February 3, 2026 Project No. CA-WSP-181-03988-01

Agnes Wittman
Environmental Approvals Branch, Environment and Climate Change
Box 35, 14 Fultz Boulevard
Winnipeg MB R3Y 0L6

SUBJECT: NOTICE OF ALTERATION – RURAL MUNICIPALITY OF GIMLI – GIMLI LAGOON DECOMMISSIONING [FILE NO. 4814.00]

Dear Madam:

On behalf of the Municipality of Gimli, WSP Canada Inc. is pleased to submit a Notice of Alteration regarding the future use of decommissioned Cell #1 of the Gimli Lagoon.

Should you have any questions or require further information, please contact Dana Bredin at (204)-259-1486 or dana.bredin@wsp.com.

WSP Canada Inc.

[redacted]

Dana Bredin, P.Eng., PMP
Director, Water & Wastewater

CM/DB

CC: Darcy Hjemland, RM of Gimli
Ron Halweg, RM of Gimli
Christine Payne, RM of Gimli

Attachments: Notice of Alteration Form
Notice of Alteration Letter Report
Appendix A – Cell #1 Field Review Letter Report

Notice of Alteration Form

Manitoba

File No. : 4814.00	Environment Act Licence No. : 2587

Legal name of the Licensee: Rural Municipality of Gimli

Name of the development: Gimli Lagoon Decommissioning

Category and Type of development per Classes of Development Regulation:

Waste Treatment and Storage — Wastewater treatment lagoons

Licensee Contact Person: Darcy Hjelmeland

Mailing address of the Licensee: 62 2nd Avenue, P.O. Box 1246

City: Gimli Province: Manitoba Postal Code: R0C 1B0

Phone Number: (204) 642-6658 Fax: Email: Dhjelmeland@rmgimli.com

Name of proponent contact person for purposes of the environmental assessment (e.g. consultant):
Dana Bredin

Phone: (204) 479-0014 Fax:	Mailing address: 1600 Buffalo Pl, Winnipeg, MB R3T 6B8

Email address: dana.bredin@wsp.com

Short Description of Alteration *(max 90 characters):*

RM of Gimli to retain Cell #1 and restore it as a wetland site for recreational use.

Alteration fee attached: Yes: ☐ No: ☑

If No, please explain: No change to existing conditions.

Date: 2026-02-03	Signature: [redacted] Printed name: Dana Bredin, P.Eng.

A complete Notice of Alteration **(NoA)** consists of the following components:

- ☑ **Cover letter**
- ☑ **Notice of Alteration Form**
- ☑ **1 electronic copy of the NoA detailed report** (see "Information Bulletin - Alteration to Developments with Environment Act Licences")
- ☐ **$500 Application fee, if applicable** (Cheque, payable to the Minister of Finance)

Submit the complete NoA to:
Director, Environmental Approvals Branch
Environment and Climate Change
Box 35, 14 Fultz Blvd
Winnipeg MB R3Y 0L6
EABDirector@gov.mb.ca

For more information:
Toll-Free: 1-800-282-8069
Phone: 204-945-8321 Fax: 204-945-5229
https://www.gov.mb.ca/sd/permits_licenses_approvals/eal/ licence/index.html

Note: Per Section 14(3) of the Environment Act, Major Notices of Alteration must be filed through submission of an Environment Act Proposal Form (see "Information Bulletin – Environment Act Proposal Report Guidelines")

NOTICE OF ALTERATION

February 3, 2026 Project No. CA-WSP-181-03988-01

Agnes Wittman
Environmental Approvals Branch, Environment and Climate Change

SUBJECT: NOTICE OF ALTERATION – RURAL MUNICIPALITY OF GIMLI – GIMLI LAGOON DECOMMISSIONING [FILE NO. 4814.00]

Attention: Agnes Whittman

WSP Canada Inc. (WSP) is presently engaged with the Rural Municipality of Gimli (RM) to provide professional engineering services for the decommissioning of the former Gimli Lagoon and subsequent biosolids land application program. On behalf of the RM of Gimli, we are submitting a Notice of Alteration for review and approval by the Environmental Approvals Branch of Manitoba Environment and Climate Change.

