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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **WP2312224**	Page	: 1 of 12
Client	: **WSP Canada Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 477 6650	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 PHASE 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Date Analysis Commenced	: 22-Jun-2023
C-O-C number	: ----	Issue Date	: 30-Jun-2023 12:24
Sampler	: ----		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Adrian Canito		Inorganics, Calgary, Alberta
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Dung Hoang		Organics, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Kuljeet Chawla		Inorganics, Calgary, Alberta
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Oleksandr Busel		Organics, Winnipeg, Manitoba
Shirley Li	Team Leader - Inorganics	Metals, Calgary, Alberta

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
AI	Analytical interferences may be present. Result may be biased high.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
EMPC	Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
SHMI	Surrogate recovery was outside ALS DQO (High) due to Matrix Interference

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-MW01-3	P-MW01-6	P-BH03-3	P-BH03-6	P-MW05-2	P-MW05-4	P-BH02-5
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WP2312224-001	WP2312224-002	WP2312224-003	WP2312224-004	WP2312224-005	WP2312224-006	WP2312224-007
Physical Tests											
Moisture	----	E144/WP			16.6	34.4	26.9	32.9	24.9	28.8	33.7
Particle Size											
Sand (>0.075mm)	----	E178/CG	%		----	----	----	----	7.1	----	----
Fines (<0.075mm)	----	E178/CG			----	----	----	----	92.9	----	----
Texture class	----	E178/CG	-		----	----	----	----	Fine	----	----
Metals											
Aluminum	7429-90-5	E440/CG			----	----	----	----	31800	----	33000
Antimony	7440-36-0	E440/CG	mg/kg		----	----	----	----	0.43	----	0.53
Arsenic	7440-38-2	E440/CG			----	----	----	----	6.64	----	10.9
Barium	7440-39-3	E440/CG	mg/kg		----	----	----	----	238	----	280
Beryllium	7440-41-7	E440/CG			----	----	----	----	1.25	----	1.62
Bismuth	7440-69-9	E440/CG	mg/kg		----	----	----	----	0.25	----	0.38
Boron	7440-42-8	E440/CG			----	----	----	----	24.2	----	21.8
Cadmium	7440-43-9	E440/CG	mg/kg		----	----	----	----	0.289	----	0.304
Calcium	7440-70-2	E440/CG			----	----	----	----	77500	----	21700
Chromium	7440-47-3	E440/CG	mg/kg		----	----	----	----	59.7	----	66.6
Cobalt	7440-48-4	E440/CG			----	----	----	----	13.9	----	20.9
Copper	7440-50-8	E440/CG	mg/kg		----	----	----	----	30.1	----	43.5
Iron	7439-89-6	E440/CG			----	----	----	----	30700	----	40100
Lead	7439-92-1	E440/CG	mg/kg		----	----	----	----	24.7	----	19.3
Lithium	7439-93-2	E440/CG			----	----	----	----	40.1	----	42.4
Magnesium	7439-95-4	E440/CG	mg/kg		----	----	----	----	40200	----	19200
Manganese	7439-96-5	E440/CG			----	----	----	----	676	----	636
Molybdenum	7439-98-7	E440/CG	mg/kg		----	----	----	----	0.54	----	1.32
Nickel	7440-02-0	E440/CG			----	----	----	----	43.6	----	56.3
Phosphorus	7723-14-0	E440/CG	mg/kg		----	----	----	----	520	----	745
Potassium	7440-09-7	E440/CG			----	----	----	----	5280	----	6700
Selenium	7782-49-2	E440/CG	mg/kg		----	----	----	----	<0.20	----	1.10

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-MW01-3	P-MW01-6	P-BH03-3	P-BH03-6	P-MW05-2	P-MW05-4	P-BH02-5
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WP2312224-001	WP2312224-002	WP2312224-003	WP2312224-004	WP2312224-005	WP2312224-006	WP2312224-007
Metals											
Silver	7440-22-4	E440/CG			----	----	----	----	0.13	----	0.17
Sodium	7440-23-5	E440/CG	mg/kg		----	----	----	----	786	----	581
Strontium	7440-24-6	E440/CG			----	----	----	----	120	----	92.8
Sulfur	7704-34-9	E440/CG	mg/kg		----	----	----	----	<1000	----	<1000
Thallium	7440-28-0	E440/CG			----	----	----	----	0.343	----	0.405
Tin	7440-31-5	E440/CG	mg/kg		----	----	----	----	<2.0	----	<2.0
Titanium	7440-32-6	E440/CG			----	----	----	----	343	----	227
Tungsten	7440-33-7	E440/CG	mg/kg		----	----	----	----	<0.50	----	<0.50
Uranium	7440-61-1	E440/CG			----	----	----	----	1.00	----	2.38
Vanadium	7440-62-2	E440/CG	mg/kg		----	----	----	----	81.2	----	101
Zinc	7440-66-6	E440/CG			----	----	----	----	105	----	123
Zirconium	7440-67-7	E440/CG	mg/kg		----	----	----	----	9.1	----	18.7
Volatile Organic Compounds [BTEXS+MTBE]											
Benzene	71-43-2	E611A/WP			3.32	0.0450	9.44	0.492	<0.0050	<0.0050	<0.0050
Ethylbenzene	100-41-4	E611A/WP	mg/kg		42.4 DLHC	0.248	38.4 DLHC	0.053	<0.015	<0.015	<0.015
Toluene	108-88-3	E611A/WP			7.06	<0.050	1.81	<0.050	<0.050	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WP	mg/kg		109 DLHC	0.253	43.7 DLHC	0.081	<0.050	<0.050	<0.050
Xylene, o-	95-47-6	E611A/WP			15.0 DLHC	<0.050	13.1 DLHC	<0.050	<0.050	<0.050	<0.050
Xylenes, total	1330-20-7	E611A/WP	mg/kg		124	0.253	56.8	0.081	<0.075	<0.075	<0.075
BTEX, total	----	E611A/WP			177	0.55	106	0.63	<0.10	<0.10	<0.10
Hydrocarbons											
F1 (C6-C10)	----	E581.F1/WP	mg/kg		3190 DLHC	6.5	1230 DLHC	<5.0	<5.0	<5.0	<5.0
F1-BTEX	----	EC580/WP			3010	6.0	1120	<5.0	<5.0	<5.0	<5.0
TEH (C10-C50)	n/a	E601.SG/WP	mg/kg		2460	<75	260	<75	<75	<75	<75
TEH (C16-C50)	----	E601.SG/WP			1560	<75	<75	<75	<75	<75	<75
F2 (C10-C16)	----	E601.SG/WP	mg/kg		897 DLM	<25	260	<25	<25	<25	<25
F3 (C16-C34)	----	E601.SG/WP			<500 DLM	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG/WP	mg/kg		1560 DLM	<50	<50	<50	<50	<50	<50
Chromatogram to baseline at nC50	n/a	E601.SG/WP			Yes	Yes	Yes	Yes	Yes	Yes	Yes

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-MW01-3	P-MW01-6	P-BH03-3	P-BH03-6	P-MW05-2	P-MW05-4	P-BH02-5
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WP2312224-001	WP2312224-002	WP2312224-003	WP2312224-004	WP2312224-005	WP2312224-006	WP2312224-007
Hydrocarbons											
Hydrocarbons, total (C6-C50)	----	EC581/WP	mg/kg		5650	<80	1490	<80	<80	<80	<80
Hydrocarbons Surrogates											
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WP	%		131	94.5	103	101	100	104	103
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	%		315 SHMI	98.7	129	98.4	95.5	90.1	95.7
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611A/WP	%		116	86.7	114	85.6	93.0	81.0	75.8
Difluorobenzene, 1,4-	540-36-3	E611A/WP	%		94.1	92.3	107	95.1	104	93.7	86.2

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-BH02-3	P-MW04-4	P-MW04-7	DUP-1	DUP-2	----	----
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	----	----
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	----	----
					WP2312224-008	WP2312224-009	WP2312224-010	WP2312224-011	WP2312224-012	--------	--------
Physical Tests											
Moisture	----	E144/WP			26.2	28.4	34.2	26.2	24.6	----	----
Particle Size											
Sand (>0.075mm)	----	E178/CG	%		----	----	1.1	----	----	----	----
Fines (<0.075mm)	----	E178/CG			----	----	98.9	----	----	----	----
Texture class	----	E178/CG	-		----	----	Fine	----	----	----	----
Metals											
Aluminum	7429-90-5	E440/CG			----	27700	----	----	----	----	----
Antimony	7440-36-0	E440/CG	mg/kg		----	0.42	----	----	----	----	----
Arsenic	7440-38-2	E440/CG			----	8.14	----	----	----	----	----
Barium	7440-39-3	E440/CG	mg/kg		----	263	----	----	----	----	----
Beryllium	7440-41-7	E440/CG			----	1.26	----	----	----	----	----
Bismuth	7440-69-9	E440/CG	mg/kg		----	0.30	----	----	----	----	----
Boron	7440-42-8	E440/CG			----	22.3	----	----	----	----	----
Cadmium	7440-43-9	E440/CG	mg/kg		----	0.314	----	----	----	----	----
Calcium	7440-70-2	E440/CG			----	39600	----	----	----	----	----
Chromium	7440-47-3	E440/CG	mg/kg		----	62.7	----	----	----	----	----
Cobalt	7440-48-4	E440/CG			----	16.9	----	----	----	----	----
Copper	7440-50-8	E440/CG	mg/kg		----	37.6	----	----	----	----	----
Iron	7439-89-6	E440/CG			----	32700	----	----	----	----	----
Lead	7439-92-1	E440/CG	mg/kg		----	16.0	----	----	----	----	----
Lithium	7439-93-2	E440/CG			----	38.9	----	----	----	----	----
Magnesium	7439-95-4	E440/CG	mg/kg		----	30200	----	----	----	----	----
Manganese	7439-96-5	E440/CG			----	630	----	----	----	----	----
Molybdenum	7439-98-7	E440/CG	mg/kg		----	1.47	----	----	----	----	----
Nickel	7440-02-0	E440/CG			----	50.9	----	----	----	----	----
Phosphorus	7723-14-0	E440/CG	mg/kg		----	677	----	----	----	----	----
Potassium	7440-09-7	E440/CG			----	5710	----	----	----	----	----
Selenium	7782-49-2	E440/CG	mg/kg		----	<0.20	----	----	----	----	----
Silver	7440-22-4	E440/CG			----	0.16	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-BH02-3	P-MW04-4	P-MW04-7	DUP-1	DUP-2	----	----
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	----	----
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	----	----
					WP2312224-008	WP2312224-009	WP2312224-010	WP2312224-011	WP2312224-012	--------	--------
Metals											
Sodium	7440-23-5	E440/CG	mg/kg	----	550	----	----	----	----	----	
Strontium	7440-24-6	E440/CG		----	87.3	----	----	----	----	----	
Sulfur	7704-34-9	E440/CG	mg/kg	----	<1000	----	----	----	----	----	
Thallium	7440-28-0	E440/CG		----	0.371	----	----	----	----	----	
Tin	7440-31-5	E440/CG	mg/kg	----	<2.0	----	----	----	----	----	
Titanium	7440-32-6	E440/CG		----	329	----	----	----	----	----	
Tungsten	7440-33-7	E440/CG	mg/kg	----	<0.50	----	----	----	----	----	
Uranium	7440-61-1	E440/CG		----	1.58	----	----	----	----	----	
Vanadium	7440-62-2	E440/CG	mg/kg	----	88.0	----	----	----	----	----	
Zinc	7440-66-6	E440/CG		----	98.9	----	----	----	----	----	
Zirconium	7440-67-7	E440/CG	mg/kg	----	16.6	----	----	----	----	----	
Volatile Organic Compounds											
Acetone	67-64-1	E611D/WP		<0.50	----	----	----	----	----	----	
Benzene	71-43-2	E611D/WP	mg/kg	0.0426 EMPC	----	----	----	----	----	----	
Bromodichloromethane	75-27-4	E611D/WP		<0.050	----	----	----	----	----	----	
Bromoform	75-25-2	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Bromomethane	74-83-9	E611D/WP		<0.050	----	----	----	----	----	----	
Carbon disulfide	75-15-0	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Carbon tetrachloride	56-23-5	E611D/WP		<0.050	----	----	----	----	----	----	
Chlorobenzene	108-90-7	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Chloroethane	75-00-3	E611D/WP		<0.050	----	----	----	----	----	----	
Chloroform	67-66-3	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Chloromethane	74-87-3	E611D/WP		<0.050	----	----	----	----	----	----	
Dibromochloromethane	124-48-1	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Dibromoethane, 1,2-	106-93-4	E611D/WP		<0.350 DLM	----	----	----	----	----	----	
Dichlorobenzene, 1,2-	95-50-1	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Dichlorobenzene, 1,3-	541-73-1	E611D/WP		<0.050	----	----	----	----	----	----	
Dichlorobenzene, 1,4-	106-46-7	E611D/WP	mg/kg	<0.050	----	----	----	----	----	----	
Dichlorodifluoromethane	75-71-8	E611D/WP		<0.050	----	----	----	----	----	----	

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-BH02-3	P-MW04-4	P-MW04-7	DUP-1	DUP-2	----	----
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	----	----
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	----	----
					WP2312224-008	WP2312224-009	WP2312224-010	WP2312224-011	WP2312224-012	--------	--------
Volatile Organic Compounds											
Dichloroethane, 1,1-	75-34-3	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WP			<0.050	----	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WP			<0.050	----	----	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Dichloromethane	75-09-2	E611D/WP			<0.045	----	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WP	mg/kg		<0.100 DLM	----	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WP			<0.050	----	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WP	mg/kg		<0.030	----	----	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WP			<0.030	----	----	----	----	----	----
Ethylbenzene	100-41-4	E611D/WP	mg/kg		1.12	----	----	----	----	----	----
Hexane, n-	110-54-3	E611D/WP			1.53	----	----	----	----	----	----
Hexanone, 2-	591-78-6	E611D/WP	mg/kg		<0.50	----	----	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WP			<0.50	----	----	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WP	mg/kg		<0.50	----	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP			<0.040	----	----	----	----	----	----
Styrene	100-42-5	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WP			<0.050	----	----	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WP	mg/kg		<0.400 DLM	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WP			<0.050	----	----	----	----	----	----
Toluene	108-88-3	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP			<0.050	----	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Trichloroethylene	79-01-6	E611D/WP			<0.010	----	----	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WP	mg/kg		<0.050	----	----	----	----	----	----
Vinyl chloride	75-01-4	E611D/WP			<0.020	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WP	mg/kg		0.145	----	----	----	----	----	----
Xylene, o-	95-47-6	E611D/WP			<0.030	----	----	----	----	----	----
Xylenes, total	1330-20-7	E611D/WP	mg/kg		0.145	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-BH02-3	P-MW04-4	P-MW04-7	DUP-1	DUP-2	----	----
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	----	----
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	----	----
					WP2312224-008	WP2312224-009	WP2312224-010	WP2312224-011	WP2312224-012	--------	--------
Volatile Organic Compounds											
BTEX, total	----	E611D/WP			1.31	----	----	----	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]											
Benzene	71-43-2	E611A/WP	mg/kg		----	0.989	<0.0050	<0.0050	<0.0050	----	----
Ethylbenzene	100-41-4	E611A/WP			----	3.44	<0.015	<0.015	0.022	----	----
Toluene	108-88-3	E611A/WP	mg/kg		----	<0.050	<0.050	<0.050	0.066	----	----
Xylene, m+p-	179601-23-1	E611A/WP			----	1.01	<0.050	<0.050	0.053	----	----
Xylene, o-	95-47-6	E611A/WP	mg/kg		----	<0.050	<0.050	<0.050	<0.050	----	----
Xylenes, total	1330-20-7	E611A/WP			----	1.01	<0.075	<0.075	<0.075	----	----
BTEX, total	----	E611A/WP	mg/kg		----	5.44	<0.10	<0.10	0.14	----	----
Hydrocarbons											
F1 (C6-C10)	----	E581.F1/WP			244	65.6	<5.0	<5.0	<5.0	----	----
F1-BTEX	----	EC580/WP	mg/kg		243	60.2	<5.0	<5.0	<5.0	----	----
TEH (C10-C50)	n/a	E601.SG/WP			----	<75	<75	<75	<75	----	----
TEH (C16-C50)	----	E601.SG/WP	mg/kg		----	<75	<75	<75	<75	----	----
F2 (C10-C16)	----	E601.SG/WP			121	25	<25	66	<25	----	----
F3 (C16-C34)	----	E601.SG/WP	mg/kg		<50	<50	<50	<50	<50	----	----
F4 (C34-C50)	----	E601.SG/WP			<50	<50	<50	<50	<50	----	----
Chromatogram to baseline at nC50	n/a	E601.SG/WP	-		Yes	Yes	Yes	Yes	Yes	----	----
Hydrocarbons, total (C6-C50)	----	EC581/WP			365	91	<80	<80	<80	----	----
Hydrocarbons Surrogates											
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WP	%		106	103	100	104	99.4	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP			113	95.2	110	95.2	91.9	----	----
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611A/WP	%		----	109	96.4	82.8	84.6	----	----
Bromofluorobenzene, 4-	460-00-4	E611D/WP			113	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	%		----	105	108	91.8	107	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WP			92.0	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons											

