Technical Memorandum

TO:	Christer Loftenius, Washington State Department of Ecology
FROM:	Ryan Reich, LG
DATE:	June 26, 2018
RE:	**Groundwater Sampling – Chlorine and Sulfide Screening** **Hamilton Street Bridge Site** **Spokane, Washington** **Project No. 0236042.043.041**

Introduction and Background

This technical memorandum summarizes the results of chlorine and sulfide screening performed on groundwater samples ATC7-020, MW02-20, MW-02-40, MW07-90, and MW04-20 collected March 12, 2018 at the Hamilton Street Bridge site in Spokane, Washington (site). Samples are collected and analyzed semiannually for polycyclic aromatic hydrocarbons (PAHs), carcinogenic PAHs (cPAHs), mercury, total and dissolved arsenic, and weak acid dissociable (WAD) cyanide in accordance with the Compliance Monitoring Plan (LAI 2003).

The purpose of the groundwater screening was to evaluate whether chlorine and sulfide are present at concentrations that could cause matrix interferences and impact (WAD) cyanide analysis using method SM 4500 CN I. Chlorine in groundwater is known to cause decomposition of cyanide complexes, limiting detection at the time of analysis (BC, 2018). In high-pH conditions, sulfide in groundwater may bind with free cyanide to form thiocyanate. This conversion could occur after a sample has been field-preserved with sodium hydroxide, the standard-method preservative, limiting detection at the time of analysis. Potential chlorine or sulfide presence could be due to road surface runoff containing de-icer, or the byproducts of historical industrial operations at the site, such as coal gas manufacturing.

Screening Procedures

Chlorine

After purging three well volumes from each monitoring well, groundwater samples were field-screened for chlorine using LaMotte chlorine test papers provided by TestAmerica Laboratories, Inc. of Spokane, Washington. The chlorine test papers have a detection limit of 10 parts per million (ppm). The intent of the screening was to identify the presence of chlorine and, if present, use laboratory-provided sodium thiosulfate to dechlorinate samples prior to submittal for WAD cyanide analysis.

Sulfide

All samples submitted for WAD cyanide analysis were first screened by the laboratory for sulfide according to standard laboratory practice. The laboratory used lead acetate paper, which has a detection limit of 5 ppm, to conduct the screening (Arrington 2018). If sulfide was detected by the laboratory prior to analysis, technicians were to treat the pre-preserved sample with bismuth nitrate to precipitate out sulfide from thiocyanate, if present, freeing cyanide for detection.

Screening Results

Chlorine

Based on field screening, chlorine was not detected in groundwater samples collected at any of the monitoring locations; therefore, none of the samples were treated with sodium thiosulfate. All samples were preserved with sodium hydroxide, the standard-method preservative. Screening results were recorded on the March 12, 2018 sample collection forms. Copies of the collection forms are included in Attachment 1.

Sulfide

Per the laboratory report job narrative for the March 12, 2018 semiannual monitoring event (LAI 2018), sulfide was not detected by screening in any of the groundwater samples. Furthermore, cyanide spike recoveries in the laboratory quality control matrix spike and matrix spike duplicate samples collected from monitoring well ATC7-20 were within control limits and showed no evidence of matrix interferences.

Future Sample Screening

The presence of chlorine or sulfide in groundwater can cause matrix interferences, resulting in cyanide analytical results with negative bias. To rule out the possibility of such interferences, future sampling events will include the following screening and preparation:

- Groundwater samples will be field-screened for chlorine using LaMotte test paper. When chlorine is identified above the test paper detection limit (10 ppm), samples will be dechlorinated with sodium thiosulfate. The results of the field-screening (including detection limits) and dechlorinating processes will be reported on the sample collection forms.
- If necessary, groundwater samples may be field-screened for sulfide using test paper, such as Sigma-Aldrich® lead acetate paper. The results of the field screening (including detection limits) would be reported on sample collection forms.
- Prior to WAD cyanide analysis, laboratory testing for sulfide will be conducted using either lead acetate test paper or U.S. Environmental Protection Agency Method 376.1 or 376.2. Test results (including detection limits) will be included in the laboratory analytical report.