The existing four-cell wastewater treatment lagoon is located south of Gimli between PTH #9 and Lake Winnipeg, within SW 09-19-04 EPM, occupying a footprint of approximately 20 hectares (ha). The lagoon was replaced by a sequencing batch reactor (SBR) wastewater treatment plant (WWTP) that was constructed and commissioned in the late 2000s, and the lagoon has not been in operation since that time. The WWTP operates under Environment Act Licence (EAL) No. 2587, which was issued January 20, 2003. This EAL contained clauses that restricted further use of the lagoon and called for its decommissioning (Clauses 40 & 41) after the construction of the WWTP. In June 2020, WSP submitted a decommissioning plan to the Environmental Approval Branch of Manitoba Environment and Climate Change. The three cells (Cells #1, #3, and #4) have since been decommissioned, and the biosolids have been dried and hauled to the newly constructed biosolids storage facility for eventual land application. The berms for Cells #3 and #4 were leveled; however, the berms for Cell #1 remain in place. A Decommissioning Completion Report was submitted on September 11, 2025, outlining the decommissioning process, and email correspondence from Siobhan Burland Ross on October 30, 2025, indicated a Notice of Alteration is required if the RM of Gimli wishes to retain the structure of Cell #1.

On behalf of the RM, WSP is requesting an alteration to the current EAL no. 2587, to retain the existing berms of Cell #1. The purpose of retaining Cell #1 is to allow the RM to convert it into a wetland site for recreational use. On November 19, 2025, WSP completed a review of Cell #1, including collecting two soil samples from the base of the cell. The testing confirmed the soil to have no remaining biosolids; the details of the sampling can be found in Appendix A.

Of note, an existing forcemain into the cell was uncovered as it was not removed as part of the decommissioning works completed in 2021, see Figure 1. A Google Earth map of forcemain location can also be found in Appendix A. The RM is in the process of completing the capping of this forcemain outside the west berm of the Cell. Additional information will be provided, including photographs of the capping and abandonment of the forcemain upon completion of the works. All other piping, including another forcemain into the cell and all intercell piping were capped and abandoned during the decommissioning works.