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-BH02-3	P-MW04-4	P-MW04-7	DUP-1	DUP-2	----	----
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	----	----
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	----	----
					WP2312224-008	WP2312224-009	WP2312224-010	WP2312224-011	WP2312224-012	--------	--------
Polycyclic Aromatic Hydrocarbons											
Acenaphthene	83-32-9	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/WT			<0.050	----	----	----	----	----	----
Acridine	260-94-6	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Anthracene	120-12-7	E641A/WT			<0.050	----	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/WT			<0.050	----	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT			<0.075	----	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT			<0.050	----	----	----	----	----	----
Chrysene	218-01-9	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT			<0.050	----	----	----	----	----	----
Fluoranthene	206-44-0	E641A/WT	mg/kg		0.083	----	----	----	----	----	----
Fluorene	86-73-7	E641A/WT			<0.050	----	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	mg/kg		<0.050	----	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT			0.050	----	----	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	mg/kg		0.152	----	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT			0.102	----	----	----	----	----	----
Naphthalene	91-20-3	E641A/WT	mg/kg		0.064 AI, R	----	----	----	----	----	----
Phenanthrene	85-01-8	E641A/WT			0.051	----	----	----	----	----	----
Pyrene	129-00-0	E641A/WT	mg/kg		0.070	----	----	----	----	----	----
Quinoline	91-22-5	E641A/WT			<0.050	----	----	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	mg/kg		<0.065	----	----	----	----	----	----
IACR (CCME)	----	E641A/WT			<0.60	----	----	----	----	----	----
IACR AB (coarse)	----	E641A/WT	-		<0.10	----	----	----	----	----	----
IACR AB (fine)	----	E641A/WT			<0.10	----	----	----	----	----	----
PAHs, total (BC Sched 3.4)	n/a	E641A/WT	mg/kg		0.37	----	----	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/WT			0.27	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates											

Analytical Results Evaluation

Matrix: **Soil**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	P-BH02-3	P-MW04-4	P-MW04-7	DUP-1	DUP-2	----	----
				Sampling date/time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	----	----
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	----	----
					WP2312224-008	WP2312224-009	WP2312224-010	WP2312224-011	WP2312224-012	--------	--------
Polycyclic Aromatic Hydrocarbons Surrogates											
Acridine-d9	34749-75-2	E641A/WT	%		89.2	----	----	----	----	----	----
Chrysene-d12	1719-03-5	E641A/WT			98.7	----	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	%		96.8	----	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT			91.6	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

CERTIFICATE OF ANALYSIS

Work Order	: **WP2312224**	Page	: 1 of 11
Client	: **WSP Canada Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 477 6650	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 PHASE 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Date Analysis Commenced	: 22-Jun-2023
C-O-C number	: ----	Issue Date	: 30-Jun-2023 12:24
Sampler	: ----		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Adrian Canito		Inorganics, Calgary, Alberta
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Dung Hoang		Organics, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Kuljeet Chawla		Inorganics, Calgary, Alberta
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba
Oleksandr Busel		Organics, Winnipeg, Manitoba
Shirley Li	Team Leader - Inorganics	Metals, Calgary, Alberta

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
%	percent
mg/kg	milligrams per kilogram

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
AI	*Analytical interferences may be present. Result may be biased high.*
DLHC	*Detection Limit Raised: Dilution required due to high concentration of test analyte(s).*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
EMPC	*Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.*
R	*The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.*
SHMI	*Surrogate recovery was outside ALS DQO (High) due to Matrix Interference*

Analytical Results

Sub-Matrix: Soil
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW01-3	P-MW01-6	P-BH03-3	P-BH03-6	P-MW05-2
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-001	WP2312224-002	WP2312224-003	WP2312224-004	WP2312224-005
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WP	0.25	%		16.6	34.4	26.9	32.9	24.9
Particle Size										
Sand (>0.075mm)	----	E178/CG	1.0	%		----	----	----	----	7.1
Fines (<0.075mm)	----	E178/CG	1.0	%		----	----	----	----	92.9
Texture class	----	E178/CG	-	-		----	----	----	----	Fine
Metals										
Aluminum	7429-90-5	E440/CG	50	mg/kg		----	----	----	----	31800
Antimony	7440-36-0	E440/CG	0.10	mg/kg		----	----	----	----	0.43
Arsenic	7440-38-2	E440/CG	0.10	mg/kg		----	----	----	----	6.64
Barium	7440-39-3	E440/CG	0.50	mg/kg		----	----	----	----	238
Beryllium	7440-41-7	E440/CG	0.10	mg/kg		----	----	----	----	1.25
Bismuth	7440-69-9	E440/CG	0.20	mg/kg		----	----	----	----	0.25
Boron	7440-42-8	E440/CG	5.0	mg/kg		----	----	----	----	24.2
Cadmium	7440-43-9	E440/CG	0.020	mg/kg		----	----	----	----	0.289
Calcium	7440-70-2	E440/CG	50	mg/kg		----	----	----	----	77500
Chromium	7440-47-3	E440/CG	0.50	mg/kg		----	----	----	----	59.7
Cobalt	7440-48-4	E440/CG	0.10	mg/kg		----	----	----	----	13.9
Copper	7440-50-8	E440/CG	0.50	mg/kg		----	----	----	----	30.1
Iron	7439-89-6	E440/CG	50	mg/kg		----	----	----	----	30700
Lead	7439-92-1	E440/CG	0.50	mg/kg		----	----	----	----	24.7
Lithium	7439-93-2	E440/CG	2.0	mg/kg		----	----	----	----	40.1
Magnesium	7439-95-4	E440/CG	20	mg/kg		----	----	----	----	40200
Manganese	7439-96-5	E440/CG	1.0	mg/kg		----	----	----	----	676
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg		----	----	----	----	0.54
Nickel	7440-02-0	E440/CG	0.50	mg/kg		----	----	----	----	43.6
Phosphorus	7723-14-0	E440/CG	50	mg/kg		----	----	----	----	520
Potassium	7440-09-7	E440/CG	100	mg/kg		----	----	----	----	5280
Selenium	7782-49-2	E440/CG	0.20	mg/kg		----	----	----	----	<0.20
Silver	7440-22-4	E440/CG	0.10	mg/kg		----	----	----	----	0.13
Sodium	7440-23-5	E440/CG	50	mg/kg		----	----	----	----	786

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW01-3	P-MW01-6	P-BH03-3	P-BH03-6	P-MW05-2
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-001	WP2312224-002	WP2312224-003	WP2312224-004	WP2312224-005
						Result	Result	Result	Result	Result
Metals										
Strontium	7440-24-6	E440/CG	0.50	mg/kg		----	----	----	----	120
Sulfur	7704-34-9	E440/CG	1000	mg/kg		----	----	----	----	<1000
Thallium	7440-28-0	E440/CG	0.050	mg/kg		----	----	----	----	0.343
Tin	7440-31-5	E440/CG	2.0	mg/kg		----	----	----	----	<2.0
Titanium	7440-32-6	E440/CG	1.0	mg/kg		----	----	----	----	343
Tungsten	7440-33-7	E440/CG	0.50	mg/kg		----	----	----	----	<0.50
Uranium	7440-61-1	E440/CG	0.050	mg/kg		----	----	----	----	1.00
Vanadium	7440-62-2	E440/CG	0.20	mg/kg		----	----	----	----	81.2
Zinc	7440-66-6	E440/CG	2.0	mg/kg		----	----	----	----	105
Zirconium	7440-67-7	E440/CG	1.0	mg/kg		----	----	----	----	9.1
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/WP	0.0050	mg/kg		3.32	0.0450	9.44	0.492	<0.0050
Ethylbenzene	100-41-4	E611A/WP	0.015	mg/kg		42.4 DLHC	0.248	38.4 DLHC	0.053	<0.015
Toluene	108-88-3	E611A/WP	0.050	mg/kg		7.06	<0.050	1.81	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WP	0.050	mg/kg		109 DLHC	0.253	43.7 DLHC	0.081	<0.050
Xylene, o-	95-47-6	E611A/WP	0.050	mg/kg		15.0 DLHC	<0.050	13.1 DLHC	<0.050	<0.050
Xylenes, total	1330-20-7	E611A/WP	0.075	mg/kg		124	0.253	56.8	0.081	<0.075
BTEX, total	----	E611A/WP	0.10	mg/kg		177	0.55	106	0.63	<0.10
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WP	5.0	mg/kg		3190 DLHC	6.5	1230 DLHC	<5.0	<5.0
F2 (C10-C16)	----	E601.SG/WP	25	mg/kg		897 DLM	<25	260	<25	<25
F3 (C16-C34)	----	E601.SG/WP	50	mg/kg		<500 DLM	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG/WP	50	mg/kg		1560 DLM	<50	<50	<50	<50
TEH (C10-C50)	n/a	E601.SG/WP	75	mg/kg		2460	<75	260	<75	<75
TEH (C16-C50)	----	E601.SG/WP	75	mg/kg		1560	<75	<75	<75	<75
F1-BTEX	----	EC580/WP	5.0	mg/kg		3010	6.0	1120	<5.0	<5.0
Hydrocarbons, total (C6-C50)	----	EC581/WP	80	mg/kg		5650	<80	1490	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG/WP	-	-		Yes	Yes	Yes	Yes	Yes
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WP	1.0	%		131	94.5	103	101	100
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%		315 SHMI	98.7	129	98.4	95.5

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	P-MW01-3	P-MW01-6	P-BH03-3	P-BH03-6	P-MW05-2
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2312224-001	WP2312224-002	WP2312224-003	WP2312224-004	WP2312224-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/WP	0.10	%		116	86.7	114	85.6	93.0
Difluorobenzene, 1,4-	540-36-3	E611A/WP	0.10	%		94.1	92.3	107	95.1	104

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW05-4	P-BH02-5	P-BH02-3	P-MW04-4	P-MW04-7
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-006	WP2312224-007	WP2312224-008	WP2312224-009	WP2312224-010
						Result	Result	Result	Result	Result
Physical Tests										
Moisture	----	E144/WP	0.25	%		28.8	33.7	26.2	28.4	34.2
Particle Size										
Sand (>0.075mm)	----	E178/CG	1.0	%		----	----	----	----	1.1
Fines (<0.075mm)	----	E178/CG	1.0	%		----	----	----	----	98.9
Texture class	----	E178/CG	-	-		----	----	----	----	Fine
Metals										
Aluminum	7429-90-5	E440/CG	50	mg/kg		----	33000	----	27700	----
Antimony	7440-36-0	E440/CG	0.10	mg/kg		----	0.53	----	0.42	----
Arsenic	7440-38-2	E440/CG	0.10	mg/kg		----	10.9	----	8.14	----
Barium	7440-39-3	E440/CG	0.50	mg/kg		----	280	----	263	----
Beryllium	7440-41-7	E440/CG	0.10	mg/kg		----	1.62	----	1.26	----
Bismuth	7440-69-9	E440/CG	0.20	mg/kg		----	0.38	----	0.30	----
Boron	7440-42-8	E440/CG	5.0	mg/kg		----	21.8	----	22.3	----
Cadmium	7440-43-9	E440/CG	0.020	mg/kg		----	0.304	----	0.314	----
Calcium	7440-70-2	E440/CG	50	mg/kg		----	21700	----	39600	----
Chromium	7440-47-3	E440/CG	0.50	mg/kg		----	66.6	----	62.7	----
Cobalt	7440-48-4	E440/CG	0.10	mg/kg		----	20.9	----	16.9	----
Copper	7440-50-8	E440/CG	0.50	mg/kg		----	43.5	----	37.6	----
Iron	7439-89-6	E440/CG	50	mg/kg		----	40100	----	32700	----
Lead	7439-92-1	E440/CG	0.50	mg/kg		----	19.3	----	16.0	----
Lithium	7439-93-2	E440/CG	2.0	mg/kg		----	42.4	----	38.9	----
Magnesium	7439-95-4	E440/CG	20	mg/kg		----	19200	----	30200	----
Manganese	7439-96-5	E440/CG	1.0	mg/kg		----	636	----	630	----
Molybdenum	7439-98-7	E440/CG	0.10	mg/kg		----	1.32	----	1.47	----
Nickel	7440-02-0	E440/CG	0.50	mg/kg		----	56.3	----	50.9	----
Phosphorus	7723-14-0	E440/CG	50	mg/kg		----	745	----	677	----
Potassium	7440-09-7	E440/CG	100	mg/kg		----	6700	----	5710	----
Selenium	7782-49-2	E440/CG	0.20	mg/kg		----	1.10	----	<0.20	----
Silver	7440-22-4	E440/CG	0.10	mg/kg		----	0.17	----	0.16	----
Sodium	7440-23-5	E440/CG	50	mg/kg		----	581	----	550	----
Strontium	7440-24-6	E440/CG	0.50	mg/kg		----	92.8	----	87.3	----

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW05-4	P-BH02-5	P-BH02-3	P-MW04-4	P-MW04-7
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-006	WP2312224-007	WP2312224-008	WP2312224-009	WP2312224-010
						Result	Result	Result	Result	Result
Metals										
Sulfur	7704-34-9	E440/CG	1000	mg/kg		----	<1000	----	<1000	----
Thallium	7440-28-0	E440/CG	0.050	mg/kg		----	0.405	----	0.371	----
Tin	7440-31-5	E440/CG	2.0	mg/kg		----	<2.0	----	<2.0	----
Titanium	7440-32-6	E440/CG	1.0	mg/kg		----	227	----	329	----
Tungsten	7440-33-7	E440/CG	0.50	mg/kg		----	<0.50	----	<0.50	----
Uranium	7440-61-1	E440/CG	0.050	mg/kg		----	2.38	----	1.58	----
Vanadium	7440-62-2	E440/CG	0.20	mg/kg		----	101	----	88.0	----
Zinc	7440-66-6	E440/CG	2.0	mg/kg		----	123	----	98.9	----
Zirconium	7440-67-7	E440/CG	1.0	mg/kg		----	18.7	----	16.6	----
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WP	0.50	mg/kg		----	----	<0.50	----	----
Benzene	71-43-2	E611D/WP	0.0050	mg/kg		----	----	0.0426 EMPC	----	----
Bromodichloromethane	75-27-4	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Bromoform	75-25-2	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Bromomethane	74-83-9	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Carbon disulfide	75-15-0	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Carbon tetrachloride	56-23-5	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Chlorobenzene	108-90-7	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Chloroethane	75-00-3	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Chloroform	67-66-3	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Chloromethane	74-87-3	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dibromochloromethane	124-48-1	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dibromoethane, 1,2-	106-93-4	E611D/WP	0.050	mg/kg		----	----	<0.350 DLM	----	----
Dichlorobenzene, 1,2-	95-50-1	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichlorodifluoromethane	75-71-8	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichloroethane, 1,1-	75-34-3	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW05-4	P-BH02-5	P-BH02-3	P-MW04-4	P-MW04-7
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-006	WP2312224-007	WP2312224-008	WP2312224-009	WP2312224-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Dichloroethylene, trans-1,2-	156-60-5	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichloromethane	75-09-2	E611D/WP	0.045	mg/kg		----	----	<0.045	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WP	0.050	mg/kg		----	----	<0.100 DLM	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WP	0.030	mg/kg		----	----	<0.030	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WP	0.030	mg/kg		----	----	<0.030	----	----
Ethylbenzene	100-41-4	E611D/WP	0.015	mg/kg		----	----	1.12	----	----
Hexane, n-	110-54-3	E611D/WP	0.050	mg/kg		----	----	1.53	----	----
Hexanone, 2-	591-78-6	E611D/WP	0.50	mg/kg		----	----	<0.50	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WP	0.50	mg/kg		----	----	<0.50	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WP	0.50	mg/kg		----	----	<0.50	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP	0.040	mg/kg		----	----	<0.040	----	----
Styrene	100-42-5	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WP	0.050	mg/kg		----	----	<0.400 DLM	----	----
Tetrachloroethylene	127-18-4	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Toluene	108-88-3	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Trichloroethylene	79-01-6	E611D/WP	0.010	mg/kg		----	----	<0.010	----	----
Trichlorofluoromethane	75-69-4	E611D/WP	0.050	mg/kg		----	----	<0.050	----	----
Vinyl chloride	75-01-4	E611D/WP	0.020	mg/kg		----	----	<0.020	----	----
Xylene, m+p-	179601-23-1	E611D/WP	0.030	mg/kg		----	----	0.145	----	----
Xylene, o-	95-47-6	E611D/WP	0.030	mg/kg		----	----	<0.030	----	----
Xylenes, total	1330-20-7	E611D/WP	0.050	mg/kg		----	----	0.145	----	----
BTEX, total	----	E611D/WP	0.10	mg/kg		----	----	1.31	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/WP	0.0050	mg/kg		<0.0050	<0.0050	----	0.989	<0.0050
Ethylbenzene	100-41-4	E611A/WP	0.015	mg/kg		<0.015	<0.015	----	3.44	<0.015
Toluene	108-88-3	E611A/WP	0.050	mg/kg		<0.050	<0.050	----	<0.050	<0.050
Xylene, m+p-	179601-23-1	E611A/WP	0.050	mg/kg		<0.050	<0.050	----	1.01	<0.050