If sulfide is detected and treatment with bismuth nitrate is required, the treatment method will be described in the laboratory report job narrative.

The screening approach described above will continue through 2020 when the results will be re-evaluated during the Third 5-year Periodic Review.

If you have questions regarding the content of this technical memorandum, please contact Ryan Reich at (509) 327-9737 or rreich@landauinc.com.

LANDAU ASSOCIATES, INC.

Ryan Reich, LG
Senior Project Geologist

RRR/TDB/mcs
[A:\236-AVISTA\042-HAMILTON ST\R\MONITORING\REPORTS\2018\MARCH 2018 REPORT\HAMILTON STREET BRIDGE SITE SUMMARY OF GROUNDWATER SCREENING.DOCX]

References

Arrington, R. 2018. "Hamilton Street Bridge Site, March 12, 2018 Groundwater Samples, Sulfide Screening Method." TestAmerica Laboratories, Inc. June 14.

BC, 2018. Analysis of Cyanide (Total, Weak Acid Dissociable, and Free) – PBM. British Columbia, Canada. Environmental Protection & Sustainability, Approved Water Quality Guidelines. https://www2.gov.bc.ca/assets/gov/environment/research-monitoring-and-reporting/monitoring/emre/methods/bc_moe_cyanide_analysis_method_pbm_08mar2017_draft.pdf. Accessed June 22, 2018.

LAI. 2003. Compliance Monitoring Plan, Hamilton Street Bridge Site, Spokane, Washington. Landau Associates, Inc.

LAI. 2018. Semiannual Monitoring Report, March 12, 2018 Sampling Event, Hamilton Street Bridge Site, Spokane, Washington. Landau Associates, Inc. May 30.

Attachments: Attachment 1. Groundwater Sample Collection Forms – March 12, 2018

ATTACHMENT 1

Groundwater Sample Collection Forms
March 12, 2018

Summary of Groundwater Monitoring Well Measurements
Avista Hamilton Street Bridge
Spokane, Washington

Date Measured: 3/12/14
Field Personnel: Shane Kostka

Well Number	Time	Depth to Groundwater - below PVC casing (feet)
ATC7-20	9:25	14.70
MW2-20	9:50	17.02
MW2-40	8:45	16.76
MW4-20	9:10	15.48
MW7-90	9:05	15.14
MW8-20	8:30	20.38
MW8-90	8:35	23.22
MW9-20	8:10	13.85
MW9-100	8:20	14.52
River Stage	9:20	3.76

NM = not measured

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Groundwater/Surface Water Sample Collection Form

PROJECT Avista HSB PROJ. NO. 236042
EVENT March 2016 GW

SAMPLE NO. ATC 7-20-031216
DATE COLLECTED 3/12/16 TIME 10:55

WEATHER 4°C / Sun COLLECTOR Shane Kostka

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 14.68 Time 9:55 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing

Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Above ground monument

Sample Location: **ATC7-20**

Begin Purge: Date/Time 3/12/16, 10:03 Casing Volume (gal): 1.3

End Purge: Date/Time 3/12/16, 10:50 Purge Volume (gal): 3.9

Total Depth of Well (ft. below top of well casing) 22.3

Casing Volume Calculation (22.3 - 14.68) X(0.17) = 1.3

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/in ft)	Wt. Water (lbs/in ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1.3	10.96	550	6.60	6.10	75.6	3.61	14.67	
2.6	10.97	549	6.63	8.02	75.3	2.12	14.65	
3.9	11.05	550	6.74	7.94	74.5	0.00	14.65	

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type Peri-pump

Made of: [ ] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other

Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [x] DI Water [x] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor or sheen

Chlorine (measured with test strips)

Initial concentration: <10 ppm

Sodium Thiosulfate added: _____ (drops) Concentration: _____ (ppm)

Sodium Thiosulfate added: _____ (drops) Concentration: _____ (ppm)