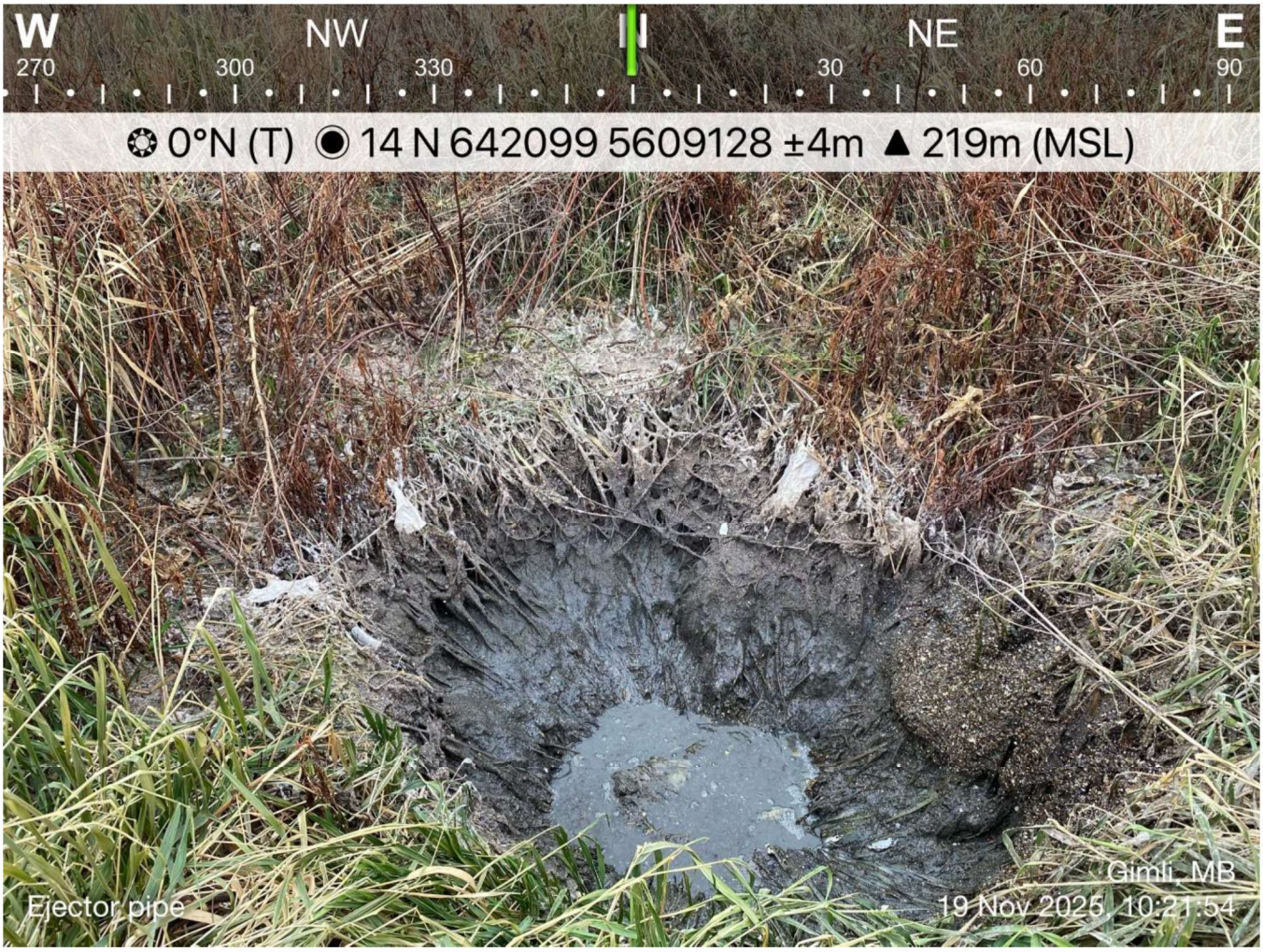

Figure 1: Location of Forcemain into Cell #1

Finally, as Cell #1 will be converted into a wetland, any water from rainfall or snowmelt that naturally accumulates in the cell should not be an issue. As Cell #2 is being retained as an emergency equalization basin for the South Beach Lift Station in extreme precipitation events, any excess water in Cell #1 can be manually pumped into Cell #2 by the RM when necessary.

Should you have any questions or require further information, please contact the undersigned at dana.bredin@wsp.com.

WSP Canada Inc.

[redacted]

Cassandra Tymchen, EIT
Civil Engineer-in-Training, Water & Wastewater

[redacted]

Dana Bredin, P.Eng., PMP
Director, Water & Wastewater

[redacted]

CM/DB

CC: Darcy Hjemland, RM of Gimli
Ron Halweg, RM of Gimli
Christine Payne, RM of Gimli

Attachments: Appendix A – Cell #1 Field Review Letter Report

APPENDIX A

Cell #1 Field Review Report

December 22, 2025 Project No. 181-03988-01

Ms. Agnes Wittman, Director
Environmental Approvals Branch, Environment and Climate Change
Box 35, 14 Fultz Boulevard
Winnipeg, MB R3Y 0L6

SUBJECT: DECOMMISSIONED WASTEWATER TREATMENT LAGOON CELL #1 CONDITION, GIMLI, MB

Attention: Agnes Wittman

WSP Canada Inc. (WSP) is retained by the Rural Municipality of Gimli (RM of Gimli) to manage the decommissioning of a historic wastewater treatment cells located near the intersection of Provincial Trunk Highway #9 and South Colonization Road in the RM of Gimli in SW09-19-04EPM, herein referred to the "Site". The objective of this specific scope of work is to qualify if wastewater treatment biosolids remain within the lagoon Cell #1.

WSP completed a Site visit on November 19, 2025 to complete observations and collect soil samples to qualify the residual state of the lagoon cell floor. A meandering survey of the lagoon cell floor was conducted to determine if there were any observable biosolids organic material within the cell. Across the Cell, two random locations (Sample A and B) were selected for a detailed inspection and sampling of the shallow soil profile, and two additional detailed inspection sites were completed with no sample collection (Inspection C and D) (see attached figure). Photographs (attached) of the cell were collected from each observation location and from the perimeter of the cell.