Analytical Results

Sub-Matrix: Soil
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW05-4	P-BH02-5	P-BH02-3	P-MW04-4	P-MW04-7
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-006	WP2312224-007	WP2312224-008	WP2312224-009	WP2312224-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds [BTEXS+MTBE]										
Xylene, o-	95-47-6	E611A/WP	0.050	mg/kg		<0.050	<0.050	----	<0.050	<0.050
Xylenes, total	1330-20-7	E611A/WP	0.075	mg/kg		<0.075	<0.075	----	1.01	<0.075
BTEX, total	----	E611A/WP	0.10	mg/kg		<0.10	<0.10	----	5.44	<0.10
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WP	5.0	mg/kg		<5.0	<5.0	244	65.6	<5.0
F2 (C10-C16)	----	E601.SG/WP	25	mg/kg		<25	<25	121	25	<25
F3 (C16-C34)	----	E601.SG/WP	50	mg/kg		<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG/WP	50	mg/kg		<50	<50	<50	<50	<50
TEH (C10-C50)	n/a	E601.SG/WP	75	mg/kg		<75	<75	----	<75	<75
TEH (C16-C50)	----	E601.SG/WP	75	mg/kg		<75	<75	----	<75	<75
F1-BTEX	----	EC580/WP	5.0	mg/kg		<5.0	<5.0	243	60.2	<5.0
Hydrocarbons, total (C6-C50)	----	EC581/WP	80	mg/kg		<80	<80	365	91	<80
Chromatogram to baseline at nC50	n/a	E601.SG/WP	-	-		Yes	Yes	Yes	Yes	Yes
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WP	1.0	%		104	103	106	103	100
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%		90.1	95.7	113	95.2	110
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/WP	0.10	%		81.0	75.8	----	109	96.4
Bromofluorobenzene, 4-	460-00-4	E611D/WP	0.10	%		----	----	113	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	0.10	%		93.7	86.2	----	105	108
Difluorobenzene, 1,4-	540-36-3	E611D/WP	0.10	%		----	----	92.0	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Acenaphthylene	208-96-8	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Acridine	260-94-6	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Anthracene	120-12-7	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	0.075	mg/kg		----	----	<0.075	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----

Analytical Results

Sub-Matrix: **Soil**
(Matrix: **Soil/Solid**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	P-MW05-4	P-BH02-5	P-BH02-3	P-MW04-4	P-MW04-7
					Client sampling date / time	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023	16-Jun-2023
						WP2312224-006	WP2312224-007	WP2312224-008	WP2312224-009	WP2312224-010
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Chrysene	218-01-9	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Fluoranthene	206-44-0	E641A/WT	0.050	mg/kg		----	----	0.083	----	----
Fluorene	86-73-7	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.030	mg/kg		----	----	0.050	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.050	mg/kg		----	----	0.152	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.030	mg/kg		----	----	0.102	----	----
Naphthalene	91-20-3	E641A/WT	0.010	mg/kg		----	----	0.064 AI, R	----	----
Phenanthrene	85-01-8	E641A/WT	0.050	mg/kg		----	----	0.051	----	----
Pyrene	129-00-0	E641A/WT	0.050	mg/kg		----	----	0.070	----	----
Quinoline	91-22-5	E641A/WT	0.050	mg/kg		----	----	<0.050	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	0.065	mg/kg		----	----	<0.065	----	----
IACR (CCME)	----	E641A/WT	0.60	-		----	----	<0.60	----	----
IACR AB (coarse)	----	E641A/WT	0.10	-		----	----	<0.10	----	----
IACR AB (fine)	----	E641A/WT	0.10	-		----	----	<0.10	----	----
PAHs, total (BC Sched 3.4)	n/a	E641A/WT	0.20	mg/kg		----	----	0.37	----	----
PAHs, total (EPA 16)	n/a	E641A/WT	0.20	mg/kg		----	----	0.27	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Acridine-d9	34749-75-2	E641A/WT	0.1	%		----	----	89.2	----	----
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		----	----	98.7	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		----	----	96.8	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		----	----	91.6	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)					Client sample ID	DUP-1	DUP-2	----	----	----
					Client sampling date / time	16-Jun-2023	16-Jun-2023	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2312224-011	WP2312224-012	--------	--------	--------
						Result	Result	----	----	----
Physical Tests										
Moisture	----	E144/WP	0.25	%		26.2	24.6	----	----	----
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/WP	0.0050	mg/kg		<0.0050	<0.0050	----	----	----
Ethylbenzene	100-41-4	E611A/WP	0.015	mg/kg		<0.015	0.022	----	----	----
Toluene	108-88-3	E611A/WP	0.050	mg/kg		<0.050	0.066	----	----	----
Xylene, m+p-	179601-23-1	E611A/WP	0.050	mg/kg		<0.050	0.053	----	----	----
Xylene, o-	95-47-6	E611A/WP	0.050	mg/kg		<0.050	<0.050	----	----	----
Xylenes, total	1330-20-7	E611A/WP	0.075	mg/kg		<0.075	<0.075	----	----	----
BTEX, total	----	E611A/WP	0.10	mg/kg		<0.10	0.14	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WP	5.0	mg/kg		<5.0	<5.0	----	----	----
F2 (C10-C16)	----	E601.SG/WP	25	mg/kg		66	<25	----	----	----
F3 (C16-C34)	----	E601.SG/WP	50	mg/kg		<50	<50	----	----	----
F4 (C34-C50)	----	E601.SG/WP	50	mg/kg		<50	<50	----	----	----
TEH (C10-C50)	n/a	E601.SG/WP	75	mg/kg		<75	<75	----	----	----
TEH (C16-C50)	----	E601.SG/WP	75	mg/kg		<75	<75	----	----	----
F1-BTEX	----	EC580/WP	5.0	mg/kg		<5.0	<5.0	----	----	----
Hydrocarbons, total (C6-C50)	----	EC581/WP	80	mg/kg		<80	<80	----	----	----
Chromatogram to baseline at nC50	n/a	E601.SG/WP	-	-		Yes	Yes	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WP	1.0	%		104	99.4	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%		95.2	91.9	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/WP	0.10	%		82.8	84.6	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	0.10	%		91.8	107	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2312224**	Page	: 1 of 13
Client	: **WSP Canada Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 477 6650	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 PHASE 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Issue Date	: 30-Jun-2023 12:24
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- Test sample Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Volatile Organic Compounds	Anonymous	Anonymous	Styrene	100-42-5	E611D	142 % MES	50.0-140%	Recovery greater than upper data quality objective

Result Qualifiers

Qualifier	*Description*
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

Regular Sample Surrogates

Sub-Matrix: **Soil**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Hydrocarbons Surrogates	WP2312224-001	P-MW01-3	Dichlorotoluene, 3,4-	95-75-0	315 %	70.0-130 %	Recovery greater than upper data quality objective

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-BH02-3	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-BH02-5	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-BH03-3	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-BH03-6	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-MW01-3	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-MW01-6	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-MW04-4	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-MW04-7	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-MW05-2	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial P-MW05-4	E581.F1	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial DUP-1	E581.F1	16-Jun-2023	22-Jun-2023	----	----		23-Jun-2023	40 days	8 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial DUP-2	E581.F1	16-Jun-2023	22-Jun-2023	----	----		23-Jun-2023	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap DUP-1	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap DUP-2	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P-BH02-3	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P-BH02-5	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-BH03-3	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-BH03-6	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-MW01-3	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-MW01-6	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-MW04-4	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-MW04-7	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-MW05-2	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
P-MW05-4	E601.SG	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
P-BH02-5	E440	16-Jun-2023	25-Jun-2023	----	----		25-Jun-2023	180 days	9 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
P-MW04-4	E440	16-Jun-2023	25-Jun-2023	----	----		25-Jun-2023	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
P-MW05-2	E440	16-Jun-2023	25-Jun-2023	----	----		25-Jun-2023	180 days	9 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap										
P-MW04-7	E178	16-Jun-2023	----	----	----		29-Jun-2023	180 days	13 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap										
P-MW05-2	E178	16-Jun-2023	----	----	----		25-Jun-2023	180 days	9 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
DUP-1	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
DUP-2	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-BH02-3	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-BH02-5	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-BH03-3	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-BH03-6	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-MW01-3	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-MW01-6	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-MW04-4	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-MW04-7	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-MW05-2	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
P-MW05-4	E144	16-Jun-2023	----	----	----		22-Jun-2023	----	----	
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap										
P-BH02-3	E641A	16-Jun-2023	22-Jun-2023	14 days	6 days	✓	23-Jun-2023	40 days	1 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial										
P-BH02-3	E611D	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-BH02-5	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-BH03-3	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-BH03-6	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-MW01-3	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-MW01-6	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-MW04-4	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-MW04-7	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-MW05-2	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial P-MW05-4	E611A	16-Jun-2023	22-Jun-2023	----	----		22-Jun-2023	40 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial DUP-1	E611A	16-Jun-2023	22-Jun-2023	----	----		23-Jun-2023	40 days	8 days	✓
Volatile Organic Compounds [BTEXS+MTBE] : BTEX by Headspace GC-MS										
Glass soil methanol vial DUP-2	E611A	16-Jun-2023	22-Jun-2023	----	----		23-Jun-2023	40 days	8 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: ✗ = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	1003290	1	16	6.2	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	1015227	2	11	18.1	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1003291	1	25	4.0	5.0	✗
CCME PHCs - F2-F4 by GC-FID	E601.SG	1002286	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1007670	1	6	16.6	5.0	✓
Moisture Content by Gravimetry	E144	1002581	0	20	0.0	5.0	✗
PAHs by Hex:Ace GC-MS	E641A	1001782	1	2	50.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002149	1	11	9.0	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	1003290	2	16	12.5	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	1015227	2	11	18.1	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1003291	2	25	8.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1002286	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1007670	2	6	33.3	10.0	✓
Moisture Content by Gravimetry	E144	1002581	1	20	5.0	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1001782	1	2	50.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002149	1	11	9.0	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	1003290	2	16	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1003291	2	25	8.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1002286	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	1007670	1	6	16.6	5.0	✓
Moisture Content by Gravimetry	E144	1002581	1	20	5.0	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1001782	1	2	50.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002149	1	11	9.0	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	1003290	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1003291	2	25	8.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	1002286	1	20	5.0	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	1001782	1	2	50.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002149	1	11	9.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Moisture Content by Gravimetry	E144 Winnipeg - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
CCME fine/coarse Particle Size Analysis by wet sieve	E178 Calgary - Environmental	Soil/Solid	CCME Vol 4 Analytical Methods	An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (sodium hexametaphosphate). The sample is washed through a 200 mesh (0.075 mm) sieve. The retained mass of sample is used to determine % sand fraction. If the percentage of sand is >50%, the soil is considered to be coarse textured soil. If the percentage of sand is <50%, the soil is considered to be fine textured.
Metals in Soil/Solid by CRC ICPMS	E440 Calgary - Environmental	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines. Analysis is by Collision/Reaction Cell ICPMS.
CCME PHC - F1 by Headspace GC-FID	E581.F1 Winnipeg - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601.SG Winnipeg - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
BTEX by Headspace GC-MS	E611A Winnipeg - Environmental	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D Winnipeg - Environmental	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs by Hex:Ace GC-MS	E641A Waterloo - Environmental	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with hexane/acetone and analyzed by GC-MS. If reported, IACR (index of additive cancer risk, unitless) and B(a)P toxic potency equivalent (in soil concentration units) are calculated as per CCME PAH Soil Quality Guidelines fact sheet (2010) or ABT1.
F1-BTEX	EC580 Winnipeg - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Sum F1 to F4 (C6-C50)	EC581 Winnipeg - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Metals and Mercury	EP440 Calgary - Environmental	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO_3 and HCl. This method is intended to liberate metals that may be environmentally available.
VOCs Methanol Extraction for Headspace Analysis	EP581 Winnipeg - Environmental	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 Winnipeg - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.
Dry and Grind in Soil/Solid <60°C	EPP442 Calgary - Environmental	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: **WP2312224**	Page	: 1 of 19
Client	: WSP Canada Inc.	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 PHASE 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Date Analysis Commenced	: 22-Jun-2023
C-O-C number	: ----	Issue Date	: 30-Jun-2023 12:25
Sampler	: ---- 204 477 6650		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 12		
No. of samples analysed	: 12		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Adrian Canito		Calgary Inorganics, Calgary, Alberta
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Particle Size (QC Lot: 1007767)											
WP2312224-005	P-MW05-2	Sand (>0.075mm)	----	E178	1.0	%	7.1	5.5	1.6	Diff <2x LOR	----
Particle Size (QC Lot: 1015227)											
CG2306467-031	Anonymous	Sand (>0.075mm)	----	E178	1.0	%	48.7	48.5	0.478%	10%	----
Metals (QC Lot: 1007670)											
WP2312224-005	P-MW05-2	Aluminum	7429-90-5	E440	50	mg/kg	31800	31900	0.0998%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.43	0.44	0.01	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	6.64	6.76	1.68%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	238	247	3.68%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	1.25	1.28	1.97%	30%	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	0.25	0.26	0.006	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	24.2	24.6	0.5	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.289	0.276	4.62%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	77500	75200	3.00%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	59.7	60.3	1.01%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	13.9	13.9	0.0882%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	30.1	30.4	1.05%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	30700	31200	1.70%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	24.7	23.1	6.73%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	40.1	38.4	4.30%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	40200	40100	0.196%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	676	671	0.758%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	0.54	0.50	8.68%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	43.6	43.4	0.388%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	520	561	7.64%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	5280	5490	3.90%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440	0.10	mg/kg	0.13	0.13	0.001	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	786	777	1.24%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	120	119	0.626%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Metals (QC Lot: 1007670) - continued											
WP2312224-005	P-MW05-2	Thallium	7440-28-0	E440	0.050	mg/kg	0.343	0.349	1.81%	30%	----
		Tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	----
		Titanium	7440-32-6	E440	1.0	mg/kg	343	417	19.4%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	1.00	1.03	2.30%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	81.2	84.9	4.44%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	105	94.2	10.7%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	9.1	9.7	6.27%	30%	----
Volatile Organic Compounds (QC Lot: 1002149)											
WP2312232-018	Anonymous	Acetone	67-64-1	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.0050	mg/kg	0.0178	0.0175	0.0003	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Carbon disulfide	75-15-0	E611D	0.050	mg/kg	0.660	0.679	2.82%	40%	----
		Carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	<0.045	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1002149) - continued											
WP2312232-018	Anonymous	Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.015	mg/kg	0.058	0.052	0.006	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Hexanone, 2-	591-78-6	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg	<0.040	<0.040	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.030	mg/kg	0.079	0.061	0.018	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1003290)											
WP2312224-011	DUP-1	Benzene	71-43-2	E611A	0.0050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.015	mg/kg	<0.015	<0.015	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1002286)											
WP2312224-004	P-BH03-6	F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	<25	0	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		F4 (C34-C50)	----	E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1003291)											
WP2312224-011	DUP-1	F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
Polycyclic Aromatic Hydrocarbons (QC Lot: 1001782)											
WT2318028-001	Anonymous	Acenaphthene	83-32-9	E641A	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Acenaphthylene	208-96-8	E641A	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----

