 J µg/L and MB-061114A has naphthalene at 0.15 J µg/L. Qualify associated results that are less than the LOQ but greater than the DL as **non-detects (U)** at the LOQ value (samples MPLOT-C-MW-06-052814). Qualify associated results that are greater than the LOQ but less than 2X the LOQ as **estimated with a high bias (J+)** (no samples). No action for results that are greater than 2X the LOQ or less than the DL (MPLOT-C-MW-22-052814, MPLOT-C-MW-22-DUP-052814, PORT-MW-B-052814).
- SDG YL92: Method blank, MB-061014A contained naphthalene. Lab qualified detections as 'B'. MB-061014A has naphthalene at 0.14 J µg/L. **Qualify U or J+** according to criteria listed in previous bullet. **Qualify U at LOQ** samples MPLOT-C-MW-21-052914, MPLOT-C-MW-20-052914, MPLOT-C-MW-13-052914, and MPLOT-C-MW-12-052914. **Qualify J+** samples MPLOT-C-MW-17A-052914, and MPLOT-C-MW-18-052914. No action for MPLOT-C-MW-09-052914, MPLOT-C-MW-19-052914, MPLOT-C-MW-07-052914, MPLOT-C-MW-FB-052914, and Trip Blank-052914.
- SDG YL76: CCAL from 6/11/2014 is out of control low for hexane. The lab qualified detections of naphthalene with a "Q" qualifier (*indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria [$<20\%$ RPS, $<20\%$ D or minimum RRF]*). Validation requires qualification of hexane in associated samples as **J or UJ (estimated)**: MPLOT-C-MW-22-DUP-052814 DILUTION and MPLOT-C-MW-06-052814.
- SDG YL76: Surrogate d4-1,2-Dichloroethane (DCE) out of control high for MPLOT-C-MW-22-052814 initial analysis. No qualification necessary for results that are non-detects. Detects are qualified as **estimated (J)**. EDB is non-detect so no qualification was necessary. Naphthalene is detected and is qualified as estimated (J). No qualification is necessary for hexane as the analyte is not associated with the surrogate.

- SDG YL76: Naphthalene for MPLOT-MW-22-032014 and MPLOT-MW-22-DUP-032014 had to be analyzed at a dilution because initial analysis was qualified E by the lab (*Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte*). The reanalysis was within the instrument calibration range and is the result that should be reported. The initial result is qualified as **DNR** (do not report). The diluted results for EDB and hexane for each of the samples are also qualified as **DNR** and the initial results are reported.
- SDG YL76: A field duplicate was collected and sample IDs were MPLOT-MW-22-052814 and MPLOT-MW-22-DUP-052814. Relative percent differences were <20% for all analytes or results were < 5X LOQ.
- MPLOT-FB-052914 field blank (FB), Trip Blank-052814, and Trip Blank-052914 had no detections.
- SDG YL92: Reporting limits were raised for EDB, naphthalene, and hexane in sample MPLOT-MW-09-052914. Lab was contacted for more information and reported that the samples were analyzed at a dilution due to the presence of other non-target compounds. High levels of BTEX (benzene, toluene, ethylbenzene and xylenes) made a 5X dilution necessary to prevent instrument damage. No further action was taken other than to note.
- SDG YL92: Reporting limits were raised for EDB, naphthalene, and hexane in sample MPLOT-MW-07-052914. Lab was contacted for more information and reported that the samples were analyzed at a dilution due to the presence of other non-target compounds. High levels of BTEX (benzene, toluene, ethylbenzene and xylenes) made a 20X dilution necessary to prevent instrument damage. No further action was taken other than to note.