Sodium Thiosulfate added: _____ (drops) Concentration: _____ (ppm)

Sodium Thiosulfate added: _____ (drops) Concentration: _____ (ppm)

Containers	ANALYSIS		Preservative
3	8270 PAH		None
3	WAD cyanide	With 0 drops of X % Sodium Thiosulfate	NaOH
6	Total Metals (As) (Hg)		NO3
3	Dissolved Metals (As)		Lab Filtered

Duplicate Sample No(s): MS/ MSD

Comments: New Paint on monument

Signature: [signature] Date 3/12/16

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Groundwater/Surface Water Sample Collection Form

PROJECT Avista HSB PROJ. NO. 236042
EVENT March 2016 GW

SAMPLE NO. MW2-40-031216
DATE COLLECTED 3/12/16 TIME 13:25

WEATHER 90°C/Sun COLLECTOR Shane Kostka

WATER LEVEL/WELL/PURGE DATA

Sample Type: [X] Groundwater [ ] Surface Water [ ] Other

Depth to Water (ft) 16.75 Time: 11:50 Meas. From: [ ] Top of Protective Casing [X] Top of Well Casing

Well Casing Type: [X] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2

Well Condition: Secure (YES) or NO) Damaged (YES or (NO) Describe Above ground monument

Sample Location: **MW2-40**

Begin Purge: Date/Time 3/12/16, 11:52 Casing Volume (gal): 4.5

End Purge: Date/Time 3/12/16, 13:20 Purge Volume (gal): 13.5

Total Depth of Well (ft. below top of well casing) 43.0

Casing Volume Calculation: (43.0 - 16.75)(0.17) = 4.5

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [X] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
4.5	10.73	453	6.11	7.82	79.5	5.16	16.76	
9.0	10.89	454	6.14	7.84	78.5	4.56	16.74	
13.5	10.91	453	6.13	7.85	77.9	3.56	16.73	

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [X] Pump/Type Peri-Pump

Made of: [ ] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [X] Dedicated [ ] Other

Decon Procedure: [X] Liquinox Wash [ ] Tap Rinse [X] DI Water [X] Dedicated [ ] Other

Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor or sheen

Chlorine (measured with test strips)

Initial concentration: <10 ppm

Sodium Thiosulfate added: ____ Concentration: ____

Sodium Thiosulfate added: ____ Concentration: ____

Sodium Thiosulfate added: ____ Concentration: ____

Sodium Thiosulfate added: ____ Concentration: ____

Containers	ANALYSIS	Preservative
1	8270 PAH	None
1	WAD cyanide — With 0 drops of X% Sodium Thiosulfate	NaOH
2	Total Metals (As) (Hg)	NO3
1	Dissolved Metals (As)	Lab Filtered

Duplicate Sample No(s): —

Comments:

Signature: [signature] Date 3/12/16

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Groundwater/Surface Water Sample Collection Form

PROJECT Avista HSB PROJ. NO. 236042
EVENT March 2018 GW

SAMPLE NO. MW2-20-031218
DATE COLLECTED 3/12/18 TIME 14:25
WEATHER 12°C/Sun COLLECTOR Shane Kostka

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other
Depth to Water (ft) 16.94 Time: 13:30 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing
Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2
Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Above ground monument

Sample Location: MW2-20

Begin Purge: Date/Time 3/12/18, 13:40 Casing Volume (gal): 1.0
End Purge: Date/Time 3/12/18, 14:20 Purge Volume (gal): 3.0
Total Depth of Well (ft. below top of well casing) 22.5
Casing Volume Calculation: (22.5 - 16.94)(0.17) = 1.0

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1.0	5.35	93	9.53	7.73	37.2	5148	16.94	
2.0	5.35	92	9.30	7.79	-1.1	2238	16.94	
3.0	5.39	92	9.52	7.85	~~6.11~~ 24.8	6.11	16.94	

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type Peri-pump
Made of: [ ] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other
Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [x] DI Water [x] Dedicated [ ] Other
Sample Description (color, turbidity, odor, sheen, etc.): clear, colorless, no odor or sheen