Sub-Matrix: **Soil/Solid**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Polycyclic Aromatic Hydrocarbons (QC Lot: 1001782) - continued											
WT2318028-001	Anonymous	Acridine	260-94-6	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Anthracene	120-12-7	E641A	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Benz(a)anthracene	56-55-3	E641A	0.050	mg/kg	0.112 µg/g	0.090	0.023	Diff <2x LOR	J
		Benzo(a)pyrene	50-32-8	E641A	0.050	mg/kg	0.174 µg/g	0.148	0.026	Diff <2x LOR	J
		Benzo(b+j)fluoranthene	n/a	E641A	0.050	mg/kg	0.203 µg/g	0.157	0.047	Diff <2x LOR	J
		Benzo(g,h,i)perylene	191-24-2	E641A	0.050	mg/kg	0.183 µg/g	0.131	0.052	Diff <2x LOR	J
		Benzo(k)fluoranthene	207-08-9	E641A	0.050	mg/kg	0.081 µg/g	0.057	0.024	Diff <2x LOR	J
		Chrysene	218-01-9	E641A	0.050	mg/kg	0.194 µg/g	0.146	0.049	Diff <2x LOR	J
		Dibenz(a,h)anthracene	53-70-3	E641A	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Fluoranthene	206-44-0	E641A	0.050	mg/kg	0.318 µg/g	0.243	26.5%	50%	----
		Fluorene	86-73-7	E641A	0.050	mg/kg	<0.050 µg/g	<0.050	0	Diff <2x LOR	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.050	mg/kg	0.107 µg/g	0.088	0.019	Diff <2x LOR	J
		Methylnaphthalene, 1-	90-12-0	E641A	0.030	mg/kg	<0.030 µg/g	<0.030	0	Diff <2x LOR	----
		Methylnaphthalene, 2-	91-57-6	E641A	0.030	mg/kg	<0.030 µg/g	<0.030	0	Diff <2x LOR	----
		Naphthalene	91-20-3	E641A	0.016	mg/kg	<0.016 µg/g	<0.016	0.00007	Diff <2x LOR	J
		Phenanthrene	85-01-8	E641A	0.050	mg/kg	0.180 µg/g	0.146	0.034	Diff <2x LOR	J
		Pyrene	129-00-0	E641A	0.050	mg/kg	0.300 µg/g	0.230	26.3%	50%	----
		Quinoline	91-22-5	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----

Qualifiers

Qualifier	*Description*
J	*Duplicate results and limits are expressed in terms of absolute difference.*

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1002581)						
Moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 1007670)						
Aluminum	7429-90-5	E440	50	mg/kg	<50	----
Antimony	7440-36-0	E440	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	----
Bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	----
Boron	7440-42-8	E440	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	----
Calcium	7440-70-2	E440	50	mg/kg	<50	----
Chromium	7440-47-3	E440	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440	0.5	mg/kg	<0.50	----
Iron	7439-89-6	E440	50	mg/kg	<50	----
Lead	7439-92-1	E440	0.5	mg/kg	<0.50	----
Lithium	7439-93-2	E440	2	mg/kg	<2.0	----
Magnesium	7439-95-4	E440	20	mg/kg	<20	----
Manganese	7439-96-5	E440	1	mg/kg	<1.0	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440	0.5	mg/kg	<0.50	----
Phosphorus	7723-14-0	E440	50	mg/kg	<50	----
Potassium	7440-09-7	E440	100	mg/kg	<100	----
Selenium	7782-49-2	E440	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440	0.1	mg/kg	<0.10	----
Sodium	7440-23-5	E440	50	mg/kg	<50	----
Strontium	7440-24-6	E440	0.5	mg/kg	<0.50	----
Sulfur	7704-34-9	E440	1000	mg/kg	<1000	----
Thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
Tin	7440-31-5	E440	2	mg/kg	<2.0	----
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 1007670) - continued						
Uranium	7440-61-1	E440	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440	2	mg/kg	<2.0	----
Zirconium	7440-67-7	E440	1	mg/kg	<1.0	----
Volatile Organic Compounds (QCLot: 1002147)						
Benzene	71-43-2	E611A	0.005	mg/kg	<0.0050	----
Ethylbenzene	100-41-4	E611A	0.015	mg/kg	<0.015	----
Toluene	108-88-3	E611A	0.05	mg/kg	<0.050	----
Xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	<0.030	----
Xylene, o-	95-47-6	E611A	0.03	mg/kg	<0.030	----
Volatile Organic Compounds (QCLot: 1002149)						
Acetone	67-64-1	E611D	0.5	mg/kg	<0.50	----
Benzene	71-43-2	E611D	0.005	mg/kg	<0.0050	----
Bromodichloromethane	75-27-4	E611D	0.05	mg/kg	<0.050	----
Bromoform	75-25-2	E611D	0.05	mg/kg	<0.050	----
Bromomethane	74-83-9	E611D	0.05	mg/kg	<0.050	----
Carbon disulfide	75-15-0	E611D	0.05	mg/kg	<0.050	----
Carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	<0.050	----
Chlorobenzene	108-90-7	E611D	0.05	mg/kg	<0.050	----
Chloroethane	75-00-3	E611D	0.05	mg/kg	<0.050	----
Chloroform	67-66-3	E611D	0.05	mg/kg	<0.050	----
Chloromethane	74-87-3	E611D	0.05	mg/kg	<0.050	----
Dibromochloromethane	124-48-1	E611D	0.05	mg/kg	<0.050	----
Dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	<0.050	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	<0.050	----
Dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	<0.050	----
Dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	<0.050	----
Dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	<0.050	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	<0.050	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	<0.050	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	<0.050	----
Dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	----
Dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	<0.050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1002149) - continued						
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	<0.030	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	<0.030	----
Ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	----
Hexane, n-	110-54-3	E611D	0.05	mg/kg	<0.050	----
Hexanone, 2-	591-78-6	E611D	0.5	mg/kg	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	<0.50	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	<0.040	----
Styrene	100-42-5	E611D	0.05	mg/kg	<0.050	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	<0.050	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	<0.050	----
Tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	<0.050	----
Toluene	108-88-3	E611D	0.05	mg/kg	<0.050	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	<0.050	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	<0.050	----
Trichloroethylene	79-01-6	E611D	0.01	mg/kg	<0.010	----
Trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	<0.050	----
Vinyl chloride	75-01-4	E611D	0.02	mg/kg	<0.020	----
Xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	<0.030	----
Xylene, o-	95-47-6	E611D	0.03	mg/kg	<0.030	----
Volatile Organic Compounds (QCLot: 1003290)						
Benzene	71-43-2	E611A	0.005	mg/kg	<0.0050	----
Ethylbenzene	100-41-4	E611A	0.015	mg/kg	<0.015	----
Toluene	108-88-3	E611A	0.05	mg/kg	<0.050	----
Xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	<0.030	----
Xylene, o-	95-47-6	E611A	0.03	mg/kg	<0.030	----
Hydrocarbons (QCLot: 1002148)						
F1 (C6-C10)	----	E581.F1	5	mg/kg	<5.0	----
Hydrocarbons (QCLot: 1002286)						
F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	<50	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	<50	----
Hydrocarbons (QCLot: 1003291)						
F1 (C6-C10)	----	E581.F1	5	mg/kg	<5.0	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1001782)						