ORGANIC ANALYSES

| NWTPH-Dx (Diesel and Motor Oil) | Reported | | Performance Acceptable | | Not Required |
|---------------------------------------|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Holding times | | X | | X | |
| 2. Reporting limits | | X | | X | |
| 3. Blanks | | | | | |
| a. Method blanks | | X | | X | |
| b. Field blanks | | X | | X | |
| 4. Laboratory control sample (LCS) %R | | X | | X | |
| 5. Matrix spike (MS) %R | | X | | X | |
| 6. LCS duplicate (LCSD) %R | | X | | X | |
| 7. MS duplicate (MSD) %R | | X | | X | |
| 8. MS / MSD RPD | | X | | X | |
| 9. LCS / LCSD RPD | | X | | X | |
| 10. Surrogate %R | | X | | X | |
| 11. Laboratory Duplicate RPD | X | | | | X |
| 12. Field duplicate comparison | | X | | X | |

%R – percent recovery

RPD – relative percent difference

COMMENTS:

Performance was acceptable, with the following exceptions and/or notes:

- The diesel result for samples MPLOTc-MW-22-052814, MPLOTc-MW-22-DUP-052814, MPLOTc-MW-09-052914, MPLOTc-MW-18-052914, MPLOTc-MW-07-052914, MPLOTc-MW-07-052914 DL, and MPLOTc-MW-12-052914 was qualified by the lab as DRO (*indicates results of organics or additional hydrocarbons in ranges are not identifiable*). Qualify diesel results as **estimated (J)**.
- SDG YL76: A field duplicate was collected and sample IDs were MPLOTc-MW-22-052814 and MPLOTc-MW-22-DUP-052814. Relative percent differences (RPDs) were <20% or results were <5X RL for all analytes.
- SDG YL92: Diesel for MPLOTc-MW-07-021314 had to be analyzed at a dilution because initial analysis was qualified E by the lab (*Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte*). The reanalysis was within the instrument calibration range and is the result that should be reported. The initial result is qualified as **DNR** (do not report). The diluted result for Motor Oil is also qualified as **DNR** to select the result with the lower detection limit.
- YL76: MPLOTc-FB-052914 field blank (FB) had no detections.

ORGANIC ANALYSES

| NWTPH-Gx/BTEX (Gasoline, Benzene, Toluene, Ethylbenzene, m,p-Xylene, and o-Xylene) | Reported | | Performance Acceptable | | Not Required |
|--|----------|-----|------------------------|-----|--------------|
| | NO | YES | NO | YES | |
| 1. Holding times | | X | | X | |
| 2. Reporting limits | | X | | X | |
| 3. Blanks | | | | | |
| a. Method blanks | | X | | X | |
| b. Field blanks and Trip Blanks | | X | | X | |
| 4. Laboratory control sample (LCS) %R | | X | | X | |
| 5. Matrix spike (MS) %R | | X | X | | |
| 6. LCS duplicate (LCSD) %R | | X | | X | |
| 7. MS duplicate (MSD) %R | | X | X | | |
| 8. MS / MSD RPD | | X | | X | |
| 9. LCS / LCSD RPD | | X | | X | |
| 10. Surrogate %R | | X | | X | |
| 11. Laboratory Duplicate RPD | X | | | | X |
| 12. Field duplicate comparison | | X | | X | |

%R – percent recovery

RPD – relative percent difference

COMMENTS:

Performance was acceptable, with the following exceptions and/or notes:

- YL76: A field duplicate was collected and sample IDs were MPLOTG-MW-22-052814 and MPLOTG-MW-22-DUP-052814. Relative percent differences (RPDs) were <20% or < 5X LOQ for all analytes.
- MPLOTG-FB-052914 field blank (FB), Trip Blank-052814, and Trip Blank-052914 had no detections.
- Sample result for Gasoline for samples MPLOTG-MW-22-052814, MPLOTG-MW-22-DUP-052814, MPLOTG-MW-09-052914, MPLOTG-MW-13-052914, MPLOTG-MW-18-052914, MPLOTG-MW-07-052914, and MPLOTG-MW-12-052914 was qualified by lab as GAS (indicates the presences of gasoline or weathered gasoline). No further action was taken other than to note.
- Reporting limits were raised for GAS/BTEX in sample MPLOTG-MW-07-052914, MPLOTG-MW-22-052814, and MPLOTG-MW-22-DUP-052814 due to high levels of GAS/BTEX in the sample which made a 10X dilution necessary to prevent instrument damage. No further action was taken other than to note.
- SDG YL92: MS/MSD percent recoveries are out of control high for toluene in association with sample MPLOTG-MW-17A-052914. No action was taken as toluene was non-detect for MPLOTG-MW-17A-052914 and the LCS/LCSD percent recoveries were in control.