Chlorine (measured with test strips)

Initial concentration: 210 ppm

Sodium Thiosulfate added: ____ Sodium Thiosulfate added: ____
Concentration: ____ Concentration: ____
Sodium Thiosulfate added: ____ Sodium Thiosulfate added: ____
Concentration: ____ Concentration: ____

Containers	ANALYSIS		Preservative
1	8270 PAH		None
1	WAD cyanide	With 0 drops of ~~10~~ % Sodium Thiosulfate	NaOH
2	Total Metals (As) (Hg)		NO3
1	Dissolved Metals (As)		Lab Filtered

Duplicate Sample No(s): —
Comments:

Signature: Date 3/12/18

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Groundwater/Surface Water Sample Collection Form

PROJECT Avista HSB PROJ. NO. 236042
EVENT March 2018 GW

SAMPLE NO. MW7-90-031218
DATE COLLECTED 3/12/18 TIME 15:30
WEATHER 16°C/Sun COLLECTOR Shane Kostka

WATER LEVEL/WELL/PURGE DATA

Sample Type: [X] Groundwater [ ] Surface Water [ ] Other
Depth to Water (ft) 15.11 Time: 14:56 Meas. From: [ ] Top of Protective Casing [X] Top of Well Casing
Well Casing Type: [X] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2
Well Condition: Secure (YES or NO) Damaged (YES or NO) Describe Above ground monument
Sample Location: MW7-90
Begin Purge: Date/Time 3/12/18 14:58 Casing Volume (gal): 13.2
End Purge: Date/Time 3/12/18 15:25 Purge Volume (gal): 39.6
Total Depth of Well (ft. below top of well casing) 92.7
Casing Volume Calculation: (92.7 - 15.11)(0.17) = 13.2

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [X] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
13.2	11.70	386	6.57	7.89	74.6	23.51	15.22	
26.4	11.69	395	7.23	7.98	81.6	4.39	15.22	
39.6	11.70	396	7.28	7.99	83.2	4.39	15.22	

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [X] Pump/Type Sub - Pump
Made of: [ ] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [X] Dedicated [ ] Other
Decon Procedure: [X] Liquinox Wash [ ] Tap Rinse [X] DI Water [X] Dedicated [ ] Other
Sample Description (color, turbidity, odor, sheen, etc.): Clear, colorless, no odor or sheen

Chlorine (measured with test strips)

Initial concentration: <10 ppm

Sodium Thiosulfate added: ____ Sodium Thiosulfate added: ____
Concentration: ____ Concentration: ____
Sodium Thiosulfate added: ____ Sodium Thiosulfate added: ____
Concentration: ____ Concentration: ____

Containers	ANALYSIS		Preservative
3	8270 PAH		None
2	WAD cyanide	With 0 drops of X% Sodium Thiosulfate	NaOH
4	Total Metals (As) (Hg)		NO3
2	Dissolved Metals (As)		Lab Filtered

Duplicate Sample No(s): MW20-60 (9:50)
Comments:

Signature: [signature] Date 3/12/18

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Groundwater/Surface Water Sample Collection Form

PROJECT Avista HSB PROJ. NO. 236042
EVENT March 2018 GW

SAMPLE NO. MW4-20-031218
DATE COLLECTED 3/12/18 TIME 16:50
WEATHER 17°C / sun COLLECTOR Shane Kostka

WATER LEVEL/WELL/PURGE DATA

Sample Type: [x] Groundwater [ ] Surface Water [ ] Other
Depth to Water (ft) 15.42 Time: 16:20 Meas. From: [ ] Top of Protective Casing [x] Top of Well Casing
Well Casing Type: [x] PVC [ ] Stainless Steel [ ] Fiberglass Casing/Well Diameter (", whole no.): 2
Well Condition: Secure (YES) or NO) Damaged (YES or (NO) Describe Above ground monument
Sample Location: MW4-20
Begin Purge: Date/Time 3/12/18, 16:22 Casing Volume (gal): 1.0
End Purge: Date/Time 3/12/18, 16:46 Purge Volume (gal): 3.0
Total Depth of Well (ft. below top of well casing) 21.8
Casing Volume Calculation: (21.8 - 15.42)(0.17) = 1.0