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1001782) - continued						
Acenaphthene	83-32-9	E641A	0.05	mg/kg	<0.050	----
Acenaphthylene	208-96-8	E641A	0.05	mg/kg	<0.050	----
Acridine	260-94-6	E641A	0.05	mg/kg	<0.050	----
Anthracene	120-12-7	E641A	0.05	mg/kg	<0.050	----
Benz(a)anthracene	56-55-3	E641A	0.05	mg/kg	<0.050	----
Benzo(a)pyrene	50-32-8	E641A	0.05	mg/kg	<0.050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.05	mg/kg	<0.050	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.05	mg/kg	<0.050	----
Benzo(k)fluoranthene	207-08-9	E641A	0.05	mg/kg	<0.050	----
Chrysene	218-01-9	E641A	0.05	mg/kg	<0.050	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	<0.050	----
Fluoranthene	206-44-0	E641A	0.05	mg/kg	<0.050	----
Fluorene	86-73-7	E641A	0.05	mg/kg	<0.050	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	<0.050	----
Methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	<0.030	----
Methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	<0.030	----
Naphthalene	91-20-3	E641A	0.01	mg/kg	<0.010	----
Phenanthrene	85-01-8	E641A	0.05	mg/kg	<0.050	----
Pyrene	129-00-0	E641A	0.05	mg/kg	<0.050	----
Quinoline	91-22-5	E641A	0.05	mg/kg	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1002581)									
Moisture	----	E144	0.25	%	50 %	104	90.0	110	----
Metals (QCLot: 1007670)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	82.3	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	83.9	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	90.0	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	88.1	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	84.8	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	85.4	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	86.4	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	87.9	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	100	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	86.5	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	88.8	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	90.4	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	107	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	86.4	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	117	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	88.0	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	88.0	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	84.7	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	88.3	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	87.1	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	83.3	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	88.5	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	88.7	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	85.0	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	86.4	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	88.6	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	84.3	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	85.2	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	83.2	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	85.3	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1007670) - continued									
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	86.6	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	87.8	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	119	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	82.7	80.0	120	----
Volatile Organic Compounds (QCLot: 1002147)									
Benzene	71-43-2	E611A	0.005	mg/kg	2.5 mg/kg	113	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.015	mg/kg	2.5 mg/kg	113	70.0	130	----
Toluene	108-88-3	E611A	0.05	mg/kg	2.5 mg/kg	105	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	5 mg/kg	124	70.0	130	----
Xylene, o-	95-47-6	E611A	0.03	mg/kg	2.5 mg/kg	120	70.0	130	----
Volatile Organic Compounds (QCLot: 1002149)									
Acetone	67-64-1	E611D	0.5	mg/kg	12.5 mg/kg	124	60.0	140	----
Benzene	71-43-2	E611D	0.005	mg/kg	2.5 mg/kg	113	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.05	mg/kg	2.5 mg/kg	112	50.0	140	----
Bromoform	75-25-2	E611D	0.05	mg/kg	2.5 mg/kg	76.9	70.0	130	----
Bromomethane	74-83-9	E611D	0.05	mg/kg	2.5 mg/kg	110	60.0	140	----
Carbon disulfide	75-15-0	E611D	0.05	mg/kg	2.5 mg/kg	116	70.0	130	----
Carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	2.5 mg/kg	93.6	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.05	mg/kg	2.5 mg/kg	109	70.0	130	----
Chloroethane	75-00-3	E611D	0.05	mg/kg	2.5 mg/kg	98.6	60.0	140	----
Chloroform	67-66-3	E611D	0.05	mg/kg	2.5 mg/kg	108	70.0	130	----
Chloromethane	74-87-3	E611D	0.05	mg/kg	2.5 mg/kg	108	60.0	140	----
Dibromochloromethane	124-48-1	E611D	0.05	mg/kg	2.5 mg/kg	87.9	60.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	2.5 mg/kg	97.2	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	2.5 mg/kg	99.7	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	2.5 mg/kg	101	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	2.5 mg/kg	102	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	2.5 mg/kg	79.6	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	2.5 mg/kg	118	60.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	2.5 mg/kg	113	60.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	2.5 mg/kg	112	60.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	2.5 mg/kg	113	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	2.5 mg/kg	117	60.0	130	----
Dichloromethane	75-09-2	E611D	0.045	mg/kg	2.5 mg/kg	116	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	2.5 mg/kg	120	70.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1002149) - continued									
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	2.5 mg/kg	110	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	2.5 mg/kg	88.2	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.015	mg/kg	2.5 mg/kg	113	70.0	130	----
Hexane, n-	110-54-3	E611D	0.05	mg/kg	2.5 mg/kg	114	70.0	130	----
Hexanone, 2-	591-78-6	E611D	0.5	mg/kg	12.5 mg/kg	122	60.0	140	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	12.5 mg/kg	121	60.0	140	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	12.5 mg/kg	136	60.0	140	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	2.5 mg/kg	104	70.0	130	----
Styrene	100-42-5	E611D	0.05	mg/kg	2.5 mg/kg	122	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	2.5 mg/kg	89.6	60.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	2.5 mg/kg	89.8	60.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	2.5 mg/kg	92.4	60.0	130	----
Toluene	108-88-3	E611D	0.05	mg/kg	2.5 mg/kg	105	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	2.5 mg/kg	94.4	60.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	2.5 mg/kg	98.7	60.0	130	----
Trichloroethylene	79-01-6	E611D	0.01	mg/kg	2.5 mg/kg	108	60.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	2.5 mg/kg	90.4	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.02	mg/kg	2.5 mg/kg	101	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	5 mg/kg	124	70.0	130	----
Xylene, o-	95-47-6	E611D	0.03	mg/kg	2.5 mg/kg	120	70.0	130	----
Volatile Organic Compounds (QCLot: 1003290)									
Benzene	71-43-2	E611A	0.005	mg/kg	2.5 mg/kg	84.2	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.015	mg/kg	2.5 mg/kg	86.7	70.0	130	----
Toluene	108-88-3	E611A	0.05	mg/kg	2.5 mg/kg	88.4	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	5 mg/kg	94.7	70.0	130	----
Xylene, o-	95-47-6	E611A	0.03	mg/kg	2.5 mg/kg	90.3	70.0	130	----
Hydrocarbons (QCLot: 1002148)									
F1 (C6-C10)	----	E581.F1	5	mg/kg	92.77 mg/kg	92.4	70.0	130	----
Hydrocarbons (QCLot: 1002286)									
F2 (C10-C16)	----	E601.SG	25	mg/kg	638 mg/kg	113	70.0	130	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	1270 mg/kg	85.4	70.0	130	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	1094 mg/kg	97.8	70.0	130	----
Hydrocarbons (QCLot: 1003291)									
F1 (C6-C10)	----	E581.F1	5	mg/kg	92.77 mg/kg	90.9	70.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1001782)									
Acenaphthene	83-32-9	E641A	0.05	mg/kg	0.5 mg/kg	89.8	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.05	mg/kg	0.5 mg/kg	90.1	60.0	130	----
Acridine	260-94-6	E641A	0.05	mg/kg	0.5 mg/kg	84.2	60.0	130	----
Anthracene	120-12-7	E641A	0.05	mg/kg	0.5 mg/kg	96.6	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.05	mg/kg	0.5 mg/kg	98.4	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.05	mg/kg	0.5 mg/kg	93.9	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.05	mg/kg	0.5 mg/kg	86.6	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.05	mg/kg	0.5 mg/kg	78.2	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.05	mg/kg	0.5 mg/kg	94.1	60.0	130	----
Chrysene	218-01-9	E641A	0.05	mg/kg	0.5 mg/kg	105	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	0.5 mg/kg	88.5	60.0	130	----
Fluoranthene	206-44-0	E641A	0.05	mg/kg	0.5 mg/kg	92.8	60.0	130	----
Fluorene	86-73-7	E641A	0.05	mg/kg	0.5 mg/kg	91.1	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	0.5 mg/kg	77.0	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	0.5 mg/kg	88.0	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	0.5 mg/kg	85.5	60.0	130	----
Naphthalene	91-20-3	E641A	0.01	mg/kg	0.5 mg/kg	75.8	60.0	130	----
Phenanthrene	85-01-8	E641A	0.05	mg/kg	0.5 mg/kg	87.3	60.0	130	----
Pyrene	129-00-0	E641A	0.05	mg/kg	0.5 mg/kg	91.1	60.0	130	----
Quinoline	91-22-5	E641A	0.05	mg/kg	0.5 mg/kg	88.5	60.0	130	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1002149)										
WP2312232-018	Anonymous	Acetone	67-64-1	E611D	11.4 mg/kg	15.625 mg/kg	113	50.0	140	----
		Benzene	71-43-2	E611D	2.28 mg/kg	3.125 mg/kg	114	50.0	140	----
		Bromodichloromethane	75-27-4	E611D	2.27 mg/kg	3.125 mg/kg	113	50.0	140	----
		Bromoform	75-25-2	E611D	1.66 mg/kg	3.125 mg/kg	82.4	50.0	140	----
		Bromomethane	74-83-9	E611D	2.36 mg/kg	3.125 mg/kg	118	50.0	150	----
		Carbon disulfide	75-15-0	E611D	2.44 mg/kg	3.125 mg/kg	122	50.0	140	----
		Carbon tetrachloride	56-23-5	E611D	1.95 mg/kg	3.125 mg/kg	97.0	50.0	140	----
		Chlorobenzene	108-90-7	E611D	2.44 mg/kg	3.125 mg/kg	122	50.0	140	----
		Chloroethane	75-00-3	E611D	2.06 mg/kg	3.125 mg/kg	102	50.0	150	----
		Chloroform	67-66-3	E611D	2.20 mg/kg	3.125 mg/kg	110	50.0	140	----
		Chloromethane	74-87-3	E611D	2.50 mg/kg	3.125 mg/kg	124	50.0	150	----
		Dibromochloromethane	124-48-1	E611D	2.05 mg/kg	3.125 mg/kg	102	50.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	2.25 mg/kg	3.125 mg/kg	112	50.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	2.25 mg/kg	3.125 mg/kg	112	50.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	2.22 mg/kg	3.125 mg/kg	110	50.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	2.25 mg/kg	3.125 mg/kg	112	50.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	2.16 mg/kg	3.125 mg/kg	107	50.0	150	----
		Dichloroethane, 1,1-	75-34-3	E611D	2.43 mg/kg	3.125 mg/kg	121	50.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	2.32 mg/kg	3.125 mg/kg	115	50.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	2.35 mg/kg	3.125 mg/kg	117	50.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	2.28 mg/kg	3.125 mg/kg	113	50.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	2.39 mg/kg	3.125 mg/kg	119	50.0	140	----
		Dichloromethane	75-09-2	E611D	2.37 mg/kg	3.125 mg/kg	118	50.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	2.36 mg/kg	3.125 mg/kg	117	50.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	2.06 mg/kg	3.125 mg/kg	102	50.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	1.80 mg/kg	3.125 mg/kg	89.6	50.0	140	----
		Ethylbenzene	100-41-4	E611D	2.58 mg/kg	3.125 mg/kg	128	50.0	140	----
		Hexane, n-	110-54-3	E611D	2.56 mg/kg	3.125 mg/kg	127	50.0	140	----
		Hexanone, 2-	591-78-6	E611D	12.8 mg/kg	15.625 mg/kg	127	50.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	12.1 mg/kg	15.625 mg/kg	120	50.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	12.9 mg/kg	15.625 mg/kg	128	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1002149) - continued										
WP2312232-018	Anonymous	Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	2.34 mg/kg	3.125 mg/kg	116	50.0	140	----
		Styrene	100-42-5	E611D	2.86 mg/kg	3.125 mg/kg	142	50.0	140	MES
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	2.02 mg/kg	3.125 mg/kg	100	50.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	1.96 mg/kg	3.125 mg/kg	97.6	50.0	140	----
		Tetrachloroethylene	127-18-4	E611D	2.15 mg/kg	3.125 mg/kg	107	50.0	140	----
		Toluene	108-88-3	E611D	2.37 mg/kg	3.125 mg/kg	118	50.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	1.88 mg/kg	3.125 mg/kg	93.4	50.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	2.29 mg/kg	3.125 mg/kg	114	50.0	140	----
		Trichloroethylene	79-01-6	E611D	2.17 mg/kg	3.125 mg/kg	108	50.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	2.03 mg/kg	3.125 mg/kg	101	50.0	150	----
		Vinyl chloride	75-01-4	E611D	2.27 mg/kg	3.125 mg/kg	113	50.0	150	----
		Xylene, m+p-	179601-23-1	E611D	5.05 mg/kg	6.25 mg/kg	126	50.0	140	----
		Xylene, o-	95-47-6	E611D	2.75 mg/kg	3.125 mg/kg	137	50.0	140	----
Volatile Organic Compounds (QCLot: 1003290)										
WP2312224-011	DUP-1	Benzene	71-43-2	E611A	1.78 mg/kg	3.125 mg/kg	87.2	60.0	140	----
		Ethylbenzene	100-41-4	E611A	1.89 mg/kg	3.125 mg/kg	92.5	60.0	140	----
		Toluene	108-88-3	E611A	1.88 mg/kg	3.125 mg/kg	92.3	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	4.01 mg/kg	6.25 mg/kg	98.2	60.0	140	----
		Xylene, o-	95-47-6	E611A	1.95 mg/kg	3.125 mg/kg	95.7	60.0	140	----
Hydrocarbons (QCLot: 1002148)										
WP2312232-018	Anonymous	F1 (C6-C10)	----	E581.F1	92.6 mg/kg	185.55 mg/kg	77.6	60.0	140	----
Hydrocarbons (QCLot: 1002286)										
WP2312224-004	P-BH03-6	F2 (C10-C16)	----	E601.SG	512 mg/kg	638 mg/kg	106	60.0	140	----
		F3 (C16-C34)	----	E601.SG	908 mg/kg	1270 mg/kg	94.7	60.0	140	----
		F4 (C34-C50)	----	E601.SG	861 mg/kg	1094 mg/kg	104	60.0	140	----
Hydrocarbons (QCLot: 1003291)										
WP2312224-011	DUP-1	F1 (C6-C10)	----	E581.F1	94.2 mg/kg	185.55 mg/kg	77.7	60.0	140	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1001782)										
WT2318028-001	Anonymous	Acenaphthene	83-32-9	E641A	0.380 mg/kg	0.5 mg/kg	95.3	50.0	140	----
		Acenaphthylene	208-96-8	E641A	0.372 mg/kg	0.5 mg/kg	93.4	50.0	140	----
		Acridine	260-94-6	E641A	0.400 mg/kg	0.5 mg/kg	100	50.0	140	----
		Anthracene	120-12-7	E641A	0.396 mg/kg	0.5 mg/kg	99.4	50.0	140	----
		Benz(a)anthracene	56-55-3	E641A	0.330 mg/kg	0.5 mg/kg	82.8	50.0	140	----
		Benzo(a)pyrene	50-32-8	E641A	0.332 mg/kg	0.5 mg/kg	83.4	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1001782) - continued										
WT2318028-001	Anonymous	Benzo(b+j)fluoranthene	n/a	E641A	0.254 mg/kg	0.5 mg/kg	63.6	50.0	140	----
		Benzo(g,h,i)perylene	191-24-2	E641A	0.224 mg/kg	0.5 mg/kg	56.2	50.0	140	----
		Benzo(k)fluoranthene	207-08-9	E641A	0.370 mg/kg	0.5 mg/kg	92.8	50.0	140	----
		Chrysene	218-01-9	E641A	0.310 mg/kg	0.5 mg/kg	77.8	50.0	140	----
		Dibenz(a,h)anthracene	53-70-3	E641A	0.345 mg/kg	0.5 mg/kg	86.5	50.0	140	----
		Fluoranthene	206-44-0	E641A	0.295 mg/kg	0.5 mg/kg	73.9	50.0	140	----
		Fluorene	86-73-7	E641A	0.374 mg/kg	0.5 mg/kg	93.9	50.0	140	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.280 mg/kg	0.5 mg/kg	70.2	50.0	140	----
		Methylnaphthalene, 1-	90-12-0	E641A	0.362 mg/kg	0.5 mg/kg	91.0	50.0	140	----
		Methylnaphthalene, 2-	91-57-6	E641A	0.357 mg/kg	0.5 mg/kg	89.6	50.0	140	----
		Naphthalene	91-20-3	E641A	0.336 mg/kg	0.5 mg/kg	84.4	50.0	140	----
		Phenanthrene	85-01-8	E641A	0.343 mg/kg	0.5 mg/kg	86.0	50.0	140	----
		Pyrene	129-00-0	E641A	0.276 mg/kg	0.5 mg/kg	69.2	50.0	140	----
		Quinoline	91-22-5	E641A	0.355 mg/kg	0.5 mg/kg	89.1	50.0	140	----

Qualifiers

Qualifier	Description
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Particle Size (QCLot: 1007767)									
	RM	Sand (>0.075mm)	----	E178	38.6 %	93.3	86.0	114	----
Particle Size (QCLot: 1015227)									
	RM	Sand (>0.075mm)	----	E178	38.6 %	99.9	86.0	114	----
Metals (QCLot: 1007670)									
	RM	Aluminum	7429-90-5	E440	9817 mg/kg	77.4	70.0	130	----
	RM	Antimony	7440-36-0	E440	3.99 mg/kg	82.9	70.0	130	----
	RM	Arsenic	7440-38-2	E440	3.73 mg/kg	82.6	70.0	130	----
	RM	Barium	7440-39-3	E440	105 mg/kg	92.0	70.0	130	----
	RM	Beryllium	7440-41-7	E440	0.349 mg/kg	90.5	70.0	130	----
	RM	Boron	7440-42-8	E440	8.5 mg/kg	77.7	40.0	160	----
	RM	Cadmium	7440-43-9	E440	0.91 mg/kg	92.1	70.0	130	----
	RM	Calcium	7440-70-2	E440	31082 mg/kg	80.8	70.0	130	----
	RM	Chromium	7440-47-3	E440	101 mg/kg	85.0	70.0	130	----
	RM	Cobalt	7440-48-4	E440	6.9 mg/kg	88.1	70.0	130	----
	RM	Copper	7440-50-8	E440	123 mg/kg	91.6	70.0	130	----
	RM	Iron	7439-89-6	E440	23558 mg/kg	83.0	70.0	130	----
	RM	Lead	7439-92-1	E440	267 mg/kg	85.8	70.0	130	----
	RM	Lithium	7439-93-2	E440	9.5 mg/kg	70.4	70.0	130	----
	RM	Magnesium	7439-95-4	E440	5509 mg/kg	83.6	70.0	130	----
	RM	Manganese	7439-96-5	E440	269 mg/kg	83.0	70.0	130	----
	RM	Molybdenum	7439-98-7	E440	1.03 mg/kg	102	70.0	130	----
	RM	Nickel	7440-02-0	E440	26.7 mg/kg	90.4	70.0	130	----
	RM	Phosphorus	7723-14-0	E440	752 mg/kg	89.2	70.0	130	----
	RM	Potassium	7440-09-7	E440	1587 mg/kg	84.1	70.0	130	----
	RM	Silver	7440-22-4	E440	4.06 mg/kg	94.9	70.0	130	----
	RM	Sodium	7440-23-5	E440	797 mg/kg	91.7	70.0	130	----
	RM	Strontium	7440-24-6	E440	86.1 mg/kg	84.6	70.0	130	----
	RM	Thallium	7440-28-0	E440	0.0786 mg/kg	104	40.0	160	----

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 1007670) - continued									
	RM	Tin	7440-31-5	E440	10.6 mg/kg	81.2	70.0	130	----
	RM	Titanium	7440-32-6	E440	839 mg/kg	78.4	70.0	130	----
	RM	Uranium	7440-61-1	E440	0.52 mg/kg	84.1	70.0	130	----
	RM	Vanadium	7440-62-2	E440	32.7 mg/kg	84.1	70.0	130	----
	RM	Zinc	7440-66-6	E440	297 mg/kg	93.6	70.0	130	----
	RM	Zirconium	7440-67-7	E440	5.73 mg/kg	83.7	70.0	130	----

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 17 - 776537

Page 1 of 1

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	WSP Canada Inc.	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Alfred Chan	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐ / 3 day [P3-25%] ☐ / 2 day [P2-50%] ☐
Phone:	204-259-1474	☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E - 100%] ☐ / Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
Street:	1600 Buffalo Place	Email 1 or Fax alfred.chan@wsp.com	For tests that can not be performed according to the service level selected, you will be contacted.
City/Province:	Winnipeg	Email 2 cassie.bujan@wsp.com	
Postal Code:	R3T 6B8	Email 3 marissa.smith@wsp.com	
Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution	
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax apwest@wsp.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #: CA0003621.4465 Phase 100.102		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: MS & CB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	Metals	VOCs	PAHs	Grain Size
1	P-MW01-3	12-Jun-23	11:15	Soil	3	/				
2	P-MW01-6		11:30		3	/				
3	P-BH03-3		13:10		3	/				
4	P-BH03-6		13:35		3	/				
5	P-MW05-2		15:55		4	/	/			/
6	P-MW05-4		16:00		3	/				
7	P-BH02-5		15:10		4	/	/			
8	P-BH02-3		15:01		5	/		/	/	
9	P-MW04-4		17:15		4	/	/			
10	P-MW04-7		17:30		3	/				/
11	DUP-1		15:01		3	/				
12	DUP-2		15:55		3	/				

Environmental Division
Winnipeg
Work Order Reference
WP2312224
Telephone: +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐	SIF Observations	Yes ☐	No ☐		
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐	
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
6.5							

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SW	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

12224

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 780406

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
Company address below will appear on the final report	
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	alfred.chan@wsp.com
Email 2	cassie.bujan@wsp.com
Email 3	marissa.smirle@wsp.com
Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	apwest@wsp.com
Email 2	

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)			
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply		
PRIORITY (Business Days)	4 day [P4-20%] ☐	EMERGENCY	1 Business day [E - 100%] ☐
	3 day [P3-25%] ☐		Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
	2 day [P2-50%] ☐		
Date and Time Required for all E&P TATs:		dd-mmm-yy hh:mm	
For tests that can not be performed according to the service level selected, you will be contacted.			