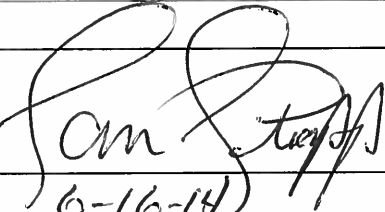
DATA VALIDATION CHECKLIST
SUMMARY AND DATA QUALIFIER CODES

| | |
|----------------------------------|--|
| Project Name: | Masterpark Lot C – Seatac Development Site |
| Project Number: | 073-93368.06.09A |
| Sample Identification(s): | Trip Blank-052814, MPLOT-MW-06-052814, MPLOT-MW-21-052914, MPLOT-MW-17A-052914, MPLOT-MW-19-052914, MPLOT-MW-09-052914, MPLOT-MW-13-052914, MPLOT-MW-18-052914, MPLOT-FB-052914, MPLOT-MW-07-052914, MPLOT-MW-12-052914, Trip Blank-052914, MPLOT-MW-20-052914, MPLOT-MW-22-052814, MPLOT-MW-22-DUP-052814, PORT-MW-B-052814 |
| Sample Date(s): | 5/28/2014 and 5/29/2014 |
| Sample Team: | Jill Lamberts, Aaron Rydecki, Golder Associates |
| Sample Matrix: | Aqueous |
| Analyzing Laboratory: | Analytical Resources Inc (ARI) – Tukwila WA |
| Analyses: | NWTPH-Gx/BTEX, EPA 8260C (EDB, N-hexane, Naphthalene) NWPTH-Dx |
| Laboratory Report No.: | YL76 and YL92 |

Reference

USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods
Data Review, EPA-540-R-08-01, June 2008

| Sample ID | Analyte(s) | Result | Qualifier | Reason(s) |
|---|--|--|--|--|
| MPLOT-MW-09-052914
MPLOT-MW-13-052914
MPLOT-MW-18-052914
MPLOT-MW-07-052914
MPLOT-MW-07-052914 DL
MPLOT-MW-12-052914
MPLOT-MW-22-052814
MPLOT-MW-22-DUP-052814 | Diesel | 2.3 mg/L
0.32 mg/L
0.33 mg/L
14 E mg/L
11 mg/L
0.34 mg/L
1.7 mg/L
2.0 mg/L | J
J
J
J
J
J
J
J | Organics or additional hydrocarbons in ranges that are not identifiable. |
| MPLOT-MW-22-052814 | Naphthalene | 200 E µg/L | J, DNR | Surrogate out of control high. Sample reanalyzed at a dilution and diluted result is reported instead. |
| MPLOT-MW-22-052814 DL
MPLOT-MW-22-DUP-052814 DL | 1,2-Dibromomethane
Hexane
1,2-Dibromomethane
Hexane | < 4.0 U µg/L
6.8 µg/L
< 4.0 U µg/L
6.0 Q µg/L | DNR
DNR
DNR
J, DNR | Report initial analysis for these analytes. J qualifier on hexane is for CCAL out of control low. |
| MPLOT-MW-22-DUP-052814 | Naphthalene | 210 E µg/L | DNR | Sample reanalyzed at a dilution and diluted result is reported instead. |
| MPLOT-MW-06-052814 | Hexane | <2.0 U µg/L | UJ | CCAL out of control low for hexane. |
| MPLOT-MW-06-052814
MPLOT-MW-20-052914
MPLOT-MW-21-052914
MPLOT-MW-17A-052914
MPLOT-MW-13-052914
MPLOT-MW-18-052914
MPLOT-MW-12-052914 | Naphthalene | 0.32 JB µg/L
0.14 JB µg/L
0.32 JB µg/L
0.62 B µg/L
0.21 JB µg/L
0.84 B µg/L
0.35 JB µg/L | <0.50 U µg/L
<0.50 U µg/L
<0.50 U µg/L
J+
<0.50 U µg/L
J+
<0.50 U µg/L | Method blank contains naphthalene |
| MPLOT-MW-07-052914 | Diesel | 14 E mg/L | DNR | Sample reanalyzed at a dilution and diluted result is reported instead. |
| MPLOT-MW-07-052914 DL | Motor Oil | <2.0 U mg/L | DNR | Sample was reanalyzed at a dilution but initial result is reported. |