Soil analysis completed to characterize the soil profile were:

- Fecal coliforms ((0-5 centimetres (cm), (0-2 inches (in)))
- Particle size analysis (0-5cm and 5 – 20cm, (2-8in))
- Organic mater content (0-5cm and 5-20cm, (2-8in))
- Trace metals (0-20cm, (0-8in)

In-Field Observations

The full area of the cell was heavily covered with vegetation and not mowed. The vegetation across the site can be characterized as weedy species of grasses, sedges, Canadian thistle, burdock, brome, ragweed, and tomato. The soil surface was rough with heavy equipment tracks and generally dry, except where there were excavations of clay in the recent past creating shallow pits where surface water collected.

Near the centre of the cell (attached figure), a pit was observed where a discharge pipe or historic force main exists, as there was active water regurgitation occurring (see photos 13, 14 and 15, attached), and residual sludge could be observed on the perimeter of the pit and adjacent soil surface.

Across the Sample Locations A and B and Inspection Locations C and D (attached figure), the soil profile was consistent with minor variation in the observations (see photos 4, 7, 10, and 12, attached). The profile essentially consisted of 0-5 cm fine granular clay; 5-20cm, structured, angular-subangular blocky clay, gray, moist, not wet. There was no sewage odour associated with the soil.

Soil Analysis

Sample Location A and B soil analysis is outlined in Table 1 for soil organic matter, particle size analysis and microbiology. Certificate of Analysis is attached.

Table 1: Soil Analysis for Wastewater Treatment Cell Floor, Gimli, MB

Analyte	LOR[3]	Units	Sample A (0-2")	Sample A (2-8")	Sample B (0-2")	Sample B (2-8")
Physical Tests						
Organic Mater[1]	1.0	%	4.7	3.7	5.7	5.6
Moisture	0.25	%	22.8		22.5	
Particle Size						
Sand (>0.075mm)	1.0	%	2.4	2.0	2.3	1.1
Fines (<0.075mm)	1.0	%	97.6	98.0	97.7	98.9
Texture			Fine	Fine	Fine	Fine
Microbiological						
Coliforms[2]	2	MPN/g	<2	-	<2	-

Notes: 1. Organic Matter – Loss on ignition @ 375°C; 2. Coliforms, thermotolerant (fecal), most probable number ger gram (MPN/g); 3. Laboratory limit of reporting.

Table 2: Table 2.0 Trace Metal Comparison between Lagoon Cell and Agricultural Field, Gimli, MB

			SW09-19-04EPM		NW07-19-03EPM[3]			
Trace Metals[1]	**LOR[2]**	**Unit**	Sample A (0-8")	Sample B (0-8")	GL004 (0-15 CM)	GL005 (0-15 CM)	GL007 (0-15 CM)	GL008 (0-15 CM)
Arsenic	0.1	ug/g	4.17	3.0	2.66	4.11	2.58	3.53
Cadmium	0.02		0.157	0.225	0.194	0.126	0.184	0.253
Copper	0.5		28.7	34.5	34.6	47.1	44.6	52.9
Chromium	0.5		38.0	29.1	17.2	23.8	23.5	26.2
Lead	0.5		9.71	10.7	9.24	10.8	10.7	11.7
Nickle	0.5		27.9	20.8	22.5	33.3	28.6	35.3
Zinc	2.0		58.3	55.5	52.2	65.6	67.3	81.9

Notes: 1. Trace metals monitored in biosolids management programs, laboratory error did not report mercury analysis as requested; 2. Laboratory limit of reporting. 3. Soil trace elements analysis (21Sept2023) as reported in Notice of Alteration[1].

Discussion

The in-field observations did not identify any wastewater biosolids generally across the lagoon cell, except for the identified discharge pit. Interpretation of the soil analysis for Sample Location A and B appears to support this observation as well.

As outlined in Table 1, the organic matter of Sample A and B (0-2") was 4.7 % and 5.7%, respectively. The organic matter content of Sample A and B (2-8") was 3.7% and 5.6%, respectively. As these results are comparatively similar between the two sample depths of Sample A and B, this would demonstrate that there is little difference in the characterization of the surface material to the subsurface materials and that surface soil is not similar to biosolids organic matter which is greater. Historic sample analysis of the biosolids stockpiled in this cell demonstrated that the organic matter content was 7.41%, an observable difference from the cell floor[1].

In-field observations of the soil profile identified that the surface soil was a granular clay from 0-5cm and angular to subangular blocky structure from 5-20cm. Particle size analysis demonstrates little difference between the 0-2" and the 2-8" sample, with both being fine grain clay (Table 1).