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	CA0004086.4678 Task 100.102	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: Cassie Bujan

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	Total Metals (incl. mercury)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
25	DUP-3	14-Jun-23	10:05	Soil	3	✓			
26	MW05-4	↓	11:30	↓	4	✓	✓		
27	MW05-6	↓	11:40	↓	3	✓			

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)			
Frozen ☐	SIF Observations	Yes ☐	No ☐
Ice Packs ☐ Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated ☐			
INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C	
6.4			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SD	JUN 16 2023	10:32			

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776537

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204-259-1474
Company address below will appear on the final report	
Street:	1600 Buffalo Place
City/Province:	Winnipeg
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	alfred.chan@wsp.com
Email 2	cassie.bujan@wsp.com
Email 3	marissa.smirl@wsp.com

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	apwest@wsp.com
Email 2	

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply
PRIORITY (Business Days) 4 day [P4-20%]	☐
3 day [P3-25%]	☐
2 day [P2-50%]	☐
EMERGENCY 1 Business day [E - 100%]	☐
Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)]	☐
Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information	
ALS Account # / Quote #:	
Job #:	CA0003621.4465 Phase 100.102
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: Judy D. Sampler: MS & CB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	Metals	VOCs	PAHs	Grain Size
1	P-MW01-3	12-Jun-23	11:15	Soil	3	✓				
2	P-MW01-6		11:30		3	✓				
3	P-BH03-3		13:10		3	✓				
4	P-BH03-6		13:35		3	✓				
5	P-MW05-2		15:55		4	✓	✓			✓
6	P-MW05-4		16:00		3	✓				
7	P-BH02-5		15:10		4	✓	✓			
8	P-BH02-3		15:01		5	✓		✓	✓	
9	P-MW04-4		17:15		4	✓	✓			
10	P-MW04-7		17:30		3	✓				✓
11	DUP-1		15:01		3	✓				
12	DUP-2		15:55		3	✓				

Environmental Division Winnipeg Work Order Reference WP2312224
Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No	☐
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No	☐
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
6.5	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SW	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

12224

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776537

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204-259-1474
Company address below will appear on the final report	
Street:	1600 Buffalo Place
City/Province:	Winnipeg
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL | | EDD (DIGITAL)
Quality Control (QC) Report with Report ☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL | | MAIL | | FAX
Email 1 or Fax: alfred.chan@wsp.com
Email 2: cassie.bujan@wsp.com
Email 3: marissa.smith@wsp.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: apwest@wsp.com
Email 2:

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐
EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:
Job #: CA0003621.4465 Phase 100.102
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: | PO#
Major/Minor Code: | Routing Code:
Requisitioner:
Location:

ALS Lab Work Order # (lab use only):

ALS Contact: Judy D. Sampler: MS & CB

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	Metals	VOCs	PAHs	Grain Size
1	P-MW01-3	12-Jun-23	11:15	Soil	3	/				
2	P-MW01-6		11:30		3	/				
3	P-BH03-3		13:10		3	/				
4	P-BH03-6		13:35		3	/				
5	P-MW05-2		15:55		4	/	/			/
6	P-MW05-4		16:00		3	/				
7	P-BH02-5		15:10		4	/	/			
8	P-BH02-3		15:01		5	/		/	/	
9	P-MW04-4		17:15		4	/	/			
10	P-MW04-7		17:30		3	/				/
11	DUP-1		15:01		3	/				
12	DUP-2		15:55		3	/				

Environmental Division Winnipeg
Work Order Reference
WP2312224
Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? | | YES | | NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☐ | Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
6.5	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SW	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

10/22/24

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776537

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204-259-1474
Company address below will appear on the final report	
Street:	1600 Buffalo Place
City/Province:	Winnipeg
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	alfred.chan@wsp.com
Email 2	cassie.bujan@wsp.com
Email 3	marissa.smith@wsp.com

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	apwest@wsp.com
Email 2	

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply
PRIORITY (Business Days)	4 day [P4-20%] ☐
	3 day [P3-25%] ☐
	2 day [P2-50%] ☐
EMERGENCY	1 Business day [E - 100%] ☐
	Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm
For tests that can not be performed according to the service level selected, you will be contacted.	

Project Information	
ALS Account # / Quote #:	
Job #:	CA0003621.4465 Phase 100_102
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only):

ALS Contact: Judy D. Sampler: MS & CB

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	Metals	VOCs	PAHs	Grain Size
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2	P-MW01-6		11:30		3	✓				
3	P-BH03-3		13:10		3	✓				
4	P-BH03-6		13:35		3	✓				
5	P-MW05-2		15:55		4	✓	✓			✓
6	P-MW05-4		16:00		3	✓				
7	P-BH02-5		15:10		4	✓	✓			
8	P-BH02-3		15:01		5	✓		✓	✓	
9	P-MW04-4		17:15		4	✓	✓			
10	P-MW04-7		17:30		3	✓				✓
11	DUP-1		15:01		3	✓				
12	DUP-2		15:55		3	✓				

Environmental Division Winnipeg
Work Order Reference
WP2312224
Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐	SIF Observations	Yes ☐	No ☐		
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐	
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
6.5						

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SW	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: **WP2312228**	Page	: 1 of 7
Client	: **WSP Canada Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 477 6650	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 TASK 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Date Analysis Commenced	: 20-Jun-2023
C-O-C number	: ----	Issue Date	: 06-Jul-2023 15:39
Sampler	: ----		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Dung Hoang		Organics, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Lee McTavish		Metals, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba

No Breaches Found

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.
Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
mg/L	milligrams per litre

>: greater than.
<: less than.
Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	*Description*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
EMPC	*Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.*

Analytical Results Evaluation

Matrix: **Groundwater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----	----	----
				Sampling date/time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----	----	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	----	----	----
					WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------	--------	--------
Dissolved Metals											
Aluminum, dissolved	7429-90-5	E421/WP	mg/L		0.146	----	----	----	----	----	----
Antimony, dissolved	7440-36-0	E421/WP	mg/L		0.00129	----	----	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/WP	mg/L		0.00223	----	----	----	----	----	----
Barium, dissolved	7440-39-3	E421/WP	mg/L		0.289	----	----	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/WP	mg/L		0.000034	----	----	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/WP	mg/L		<0.000050	----	----	----	----	----	----
Boron, dissolved	7440-42-8	E421/WP	mg/L		0.742	----	----	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/WP	mg/L		0.0000245	----	----	----	----	----	----
Calcium, dissolved	7440-70-2	E421/WP	mg/L		152	----	----	----	----	----	----
Cesium, dissolved	7440-46-2	E421/WP	mg/L		0.000034	----	----	----	----	----	----
Chromium, dissolved	7440-47-3	E421/WP	mg/L		<0.00050	----	----	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/WP	mg/L		0.00293	----	----	----	----	----	----
Copper, dissolved	7440-50-8	E421/WP	mg/L		0.00276	----	----	----	----	----	----
Iron, dissolved	7439-89-6	E421/WP	mg/L		0.403	----	----	----	----	----	----
Lead, dissolved	7439-92-1	E421/WP	mg/L		0.00592	----	----	----	----	----	----
Lithium, dissolved	7439-93-2	E421/WP	mg/L		0.151	----	----	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/WP	mg/L		102	----	----	----	----	----	----
Manganese, dissolved	7439-96-5	E421/WP	mg/L		0.718	----	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/WP	mg/L		0.0110	----	----	----	----	----	----
Nickel, dissolved	7440-02-0	E421/WP	mg/L		0.00901	----	----	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/WP	mg/L		<0.050	----	----	----	----	----	----
Potassium, dissolved	7440-09-7	E421/WP	mg/L		30.5	----	----	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/WP	mg/L		0.00246	----	----	----	----	----	----
Selenium, dissolved	7782-49-2	E421/WP	mg/L		0.000730	----	----	----	----	----	----
Silicon, dissolved	7440-21-3	E421/WP	mg/L		10.8	----	----	----	----	----	----
Silver, dissolved	7440-22-4	E421/WP	mg/L		0.000010	----	----	----	----	----	----
Sodium, dissolved	7440-23-5	E421/WP	mg/L		747	----	----	----	----	----	----
Strontium, dissolved	7440-24-6	E421/WP	mg/L		1.36	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Groundwater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----	----	----
				Sampling date/time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----	----	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	----	----	----
					WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------	--------	--------
Dissolved Metals											
Sulfur, dissolved	7704-34-9	E421/WP			53.1	----	----	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/WP	mg/L		<0.00020	----	----	----	----	----	----
Thallium, dissolved	7440-28-0	E421/WP			<0.000010	----	----	----	----	----	----
Thorium, dissolved	7440-29-1	E421/WP	mg/L		<0.00010	----	----	----	----	----	----
Tin, dissolved	7440-31-5	E421/WP			0.00028	----	----	----	----	----	----
Titanium, dissolved	7440-32-6	E421/WP	mg/L		0.00519	----	----	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/WP			<0.00010	----	----	----	----	----	----
Uranium, dissolved	7440-61-1	E421/WP	mg/L		0.0123	----	----	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/WP			0.00194	----	----	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WP	mg/L		0.0168	----	----	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/WP			0.00184	----	----	----	----	----	----
Dissolved metals filtration location	----	EP421/WP	-		Field	----	----	----	----	----	----
Volatile Organic Compounds											
Acetone	67-64-1	E611D/WP			<20	----	----	----	----	----	----
Benzene	71-43-2	E611D/WP	µg/L		113	----	----	----	----	----	----
Benzene	71-43-2	E611A/WP			----	<0.00050	0.0641	<0.00050	----	----	----
Bromodichloromethane	75-27-4	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Bromoform	75-25-2	E611D/WP			<0.50	----	----	----	----	----	----
Bromomethane	74-83-9	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Carbon disulfide	75-15-0	E611D/WP			<1.0	----	----	----	----	----	----
Carbon tetrachloride	56-23-5	E611D/WP	µg/L		<0.20	----	----	----	----	----	----
Chlorobenzene	108-90-7	E611D/WP			<0.50	----	----	----	----	----	----
Chloroethane	75-00-3	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Chloroform	67-66-3	E611D/WP			14.4 EMPC	----	----	----	----	----	----
Chloromethane	74-87-3	E611D/WP	µg/L		<2.0	----	----	----	----	----	----
Dibromochloromethane	124-48-1	E611D/WP			<0.50	----	----	----	----	----	----
Dibromoethane, 1,2-	106-93-4	E611D/WP	µg/L		<0.20	----	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611D/WP			<0.50	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Groundwater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----	----	----
				Sampling date/time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----	----	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	----	----	----
					WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------	--------	--------
Volatile Organic Compounds											
Dichlorobenzene, 1,3-	541-73-1	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WP			<0.50	----	----	----	----	----	----
Dichlorodifluoromethane	75-71-8	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611D/WP			<0.50	----	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WP	µg/L		1.37 EMPC	----	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WP			<0.50	----	----	----	----	----	----
Dichloroethylene, cis+trans-1,2-	540-59-0	E611D/WP	µg/L		<0.71	----	----	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WP			<0.50	----	----	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Dichloromethane	75-09-2	E611D/WP			39.0	----	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WP			1.58	----	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WP	µg/L		<0.30	----	----	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WP			1.58 EMPC	----	----	----	----	----	----
Ethylbenzene	100-41-4	E611D/WP	µg/L		192	----	----	----	----	----	----
Ethylbenzene	100-41-4	E611A/WP			----	<0.00050	0.172	<0.00050	----	----	----
Hexane, n-	110-54-3	E611D/WP	µg/L		85.2	----	----	----	----	----	----
Hexanone, 2-	591-78-6	E611D/WP			<20	----	----	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WP	µg/L		<20	----	----	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WP			<20	----	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Styrene	100-42-5	E611D/WP			<0.50	----	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WP			3.06 EMPC	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Toluene	108-88-3	E611D/WP			116	----	----	----	----	----	----
Toluene	108-88-3	E611A/WP	mg/L		----	<0.00050	0.0975	<0.00050	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP			<0.50	----	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	µg/L		<0.50	----	----	----	----	----	----

Analytical Results Evaluation

Matrix: **Groundwater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----	----	----
				Sampling date/time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----	----	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	----	----	----
					WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------	--------	--------
Volatile Organic Compounds											
Trichloroethylene	79-01-6	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Vinyl chloride	75-01-4	E611D/WP	µg/L		<0.50	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WP	µg/L		466	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/WP	µg/L		----	<0.00040	0.380	<0.00040	----	----	----
Xylene, o-	95-47-6	E611D/WP	µg/L		100	----	----	----	----	----	----
Xylene, o-	95-47-6	E611A/WP	µg/L		----	<0.00030	0.0809	<0.00030	----	----	----
Xylenes, total	1330-20-7	E611D/WP	µg/L		566	----	----	----	----	----	----
Xylenes, total	1330-20-7	E611A/WP	µg/L		----	<0.00050	0.461	<0.00050	----	----	----
BTEX, total	----	E611D/WP	µg/L		987	----	----	----	----	----	----
BTEX, total	----	E611A/WP	µg/L		----	<0.0010	0.794	<0.0010	----	----	----
Hydrocarbons											
F1 (C6-C10)	----	E581.F1/WP	mg/L		3.45	<0.10	2.99	<0.10	----	----	----
F1-BTEX	----	EC580/WP	mg/L		2.46	<0.100	2.20	<0.100	----	----	----
F2 (C10-C16)	----	E601/WP	mg/L		0.95	<0.10	0.92	<0.10	----	----	----
F3 (C16-C34)	----	E601/WP	mg/L		0.53	<0.25	0.61	<0.25	----	----	----
F4 (C34-C50)	----	E601/WP	mg/L		0.37	<0.25	0.49	<0.25	----	----	----
TEH (C10-C50)	n/a	E601/WP	mg/L		1.85	<0.40	2.02	<0.40	----	----	----
TEH (C16-C50)	----	E601/WP	mg/L		0.90	<0.40	1.10	<0.40	----	----	----
Hydrocarbons Surrogates											
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/WP	%		118	103	104	101	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	%		97.4	104	104	74.5	----	----	----
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611A/WP	%		----	84.7	103	87.9	----	----	----
Bromofluorobenzene, 4-	460-00-4	E611D/WP	%		106	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	%		----	95.3	90.4	102	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WP	%		104	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons											

Analytical Results Evaluation

Matrix: **Groundwater**

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----	----	----
				Sampling date/time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----	----	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	----	----	----
					WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------	--------	--------
Polycyclic Aromatic Hydrocarbons											
Acridine	260-94-6	E641A/WT	µg/L		<0.046 DLM	----	----	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	µg/L		0.198	----	----	----	----	----	----
Quinoline	91-22-5	E641A/WT	µg/L		<2.95 DLM	----	----	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	µg/L		0.221	----	----	----	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	µg/L		1.74	----	----	----	----	----	----
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	µg/L		27.8	----	----	----	----	----	----
PAHs, total (CCME sewer 18)	n/a	E641A/WT	µg/L		56.0	----	----	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/WT	µg/L		29.5	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates											
Chrysene-d12	1719-03-5	E641A/WT	%		108	----	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	%		118	----	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	%		114	----	----	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

Key:

CERTIFICATE OF ANALYSIS

Work Order	: **WP2312228**	Page	: 1 of 7
Client	: **WSP Canada Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 477 6650	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 TASK 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Date Analysis Commenced	: 20-Jun-2023
C-O-C number	: ----	Issue Date	: 06-Jul-2023 15:39
Sampler	: ----		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Dung Hoang		Organics, Winnipeg, Manitoba
Gerry Vera	Analyst	Organics, Winnipeg, Manitoba
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Lee McTavish		Metals, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Organics, Winnipeg, Manitoba

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	*Description*
-	no units
µg/L	micrograms per litre
mg/L	milligrams per litre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	*Description*
DLM	*Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).*
EMPC	*Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.*

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----
					Client sampling date / time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----
						WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------
						Result	Result	Result	Result	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WP	0.0010	mg/L		0.146	----	----	----	----
Antimony, dissolved	7440-36-0	E421/WP	0.00010	mg/L		0.00129	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/WP	0.00010	mg/L		0.00223	----	----	----	----
Barium, dissolved	7440-39-3	E421/WP	0.00010	mg/L		0.289	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/WP	0.000020	mg/L		0.000034	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/WP	0.000050	mg/L		<0.000050	----	----	----	----
Boron, dissolved	7440-42-8	E421/WP	0.010	mg/L		0.742	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/WP	0.0000050	mg/L		0.0000245	----	----	----	----
Calcium, dissolved	7440-70-2	E421/WP	0.050	mg/L		152	----	----	----	----
Cesium, dissolved	7440-46-2	E421/WP	0.000010	mg/L		0.000034	----	----	----	----
Chromium, dissolved	7440-47-3	E421/WP	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/WP	0.00010	mg/L		0.00293	----	----	----	----
Copper, dissolved	7440-50-8	E421/WP	0.00020	mg/L		0.00276	----	----	----	----
Iron, dissolved	7439-89-6	E421/WP	0.010	mg/L		0.403	----	----	----	----
Lead, dissolved	7439-92-1	E421/WP	0.000050	mg/L		0.00592	----	----	----	----
Lithium, dissolved	7439-93-2	E421/WP	0.0010	mg/L		0.151	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/WP	0.0050	mg/L		102	----	----	----	----
Manganese, dissolved	7439-96-5	E421/WP	0.00010	mg/L		0.718	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/WP	0.000050	mg/L		0.0110	----	----	----	----
Nickel, dissolved	7440-02-0	E421/WP	0.00050	mg/L		0.00901	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/WP	0.050	mg/L		<0.050	----	----	----	----
Potassium, dissolved	7440-09-7	E421/WP	0.050	mg/L		30.5	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/WP	0.00020	mg/L		0.00246	----	----	----	----
Selenium, dissolved	7782-49-2	E421/WP	0.000050	mg/L		0.000730	----	----	----	----
Silicon, dissolved	7440-21-3	E421/WP	0.050	mg/L		10.8	----	----	----	----
Silver, dissolved	7440-22-4	E421/WP	0.000010	mg/L		0.000010	----	----	----	----
Sodium, dissolved	7440-23-5	E421/WP	0.050	mg/L		747	----	----	----	----
Strontium, dissolved	7440-24-6	E421/WP	0.00020	mg/L		1.36	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/WP	0.50	mg/L		53.1	----	----	----	----