| | |
|---------------------------------|--|
| VALIDATION PERFORMED BY: | Jill Lamberts, Golder Associates |
| VALIDATOR'S SIGNATURE: |  |
| DATE: | June 16, 2014 |
| REVIEWED BY: | |
| REVIEWER'S SIGNATURE |  |
| DATE: | 6-16-14 |

APPENDIX D
SUMMARY DATA TABLES

Table D-1: Summary of Groundwater Sampling Results - Well MW-06
Sea-Tac Development Site, SeaTac WA

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|----------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet btoc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 11-Feb-14 | 369.68 | 59.03 | 310.65 | 6.13 | 12.1 | 139.0 | 0.91 | 16.4 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.08 | <0.20 | <0.50 | <0.10 | <0.20 |
| 28-May-14 | 369.68 | - | - | 6.14 | 14.3 | 454.0 | 1.03 | 3.7 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 UJ | <0.50 | <0.10 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| ^d | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^e | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^f | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

Table D-2: Summary of Groundwater Sampling Results - Well MW-07
Sea-Tac Development Site, SeaTac WA

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|----------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet btoc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ⁱ | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 13-Feb-14 | 358.69 | 47.72 | 310.97 | 6.56 | 14.3 | 131.3 | 0.35 | 3.9 | 29 | 25 | 110 | 180 | 2022 | <3.8 | 190 | 220 | 11 J | <0.20 |
| 29-May-14 | 358.69 | 47.65 | 311.04 | 6.65 | 16.4 | 379.0 | 0.13 | 2.8 | 27 | 14 | 80 | 190 | 1811 | <1.5 | 140 | 210 B | 11 J | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|----------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| d | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| e | When benzene is not present. | MTCA | Model Toxics Control Act |
| f | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| i | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

Table D-3: Summary of Groundwater Sampling Results - Well MW-09
Sea-Tac Development Site, SeaTac WA

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|----------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet btoc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ⁱ | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 12-Feb-14 | 362.13 | 51.45 | 310.68 | 6.49 | 12.6 | 99.5 | 0.28 | 3.1 | 7.5 | 30 | 8.1 | 150 | 98.0 | <0.08 | 16 | 120 | 1.6 J | <0.20 |
| 29-May-14 | 362.13 | 51.41 | 310.72 | 6.44 | 15.0 | 295.1 | 0.14 | 1.0 | 8 | 32 | 9 | 170 | 112 | <0.37 | 5.6 | 92 B | 2.3 J | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | |
|----------|--|
| feet bgs | Feet below ground surface |
| feet bmp | Feet below measuring point |
| feet msl | Feet above mean sea level |
| a | Well not surveyed, elevation estimated. |
| b | IAS/SVE in operation. Suction may be affecting WLs. |
| c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. |
| d | When benzene is present. |
| e | When benzene is not present. |
| f | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. |
| g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs |
| h | Value is more protective than Federal MCLs. |
| i | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. |
| j | Turbidity out of range. Well was purged using a bailer. |