VOLUME OF SCHEDULE 40 PVC PIPE

Diameter (inch)	O.D. (inch)	I.D. (inch)	Volume (gal/ln ft)	Wt. Water (lbs/ln ft)
1.25	1.660	1.380	0.08	0.64
2	2.375	2.067	0.17	1.45
4	4.500	4.026	0.66	5.51
6			1.47	12.24

Purge Water Disposal to: [x] 55-gal drum [ ] Storage Tank [ ] Ground [ ] Other

Vol. Purged (gal)	Temp. (°C)	Cond. (uS/cm)	DO (mg/L)	pH (SU)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
1.0	10.30	542	2.80	7.37	107.9	1.00	15.44	
2.0	10.33	540	2.62	7.31	105.6	1.98	15.44	
3.0	10.30	540	2.57	7.35	105.5	2.11	15.44	

SAMPLE COLLECTION DATA

Sample Collected With: [ ] Bailer [x] Pump/Type Peri-Pump
Made of: [ ] Stainless Steel [ ] PVC [ ] Teflon [ ] Polyethylene [x] Dedicated [ ] Other
Decon Procedure: [x] Liquinox Wash [ ] Tap Rinse [x] DI Water [x] Dedicated [ ] Other
Sample Description (color, turbidity, odor, sheen, etc.): clear, colorless, no odor or sheen

Chlorine (measured with test strips)

Initial concentration: < 10 ppm
Sodium Thiosulfate added: Concentration: Sodium Thiosulfate added: Concentration:
Sodium Thiosulfate added: Concentration: Sodium Thiosulfate added: Concentration:

Containers	ANALYSIS	Preservative
1	8270 PAH	None
1	WAD cyanide	NaOH
2	Total Metals (As) (Hg)	NO3
1	Dissolved Metals (As)	Lab Filtered

With 0 drops of X% Sodium Thiosulfate

Duplicate Sample No(s): —
Comments:
Signature: Date 3/12/18

TestAmerica Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone (509) 924-9200 Fax (509) 924-9290

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Shane Kostka	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-3489-808.1
Client Contact: Mr. Ryan Reich	Phone: 208-819-1965	E-Mail: randee.arrington@testamericainc.com		Page: Page 1 of 2
Company: Landau & Associates, Inc.		Analysis Requested		Job #:
Address: 10 North Post Street, Suite 218	Due Date Requested:			Preservation Codes:
City: Spokane	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WA, 99201				
Phone: 509-995-1665(Tel)	PO #: Purchase Order not required			Other: # No Sodium Thiosulfate added #
Email: rreich@landauinc.com	WO #:			
Project Name: Avista Hamilton St. Bridge	Project #: 59000367			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	4500_CN_I - Weak Acid Dissociable Cyanide	200.8_CWA_LL - Total Arsenic	200.8_CWA_LL - Dissolved Arsenic	8270D_SIM - Polycyclic Aromatic Hydrocarbons	245.1 - Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	D	N	N	D		
MW20-60-031216	3/12/16	9:50		Water			X	X	X	X	X	5	AS QL ⇒ 1 ug/L
ATC 7-20-031216		10:55		Water									Hg QL ⇒ 0.2 ug/L
MW2-40-031216		13:25		Water									PAH QL ⇒ 0.1 ug/L
MW2-20-031216		14:25		Water									Cyanide QL ⇒ 10 ug/L
MW7-40-031216		15:30		Water									
MW4-20-031216		16:50		Water									
ATC 7-20-031216 #		9:50		Water								10	
				Water									
				Water									
				Water									
				Water									

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: # MS/MSD

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	3/13/16, 8:30	LAI		3-13-16 830	TT-SPO
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.7°C

Ver: 08/04/2016