Analytical Results

Sub-Matrix: **Groundwater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----
					Client sampling date / time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----
						WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------
						Result	Result	Result	Result	----
Dissolved Metals										
Tellurium, dissolved	13494-80-9	E421/WP	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, dissolved	7440-28-0	E421/WP	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, dissolved	7440-29-1	E421/WP	0.00010	mg/L		<0.00010	----	----	----	----
Tin, dissolved	7440-31-5	E421/WP	0.00010	mg/L		0.00028	----	----	----	----
Titanium, dissolved	7440-32-6	E421/WP	0.00030	mg/L		0.00519	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/WP	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, dissolved	7440-61-1	E421/WP	0.000010	mg/L		0.0123	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/WP	0.00050	mg/L		0.00194	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WP	0.0010	mg/L		0.0168	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/WP	0.00030	mg/L		0.00184	----	----	----	----
Dissolved metals filtration location	----	EP421/WP	-	-		Field	----	----	----	----
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WP	20	µg/L		<20	----	----	----	----
Benzene	71-43-2	E611D/WP	0.50	µg/L		113	----	----	----	----
Benzene	71-43-2	E611A/WP	0.00050	mg/L		----	<0.00050	0.0641	<0.00050	----
Bromodichloromethane	75-27-4	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Bromoform	75-25-2	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Bromomethane	74-83-9	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Carbon disulfide	75-15-0	E611D/WP	1.0	µg/L		<1.0	----	----	----	----
Carbon tetrachloride	56-23-5	E611D/WP	0.20	µg/L		<0.20	----	----	----	----
Chlorobenzene	108-90-7	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Chloroethane	75-00-3	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Chloroform	67-66-3	E611D/WP	0.50	µg/L		14.4 EMPC	----	----	----	----
Chloromethane	74-87-3	E611D/WP	2.0	µg/L		<2.0	----	----	----	----
Dibromochloromethane	124-48-1	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dibromoethane, 1,2-	106-93-4	E611D/WP	0.20	µg/L		<0.20	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichlorodifluoromethane	75-71-8	E611D/WP	0.50	µg/L		<0.50	----	----	----	----

Analytical Results

Sub-Matrix: **Groundwater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----
					Client sampling date / time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----
						WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds										
Dichloroethane, 1,1-	75-34-3	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WP	0.50	µg/L		1.37 EMPC	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, cis+trans-1,2-	540-59-0	E611D/WP	0.71	µg/L		<0.71	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichloromethane	75-09-2	E611D/WP	1.0	µg/L		39.0	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WP	0.50	µg/L		1.58	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WP	0.30	µg/L		<0.30	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WP	0.30	µg/L		1.58 EMPC	----	----	----	----
Ethylbenzene	100-41-4	E611D/WP	0.50	µg/L		192	----	----	----	----
Ethylbenzene	100-41-4	E611A/WP	0.00050	mg/L		----	<0.00050	0.172	<0.00050	----
Hexane, n-	110-54-3	E611D/WP	0.50	µg/L		85.2	----	----	----	----
Hexanone, 2-	591-78-6	E611D/WP	20	µg/L		<20	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WP	20	µg/L		<20	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WP	20	µg/L		<20	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Styrene	100-42-5	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WP	0.50	µg/L		3.06 EMPC	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Toluene	108-88-3	E611D/WP	0.50	µg/L		116	----	----	----	----
Toluene	108-88-3	E611A/WP	0.00050	mg/L		----	<0.00050	0.0975	<0.00050	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611D/WP	0.50	µg/L		<0.50	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WP	0.40	µg/L		466	----	----	----	----

Analytical Results

Sub-Matrix: **Groundwater**
(Matrix: **Water**)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----
					Client sampling date / time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----
						WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------
						Result	Result	Result	Result	----
Volatile Organic Compounds										
Xylene, m+p-	179601-23-1	E611A/WP	0.00040	mg/L		----	<0.00040	0.380	<0.00040	----
Xylene, o-	95-47-6	E611D/WP	0.30	µg/L		100	----	----	----	----
Xylene, o-	95-47-6	E611A/WP	0.00030	mg/L		----	<0.00030	0.0809	<0.00030	----
Xylenes, total	1330-20-7	E611D/WP	0.50	µg/L		566	----	----	----	----
Xylenes, total	1330-20-7	E611A/WP	0.00050	mg/L		----	<0.00050	0.461	<0.00050	----
BTEX, total	----	E611D/WP	1.0	µg/L		987	----	----	----	----
BTEX, total	----	E611A/WP	0.0010	mg/L		----	<0.0010	0.794	<0.0010	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WP	0.10	mg/L		3.45	<0.10	2.99	<0.10	----
F1-BTEX	----	EC580/WP	0.100	mg/L		2.46	<0.100	2.20	<0.100	----
F2 (C10-C16)	----	E601/WP	0.10	mg/L		0.95	<0.10	0.92	<0.10	----
F3 (C16-C34)	----	E601/WP	0.25	mg/L		0.53	<0.25	0.61	<0.25	----
F4 (C34-C50)	----	E601/WP	0.25	mg/L		0.37	<0.25	0.49	<0.25	----
TEH (C10-C50)	n/a	E601/WP	0.40	mg/L		1.85	<0.40	2.02	<0.40	----
TEH (C16-C50)	----	E601/WP	0.40	mg/L		0.90	<0.40	1.10	<0.40	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/WP	1.0	%		118	103	104	101	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WP	1.0	%		97.4	104	104	74.5	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/WP	1.0	%		----	84.7	103	87.9	----
Bromofluorobenzene, 4-	460-00-4	E611D/WP	1.0	%		106	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/WP	1.0	%		----	95.3	90.4	102	----
Difluorobenzene, 1,4-	540-36-3	E611D/WP	1.0	%		104	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acridine	260-94-6	E641A/WT	0.010	µg/L		<0.046 DLM	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/WT	0.015	µg/L		0.198	----	----	----	----
Quinoline	91-22-5	E641A/WT	0.050	µg/L		<2.95 DLM	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/WT	0.010	µg/L		0.221	----	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/WT	0.030	µg/L		1.74	----	----	----	----
PAHs, low molecular weight (BC AWQ)	n/a	E641A/WT	0.060	µg/L		27.8	----	----	----	----

Analytical Results

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW01-GW	MW05-GW	DUP-1	TRIP BLANK	----
					Client sampling date / time	15-Jun-2023 16:10	15-Jun-2023 15:50	15-Jun-2023 16:30	15-Jun-2023	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WP2312228-001	WP2312228-002	WP2312228-003	WP2312228-004	--------
						Result	Result	Result	Result	----
Polycyclic Aromatic Hydrocarbons										
PAHs, total (CCME sewer 18)	n/a	E641A/WT	0.070	µg/L		56.0	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/WT	0.065	µg/L		29.5	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		108	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		118	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		114	----	----	----	----

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2312228**	Page	: 1 of 7
Client	: **WSP Canada Inc.**	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	: 204 477 6650	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 TASK 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Issue Date	: 06-Jul-2023 15:39
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW01-GW	E421	15-Jun-2023	20-Jun-2023	----	----		20-Jun-2023	180 days	5 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MW01-GW	E581.F1	15-Jun-2023	22-Jun-2023	----	----		28-Jun-2023	14 days	13 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) DUP-1	E581.F1	15-Jun-2023	20-Jun-2023	----	----		21-Jun-2023	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) MW05-GW	E581.F1	15-Jun-2023	20-Jun-2023	----	----		21-Jun-2023	14 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) TRIP BLANK	E581.F1	15-Jun-2023	20-Jun-2023	----	----		21-Jun-2023	14 days	6 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP-1	E601	15-Jun-2023	20-Jun-2023	14 days	5 days	✓	22-Jun-2023	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MW01-GW	E601	15-Jun-2023	20-Jun-2023	14 days	5 days	✓	22-Jun-2023	40 days	2 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
MW05-GW	E601	15-Jun-2023	20-Jun-2023	14 days	5 days	✓	22-Jun-2023	40 days	2 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
TRIP BLANK	E601	15-Jun-2023	20-Jun-2023	14 days	5 days	✓	22-Jun-2023	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MW01-GW	E641A	15-Jun-2023	22-Jun-2023	14 days	7 days	✓	23-Jun-2023	40 days	1 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
DUP-1	E611A	15-Jun-2023	20-Jun-2023	----	----		21-Jun-2023	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MW05-GW	E611A	15-Jun-2023	20-Jun-2023	----	----		21-Jun-2023	14 days	6 days	✓
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
TRIP BLANK	E611A	15-Jun-2023	20-Jun-2023	----	----		21-Jun-2023	14 days	6 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MW01-GW	E611D	15-Jun-2023	22-Jun-2023	----	----		28-Jun-2023	14 days	13 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	999193	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1002461	2	27	7.4	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	997888	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002460	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	999193	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1002461	2	27	7.4	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	997772	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	997888	1	20	5.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	1002113	1	9	11.1	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002460	1	10	10.0	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	999193	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1002461	2	27	7.4	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	997772	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	997888	1	20	5.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	1002113	1	9	11.1	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002460	1	10	10.0	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	999193	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1002461	2	27	7.4	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	997888	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1002460	1	10	10.0	5.0	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals in Water by CRC ICPMS	E421 Winnipeg - Environmental	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
CCME PHC - F1 by Headspace GC-FID	E581.F1 Winnipeg - Environmental	Water	CCME PHC in Soil - Tier 1	CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 Winnipeg - Environmental	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BTEX by Headspace GC-MS	E611A Winnipeg - Environmental	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D Winnipeg - Environmental	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs by Hexane LVI GC-MS	E641A Waterloo - Environmental	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
F1-BTEX	EC580 Winnipeg - Environmental	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 Winnipeg - Environmental	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 Winnipeg - Environmental	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 Winnipeg - Environmental	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **WP2312228**	Page	: 1 of 16
Client	: WSP Canada Inc.	Laboratory	: Winnipeg - Environmental
Contact	: Alfred Chan	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg MB Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg, Manitoba Canada R2J 3T4
Telephone	:	Telephone	: +1 204 255 9720
Project	: CA0003621.4465 TASK 100.102	Date Samples Received	: 16-Jun-2023 10:35
PO	: ----	Date Analysis Commenced	: 20-Jun-2023
C-O-C number	: ----	Issue Date	: 06-Jul-2023 15:39
Sampler	: ---- 204 477 6650		
Site	: ----		
Quote number	: 2022 Standing Offer Agreement (Q88684)		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Dung Hoang		Winnipeg Organics, Winnipeg, Manitoba
Gerry Vera	Analyst	Winnipeg Organics, Winnipeg, Manitoba
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Lee McTavish		Winnipeg Metals, Winnipeg, Manitoba
Michelle Michalchuk	Analyst	Winnipeg Organics, Winnipeg, Manitoba

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 997888)											
WP2312175-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0310	0.0306	1.00%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.0174	0.0172	1.12%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.0120	0.0120	0.267%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0285	0.0286	0.487%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.142	0.153	7.26%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000059	<0.0000050	0.0000009	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	101	106	4.34%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000130	0.000126	2.76%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.0108	0.0108	0.370%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00192	0.00190	0.00002	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.109	0.110	0.402%	20%	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0121	0.0127	4.99%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	11.6	11.4	1.74%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0443	0.0453	2.34%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00480	0.00480	0.0683%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00217	0.00215	0.00002	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	19.0	18.6	2.16%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.0166	0.0172	3.70%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000126	0.000149	0.000023	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	0.306	0.316	0.010	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	121	121	0.138%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.517	0.510	1.36%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	132	132	0.110%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Dissolved Metals (QC Lot: 997888) - continued											
WP2312175-001	Anonymous	Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	0.000011	0.000012	0.0000008	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00074	0.00066	0.00008	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00011	0.00011	0.0000004	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000028	0.000027	0.000001	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0026	0.0025	0.0001	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1002460)											
WP2312099-003	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon disulfide	75-15-0	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	4.42	4.53	2.46%	30%	----
		Chloromethane	74-87-3	E611D	2.0	µg/L	<2.0	<2.0	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Volatile Organic Compounds (QC Lot: 1002460) - continued											
WP2312099-003	Anonymous	Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Hexanone, 2-	591-78-6	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 999193)											
WP2312228-002	MW05-GW	Benzene	71-43-2	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611A	0.50	µg/L	<0.00050 mg/L	<0.50	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611A	0.40	µg/L	<0.00040 mg/L	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.00030 mg/L	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1002461)											
WP2312099-003	Anonymous	F1 (C6-C10)	----	E581.F1	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 999192)											
WP2312228-002	MW05-GW	F1 (C6-C10)	----	E581.F1	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 997888)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 997888) - continued						
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	----
Volatile Organic Compounds (QCLot: 1002460)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon disulfide	75-15-0	E611D	1	µg/L	<1.0	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611D	2	µg/L	<2.0	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1002460) - continued						
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Hexanone, 2-	591-78-6	E611D	20	µg/L	<20	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 999193)						
Benzene	71-43-2	E611A	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611A	0.5	µg/L	<0.50	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1002461)						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 997772)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 997937)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Hydrocarbons (QCLot: 999192)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Hydrocarbons (QCLot: 999192) - continued						
F1 (C6-C10)	----	E581.F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1002113)						
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 997888)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	102	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	100	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	100.0	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	98.8	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	103	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.4	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	101	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.5	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	97.4	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	103	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.3	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	102	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.2	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	105	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.5	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.1	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	102	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	97.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	105	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	95.4	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	92.3	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	104	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 997888) - continued									
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	99.6	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	108	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	97.8	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	95.4	80.0	120	----
Volatile Organic Compounds (QCLot: 1002460)									
Acetone	67-64-1	E611D	20	µg/L	500 µg/L	97.2	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	99.6	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	73.5	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	105	60.0	140	----
Carbon disulfide	75-15-0	E611D	1	µg/L	100 µg/L	111	70.0	130	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	88.1	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	96.3	70.0	130	----
Chloroethane	75-00-3	E611D	0.5	µg/L	100 µg/L	91.6	60.0	140	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Chloromethane	74-87-3	E611D	2	µg/L	100 µg/L	109	60.0	140	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	89.7	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	81.9	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	91.9	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	95.0	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	96.2	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	95.1	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	99.9	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	116	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	105	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	87.9	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	77.2	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	97.9	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	114	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1002460) - continued									
Hexanone, 2-	591-78-6	E611D	20	µg/L	500 µg/L	94.7	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	500 µg/L	98.6	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	500 µg/L	107	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	78.6	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	79.9	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	86.2	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	92.2	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	83.8	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	85.1	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	96.3	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	96.2	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.5	µg/L	100 µg/L	99.9	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	110	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	103	70.0	130	----
Volatile Organic Compounds (QCLot: 999193)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	78.4	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	79.6	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	79.1	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	94.2	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	84.2	70.0	130	----
Hydrocarbons (QCLot: 1002461)									
F1 (C6-C10)	----	E581.F1	100	µg/L	5390 µg/L	102	70.0	130	----
Hydrocarbons (QCLot: 997772)									
F2 (C10-C16)	----	E601	100	µg/L	3404 µg/L	107	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	6777 µg/L	90.7	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5835 µg/L	95.5	70.0	130	----
Hydrocarbons (QCLot: 997937)									
F2 (C10-C16)	----	E601	100	µg/L	3404 µg/L	106	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	6777 µg/L	86.6	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5835 µg/L	98.0	70.0	130	----
Hydrocarbons (QCLot: 999192)									
F1 (C6-C10)	----	E581.F1	100	µg/L	5390 µg/L	93.1	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1002113)									
Acridine	260-94-6	E641A	0.01	µg/L	0.5263 µg/L	104	50.0	140	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5263 µg/L	109	50.0	140	----

Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 997888)										
WP2312175-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.187 mg/L	0.2 mg/L	93.6	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0196 mg/L	0.02 mg/L	98.3	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0360 mg/L	0.04 mg/L	90.0	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00885 mg/L	0.01 mg/L	88.5	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	0.1 mg/L	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00355 mg/L	0.004 mg/L	88.7	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00960 mg/L	0.01 mg/L	96.0	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0361 mg/L	0.04 mg/L	90.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0173 mg/L	0.02 mg/L	86.5	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0166 mg/L	0.02 mg/L	83.2	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.76 mg/L	2 mg/L	88.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0944 mg/L	0.1 mg/L	94.4	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0205 mg/L	0.02 mg/L	102	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0344 mg/L	0.04 mg/L	86.0	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.95 mg/L	10 mg/L	99.5	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	4 mg/L	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0180 mg/L	0.02 mg/L	90.2	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0369 mg/L	0.04 mg/L	92.3	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.30 mg/L	10 mg/L	93.0	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00369 mg/L	0.004 mg/L	92.2	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	20 mg/L	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	91.1	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 997888) - continued										
WP2312175-001	Anonymous	Thorium, dissolved	7440-29-1	E421	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0196 mg/L	0.02 mg/L	97.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0395 mg/L	0.04 mg/L	98.9	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00404 mg/L	0.004 mg/L	101	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0937 mg/L	0.1 mg/L	93.7	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.340 mg/L	0.4 mg/L	85.0	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0425 mg/L	0.04 mg/L	106	70.0	130	----
Volatile Organic Compounds (QCLot: 1002460)										
WP2312099-003	Anonymous	Acetone	67-64-1	E611D	602 µg/L	500 µg/L	120	60.0	140	----
		Benzene	71-43-2	E611D	118 µg/L	100 µg/L	118	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	116 µg/L	100 µg/L	116	60.0	140	----
		Bromoform	75-25-2	E611D	81.5 µg/L	100 µg/L	81.5	60.0	140	----
		Bromomethane	74-83-9	E611D	122 µg/L	100 µg/L	122	50.0	150	----
		Carbon disulfide	75-15-0	E611D	126 µg/L	100 µg/L	126	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Chlorobenzene	108-90-7	E611D	119 µg/L	100 µg/L	119	60.0	140	----
		Chloroethane	75-00-3	E611D	107 µg/L	100 µg/L	107	50.0	150	----
		Chloroform	67-66-3	E611D	114 µg/L	100 µg/L	114	60.0	140	----
		Chloromethane	74-87-3	E611D	130 µg/L	100 µg/L	130	50.0	150	----
		Dibromochloromethane	124-48-1	E611D	96.1 µg/L	100 µg/L	96.1	60.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	109 µg/L	100 µg/L	109	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	111 µg/L	100 µg/L	111	50.0	150	----
		Dichloroethane, 1,1-	75-34-3	E611D	127 µg/L	100 µg/L	127	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	119 µg/L	100 µg/L	119	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	122 µg/L	100 µg/L	122	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	117 µg/L	100 µg/L	117	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	124 µg/L	100 µg/L	124	60.0	140	----
		Dichloromethane	75-09-2	E611D	123 µg/L	100 µg/L	123	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	123 µg/L	100 µg/L	123	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	84.8 µg/L	100 µg/L	84.8	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1002460) - continued										
WP2312099-003	Anonymous	Ethylbenzene	100-41-4	E611D	120 µg/L	100 µg/L	120	60.0	140	----
		Hexane, n-	110-54-3	E611D	129 µg/L	100 µg/L	129	60.0	140	----
		Hexanone, 2-	591-78-6	E611D	612 µg/L	500 µg/L	122	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	626 µg/L	500 µg/L	125	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	641 µg/L	500 µg/L	128	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	116 µg/L	100 µg/L	116	60.0	140	----
		Styrene	100-42-5	E611D	129 µg/L	100 µg/L	129	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	97.5 µg/L	100 µg/L	97.5	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	90.8 µg/L	100 µg/L	90.8	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Toluene	108-88-3	E611D	115 µg/L	100 µg/L	115	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	97.4 µg/L	100 µg/L	97.4	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	109 µg/L	100 µg/L	109	60.0	140	----
		Trichloroethylene	79-01-6	E611D	111 µg/L	100 µg/L	111	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	95.6 µg/L	100 µg/L	95.6	50.0	150	----
		Vinyl chloride	75-01-4	E611D	118 µg/L	100 µg/L	118	50.0	150	----
		Xylene, m+p-	179601-23-1	E611D	258 µg/L	200 µg/L	129	60.0	140	----
		Xylene, o-	95-47-6	E611D	127 µg/L	100 µg/L	127	60.0	140	----
Volatile Organic Compounds (QCLot: 999193)										
WP2312228-002	MW05-GW	Benzene	71-43-2	E611A	73.1 µg/L	100 µg/L	73.1	60.0	140	----
		Ethylbenzene	100-41-4	E611A	73.9 µg/L	100 µg/L	73.9	60.0	140	----
		Toluene	108-88-3	E611A	78.3 µg/L	100 µg/L	78.3	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	164 µg/L	200 µg/L	81.9	60.0	140	----
		Xylene, o-	95-47-6	E611A	72.5 µg/L	100 µg/L	72.5	60.0	140	----
Hydrocarbons (QCLot: 1002461)										
WP2312099-003	Anonymous	F1 (C6-C10)	----	E581.F1	5210 µg/L	5390 µg/L	96.7	60.0	140	----
Hydrocarbons (QCLot: 999192)										
WP2312228-002	MW05-GW	F1 (C6-C10)	----	E581.F1	4190 µg/L	5390 µg/L	77.7	60.0	140	----

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 17 - 776536

Page 1 of 1

Report To	Contact and company name below will appear on the final report	Report Format / Distribution		Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Company:	WSP Canada Inc.	Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Alfred Chan	Quality Control (QC) Report with Report	☐ YES ☐ NO	PRIORITY (Business Days) 4 day [P4-20%]	☐ EMERGENCY 1 Business day [E - 100%] ☐
Phone:	204 259 1474	☐ Compare Results to Criteria on Report - provide details below if box checked		3 day [P3-25%] ☐	Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	2 day [P2-50%] ☐	
Street:	1600 Buffalo Pl.	Email 1 or Fax	alfred.chan@wsp.com	Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm
City/Province:	Winnipeg, MB	Email 2	cassie.bujan@wsp.com	For tests that can not be performed according to the service level selected, you will be contacted.	
Postal Code:	R3T 6B8	Email 3	marissa.smirl@wsp.com		
Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution			
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX		
Company:		Email 1 or Fax	apwest@wsp.com		
Contact:		Email 2			

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	CA0003621.4465 Task 100.102	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: Cassie B.

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	VOCs	PAHs	Dissolved metals (F)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	MW01-GW	15-Jun-23	16:10	GW	6	✓	✓	✓	✓		
	MW05-GW	↓	15:50	↓	3	✓					
	DUP-1	↓	16:30	↓	3	✓					
	Trip Blank	↓	—		3	✓					

Environmental Division Winnipeg
Work Order Reference
WP2312228
Telephone : +1 204 255 9720

Drinking Water (DW) Samples (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No	☐
Ice Packs ☐ Ice Cubes ☐		Custody seal intact	Yes ☐	No	☐
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
16.8					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	AV	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

19225

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776536

Page 1 of 1

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	WSP Canada Inc.	Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:	Alfred Chan	Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐ / 3 day [P3-25%] ☐ / 2 day [P2-50%] ☐
Phone:	204 259 1474	☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E - 100%] ☐ / Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
Street:	1600 Buffalo Pl.	Email 1 or Fax alfred.chan@wsp.com	For tests that can not be performed according to the service level selected, you will be contacted.
City/Province:	Winnipeg, MB	Email 2 cassie.bujan@wsp.com	
Postal Code:	R3T 6B8	Email 3 marissa.smirl@wsp.com	
Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution	
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax apwest@wsp.com	
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #: CA0003621.4465 Task 100.102		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: Cassie B.

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	VOCs	PAHs	Dissolved metals (F)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	MW01-GW	15-Jun-23	16:10	GW	6	✓	✓	✓	✓		
	MW05-GW	↓	15:50	↓	3	✓					
	DUP-1	↓	16:30	↓	3	✓					
	Trip Blank	↓	–		3	✓					

Environmental Division Winnipeg
Work Order Reference
WP2312228
Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No	☐
Ice Packs ☐ Ice Cubes ☐		Custody seal intact	Yes ☐	No	☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.5					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	GW	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

100226

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776539

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
	Company address below will appear on the final report
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Quality Control (QC) Report with Report ☐ YES ☐ NO

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax alfred.chan@wsp.com

Email 2 cassie.bujan@wsp.com

Email 3 marissa.smirle@wsp.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax apwest@wsp.com

Email 2

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:

Job #: CA0004086.4678 Task 100.102

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: | PO#

Major/Minor Code: | Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (lab use only):

ALS Contact: Judy D. | Sampler: Cassie Bujan

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX + PHC F1-F4	VOCs	PAHs	total metals (including mercury)	Grain Size	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
13	BH10-4	13-Jun-23	14:45	Soil	3	✓						
14	BH09-5	13Jun 23	15:50	Soil	3	✓				✓		
15	BH10-3	13Jun23	12:40	Soil	5	✓	✓	✓				
16	BH12-3	13Jun23	13:40	Soil	3	✓				✓		
17	BH11-5	13Jun23	14:10	Soil	3	✓						
18	BH09-4	13 Jun 23	15:45	Soil	6	✓	✓	✓	✓			
19	BH11-2	13 June 23	14:05	Soil	3	✓						
20	BH04-6	13 June23	9:55	Soil	3	✓						
21	MW08-4	14 June 23	9:30		3	✓						
22	MW08-5	↓	9:35	↓	3	✓						
23	MW01-2		10:05		3	✓						
24	MW01-5		10:20		3	✓						

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ | Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
6.4						

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:40

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
SV	JUN 16 2023	10:32

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 780406

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
	Company address below will appear on the final report
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	alfred.chan@wsp.com
Email 2	cassie.bujan@wsp.com
Email 3	marissa.smirle@wsp.com
Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	apwest@wsp.com
Email 2	

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply
PRIORITY (Business Days) 4 day [P4-20%]	☐
3 day [P3-25%]	☐
2 day [P2-50%]	☐
EMERGENCY 1 Business day [E - 100%]	☐
Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)]	☐
Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm
For tests that can not be performed according to the service level selected, you will be contacted.	

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	CA0004086.4678 Task 100.102	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: Cassie Bujan

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Analysis Request: Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below: BTEX, PHC F1-F4	Total Metals	(incl. mercury)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
25	DUP-3	14-Jun-23	10:05	Soil	3	✓				
26	MW05-4	↓	11:30	↓	4	✓	✓			
27	MW05-6	↓	11:40	↓	3	✓				

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No	☐
Ice Packs ☐ Ice Cubes ☐		Custody seal intact	Yes ☐	No	☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.4					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SD	JUN 16 2023	10:32			

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776536

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
	Company address below will appear on the final report
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL | EDD (DIGITAL)
Quality Control (QC) Report with Report ☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL | MAIL ☐ FAX
Email 1 or Fax alfred.chan@wsp.com
Email 2 cassie.bujan@wsp.com
Email 3 marissa.smirl@wsp.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax apwest@wsp.com
Email 2

Project Information

ALS Account # / Quote #:
Job #: CA0003621.4465 Task 100.102
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: | PO#
Major/Minor Code: | Routing Code:
Requisitioner:
Location:

ALS Lab Work Order # (lab use only):
ALS Contact: Judy D. Sampler: Cassie B.

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐
EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	VOCs	PAHs	Dissolved metals (F)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	MW01-GW	15-Jun-23	16:10	GW	6	✓	✓	✓	✓		
	MW05-GW	↓	15:50	↓	3	✓					
	DUP-1		16:30		3	✓					
	Trip Blank		—		3	✓					

Environmental Division
Winnipeg
Work Order Reference
WP2312228

Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO
Are samples for human consumption/ use? ☐ YES ☐ NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐
Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
16.5						

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	GV	JUN 16 2023	10:35			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

122258

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776536

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
	Company address below will appear on the final report
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL | | EDD (DIGITAL)

Quality Control (QC) Report with Report ☐ YES ☐ NO

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL | | MAIL ☐ FAX

Email 1 or Fax alfred.chan@wsp.com

Email 2 cassie.bujan@wsp.com

Email 3 marissa.smirl@wsp.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax apwest@wsp.com

Email 2

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #: CA0003621.4465 Task 100.102		Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: Cassie B.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX, PHC F1-F4	VOCs	PAHs	Dissolved metals (F)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	MW01-GW	15-Jun-23	16:10	GW	6	✓	✓	✓	✓		
	MW05-GW	↓	15:50	↓	3	✓					
	DUP-1		16:30		3	✓					
	Trip Blank		—		3	✓					

Environmental Division Winnipeg
Work Order Reference
WP2312228

Telephone : +1 204 255 9720

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C			
6.5						

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: Cassie Bujan	Date: June 16, 2023	Time: 10:00	Received by: GV	Date: JUN 16 2023	Time: 10:35	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

WP2312228

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 776539

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
Company address below will appear on the final report	
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL | | EDD (DIGITAL)

Quality Control (QC) Report with Report ☐ YES ☐ NO

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL | | MAIL ☐ FAX

Email 1 or Fax alfred.chan@wsp.com

Email 2 cassie.bujan@wsp.com

Email 3 marissa.smirle@wsp.com

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax apwest@wsp.com

Email 2

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:

Job #: CA0004086.4678 Task 100.102

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: | PO#

Major/Minor Code: | Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (lab use only):

ALS Contact: Judy D. Sampler: Cassie Bujan

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX + PHC F1-F4	VOCs	PAHs	total metals (including mercury)	Grain Size	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
13	BH10-4	13-Jun-23	14:45	Soil	3	✓						
4	BH09-5	13 Jun 23	15:50	Soil	3	✓				✓		
5	BH10-3	13Jun23	14:40	Soil	5	✓	✓	✓				
6	BH12-3	13Jun23	13:40	Soil	3	✓				✓		
7	BH11-5	13Jun23	14:10	Soil	3	✓						
8	BH09-4	13 Jun 23	15:45	Soil	6	✓	✓	✓	✓			
9	BH11-2	13 June 23	14:05	Soil	3	✓						
20	BH04-6	13 June 23	9:55	Soil	3	✓						
1	MW08-4	14 June 23	9:30	↓	3	✓						
2	MW08-5	↓	9:35	↓	3	✓						
3	MW01-2	↓	10:05	↓	3	✓						
24	MW01-5	↓	10:20	↓	3	✓						

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? | | YES | | NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ | SIF Observations Yes ☐ No ☐

Ice Packs ☐ Ice Cubes ☐ | Custody seal intact Yes ☐ No ☐

Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.4					

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:40

INITIAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:
SV	JUN 16 2023	10:32

FINAL SHIPMENT RECEPTION (lab use only)

Received by:	Date:	Time:

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 780406

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada Inc.
Contact:	Alfred Chan
Phone:	204 259 1474
	Company address below will appear on the final report
Street:	1600 Buffalo Pl.
City/Province:	Winnipeg, MB
Postal Code:	R3T 6B8
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☐ NO
Company:	
Contact:	

Report Format / Distribution	
Select Report Format:	☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report	☐ YES ☐ NO
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	alfred.chan@wsp.com
Email 2	cassie.bujan@wsp.com
Email 3	marissa.smirle@wsp.com
Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	apwest@wsp.com
Email 2	

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)			
Regular [R]	☑ Standard TAT if received by 3 pm - business days - no surcharges apply		
PRIORITY (Business Days)	4 day [P4-20%] ☐	EMERGENCY	1 Business day [E - 100%] ☐
	3 day [P3-25%] ☐		Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
	2 day [P2-50%] ☐		
Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm		
For tests that can not be performed according to the service level selected, you will be contacted.			

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	CA0004086.4678 Task 100.102	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Judy D.	Sampler: Cassie Bujan

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Analysis Request: Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below — BTEX, PHC F1-F4	Total Metals	Lim. mercury	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
25	DUP-3	14-Jun-23	10:05	Soil	3	✓				
26	MW05-4	↓	11:30	↓	4	✓	✓			
27	MW05-6	↓	11:40	↓	3	✓				

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No	☐
Ice Packs	☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
6.4					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Cassie Bujan	June 16, 2023	10:00	SD	JUN 16 2023	10:34			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.