| | |
|----------|---|
| - | Not measured or not available |
| | Result exceeds Clean-up Level (CUL) |
| mg/L | Milligrams per liter |
| µg/L | Micrograms per liter |
| NTU | Nephelometric Turbidity Unit |
| µmhos/cm | Micromhos per centimeter |
| < | Analyte not detected above the reporting limit shown |
| MTCA | Model Toxics Control Act |
| MCL | Maximum Containment Level |
| NSA | No Standard Available |
| TOC | Top of casing inside PVC well |
| °C | Degrees Celsius |
| J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-4: Summary of Groundwater Sampling Results - Well MW-12
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bmc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 13-Feb-14 | 364.83 | 55.02 | 309.81 | 7.76 | 14.1 | 125.2 | 10.50 | 3.4 | 8.6 | 79 | 410 | 79 | 970 | <3.8 | <10 | 25 | 1.1 J | <0.20 |
| 29-May-14 | 364.83 | 51.58 | 313.25 | 7.87 | 16.7 | 251.6 | 11.77 | 6.0 | 0.12 | 2.0 | 4.3 | 1.6 | 4.15 | <0.07 | <0.20 | <0.50 | 0.34 J | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-5: Summary of Groundwater Sampling Results - Well MW-13
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bmc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 12-Feb-14 | 365.42 | 54.35 | 311.07 | 6.57 | 13.2 | 73.3 | 1.41 | 4.3 | 14 | <0.25 | 3.90 | 240 | 2070 | <0.08 | <0.20 | 33 | 1.4 J | <0.20 |
| 29-May-14 | 365.42 | 55.62 | 309.80 | 6.84 | 14.7 | 181.8 | 10.59 | 4.2 | 0.14 | <0.25 | <0.25 | 0.85 | 18.5 | <0.07 | 0.11 J | <0.50 | 0.32 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-6: Summary of Groundwater Sampling Results - Well MW-17A
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bmc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 11-Feb-14 | 394.00 | 83.80 | 310.20 | 6.36 | 11.3 | 82.5 | 1.06 | 137.0 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.08 | <0.20 | 0.74 | <0.10 | <0.20 |
| 29-May-14 | 394.00 | 84.00 | 310.00 | 6.22 | 12.2 | 175.4 | 2.06 | 39.7 | <0.10 | 0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 | 0.62 J+ | <0.10 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| ^d | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^e | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^f | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-7: Summary of Groundwater Sampling Results - Well MW-18
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bmc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 12-Feb-14 | 360.45 | 49.01 | 311.44 | 7.62 | 13.8 | 174.6 | 8.11 | 2.9 | 1.0 | 27 | 13 | 17 | 91.3 | <0.08 | 1.1 | 4.0 | 0.77 J | <0.20 |
| 29-May-14 | 360.45 | 49.75 | 310.70 | 7.98 | 15.2 | 369.0 | 10.60 | 8.0 | 0.14 | 6.6 | 1.5 | 4.7 | 9.20 | <0.07 | 0.64 | 0.84 J+ | 0.33 J | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^f | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^g | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ^h | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ⁱ | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-8: Summary of Groundwater Sampling Results - Well MW-19
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bwc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 11-Feb-14 | 356.61 | 45.46 | 311.15 | 6.98 | 12.7 | 105.2 | 0.15 | 3.2 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.08 | 4.3 | <0.50 | <0.10 | <0.20 |
| 29-May-14 | 356.61 | 45.74 | 310.87 | 6.96 | 13.7 | 289.7 | 0.04 | 0.4 | <0.10 | <0.25 | 0.40 | <0.25 | 0.58 | <0.07 | 0.30 | <0.50 | <0.10 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-9: Summary of Groundwater Sampling Results - Well MW-20
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bmc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 20-Mar-14 | 416.61 | 106.13 | 310.48 | 6.74 | 11.4 | 377.0 | 7.82 | 3.3 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 | <0.50 UJ | <0.10 | <0.20 |
| 29-May-14 | 416.61 | 106.66 | 309.95 | 6.73 | 12.3 | 256.5 | 6.37 | 0.8 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 | <0.50 | <0.10 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^f | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^g | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ^h | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ⁱ | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

Table D-10: Summary of Groundwater Sampling Results - Well MW-21
Sea-Tac Development Site, SeaTac WA

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bwc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 11-Feb-14 | 412.85 | 102.34 | 310.51 | 6.09 | 11.9 | 109.6 | 6.31 | 11.2 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.08 | <0.20 | <0.50 | <0.10 | <0.20 |
| 29-May-14 | 412.85 | 102.61 | 310.24 | 6.15 | 12.5 | 276.9 | 6.28 | 1.7 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 | <0.50 | <0.10 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

Table D-11: Summary of Groundwater Sampling Results - Well MW-22
Sea-Tac Development Site, SeaTac WA

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bwc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 20-Mar-14 | 393.31 | 82.93 | 310.38 | 6.68 | 12.2 | 381.0 | 0.87 | 64.8 | 17 | 5.7 | 12 | 990 | 1503 | <0.07 | 7.8 | 400 J | 1.2 J | <0.20 |
| 28-May-14 | 393.31 | 82.72 | 310.59 | 6.73 | 13.2 | 383.0 | 0.30 | 2.3 | 18 | 3.9 | 9.7 | 940 | 1900 | <0.07 | 8.6 | 420 B | 1.7 J | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^d | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^e | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |

**Table D-12: Summary of Groundwater Sampling Results - Well PORT-MW-B
Sea-Tac Development Site, SeaTac WA**

| Date Sampled ^c | Field Parameters | | | | | | | | Analytical Data | | | | | | | | | |
|---------------------------|--|---------------------------|----------------------------------|---------------------|------------------|-------------------------|-------------------------|-----------------|------------------------------------|----------------|-------------------|---------------------|----------------------|--|-----------------|--------------------|---------------------|------------------------|
| | TOC Elevation (feet msl) | Depth to Water (feet bmc) | Groundwater Elevation (feet msl) | pH (standard units) | Temperature (°C) | Conductivity (µmhos/cm) | Dissolved Oxygen (mg/L) | Turbidity (NTU) | NWTPH-Gasoline (mg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | EDB (ethylene dibromide) (µg/L) ^f | N-hexane (µg/L) | Naphthalene (µg/L) | NWTPH-Diesel (mg/L) | NWTPH-Motor Oil (mg/L) |
| 20-Mar-14 | 400.00 | 89.70 | 310.30 | 6.55 | 12.3 | 266.9 | 6.16 | J | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 | <0.50 UJ | <0.10 | <0.20 |
| 28-May-14 | 400.00 | 89.50 | 310.50 | 6.50 | 14.2 | 317.0 | 4.63 | 98.3 | <0.10 | <0.25 | <0.25 | <0.25 | <0.50 | <0.07 | <0.20 | <0.50 | <0.10 | <0.20 |
| Clean-up Level | MTCA Method A for Groundwater (unrestricted landuse) | | | | | | | | 0.8 ^d /1.0 ^e | 5 ^g | 1000 ^g | 700 ^g | 1000 ^h | 0.01 ^h | NSA | 160 | 0.5 | 0.5 |
| | MTCA Method B for Groundwater (unrestricted landuse) | | | | | | | | NSA | 5 ⁱ | 640 | 800 | 1600 | 0.022 | 480 | 160 | NSA | NSA |

Notes:

| | | | |
|--------------|--|----------|---|
| feet bgs | Feet below ground surface | - | Not measured or not available |
| feet bmp | Feet below measuring point | | Result exceeds Clean-up Level (CUL) |
| feet msl | Feet above mean sea level | mg/L | Milligrams per liter |
| ^a | Well not surveyed, elevation estimated. | µg/L | Micrograms per liter |
| ^b | IAS/SVE in operation. Suction may be affecting WLs. | NTU | Nephelometric Turbidity Unit |
| ^c | Water levels collected at various times prior to sampling (see Table 1). Date/time is sampling time. | µmhos/cm | Micromhos per centimeter |
| ^d | When benzene is present. | < | Analyte not detected above the reporting limit shown |
| ^e | When benzene is not present. | MTCA | Model Toxics Control Act |
| ^f | Reported at Method Detection Limit (MDL). The MDL is greater than the MTCA CULs. | MCL | Maximum Containment Level |
| ^g | Inclusive of 40 CFR 141.61 Federal Law for drinking water MCLs | NSA | No Standard Available |
| ^h | Value is more protective than Federal MCLs. | TOC | Top of casing inside PVC well |
| ⁱ | MTCA 173-340-705(5): Adjustments to cleanup levels based on applicable laws. | °C | Degrees Celsius |
| ^j | Turbidity out of range. Well was purged using a bailer. | J | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | UJ | The constituent was analyzed for, but was not detected above the reported sample quantitation limit; however, the value reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met. |
| | | J+ | The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high. |
| | | B | Analyte detected in an associated Method Blank at a concentration greater than one-half of laboratory's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample. |