Sample A and B (0-2") samples were additionally analysed for fecal coliforms. The presence of fecal coliforms would be a direct indicator of active biosolids present. The sample results for Sample A and B both indicated that fecal coliforms were not present (less than detection) in the soil.

[1] Environment Act Licence 2473RR, Notice of Alteration Submission, August 2, 2024. RM of Gimli, Biosolids Land Application.

Soil trace metal analysis was completed on Sample A and B (0-8") for a wide selection of trace elements. In this summary only trace elements reported and discussed are applicable for biosolids management programs (Table 2). Additionally added to Table 2 are the trace element analysis completed in 2023 for the biosolids land application program NOA [1]. The trace elements in the soil of the treatment cell floor are compared against the agricultural trace elements of nearby agricultural land resourced for the biosolids land application program. Arsenic, Cadmium, Copper, Lead, Nickle and Zinc are each similar between the cell and the agricultural field, the exception to this is Chromium that is approximately 38.7% relative percent different of the mean values (Sample A and B mean: GL004, GL005, GL007 and GL008 mean) which is an acceptable difference of variation based on the sample set.

Conclusions

Based on the in-field observations and the completed laboratory analysis, it is concluded that Cell #1 floor is void of any biosolids materials, except within the immediate discharge pit that was located within the cell.

Should there be any further questions or concerns regarding this letter, please contact the undersigned at (204-259-1488) or Darren.keam@wsp.com.

WSP Canada Inc.

[redacted],
Darren Keam, M.Sc., P.Ag.
Group Manager, Earth & Enviornment

[redacted]
Dana Bredin, P.Eng.
Director, Water & Wastewater

DK/db

CC: Ron Halweg, Director of Operations, RM of Gimli

Attachments: Figure, Certificate of Analysis

I:\projects\2018\181-03988-00 rm of gimli sludge storage ponds & wdg (d.b.)\09 cell decommissioning\ltr_lagoon_review_19december2025.docx

Rural Municipality of Gimli

Historic Wastewater Treatment Cell Decommissioning (SW09-19-04EPM)

ALS Canada Ltd.

right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order	: **WP2520177**		
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Darren Keam	Account Manager	: Judy Dalmaijer
Address	: 1600 Buffalo Place Winnipeg Manitoba Canada R3T 6B8	Address	: 1329 Niakwa Road East, Unit 12 Winnipeg MB Canada R2J 3T4
Telephone	: 204 477 6650	E-mail	: Judy.Dalmaijer@ALSGlobal.com
Project	: 181-03988-01	Telephone	: +1 204 255 9720
PO	: ----	Date Samples Received	: 19-Nov-2025 13:08
C-O-C number	: ----	Date Analysis Commenced	: 21-Nov-2025
Sampler	: ----	Issue Date	: 02-Dec-2025 08:31
Site	: ----		
Quote number	: 181-03988-01 (E)		
No. of samples received	: 8		
No. of samples analysed	: 8		

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

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*
Brieanna Allen	Production/Validation Manager	Organics, Burnaby, British Columbia
Colby Bingham	Laboratory Supervisor	Sask Soils, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Inorganics, Saskatoon, Saskatchewan
Kevin Baxter	Supervisor - Inorganic	Metals, Winnipeg, Manitoba
Lindsay Gung	Department Manager - Inorganics	Microbiology, Burnaby, British Columbia

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
MPN/g	most probable number per gram
µg/g	micrograms per gram

<: 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.

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	Sample A 0-2" ----	Sample A 0-2" ----	Sample A 2-8" ----	Sample A 0-8" ----	Sample B 0-2" ----
				Client sampling date / time	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:45
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2520177-001	WP2520177-002	WP2520177-003	WP2520177-004	WP2520177-005
					Result	Result	Result	Result	Result
Physical Tests									
Loss on ignition @ 375°C	----	E205B/SK	1.0	%	----	4.7	3.7	----	----
Moisture	----	E144/VA	0.25	%	22.8	----	----	----	22.5
Particle Size									
Sand (>0.075mm)	----	E178/SK	1.0	%	----	2.4	2.0	----	----
Fines (<0.075mm)	----	E178/SK	1.0	%	----	97.6	98.0	----	----
Texture class	----	E178/SK	-	-	----	Fine	Fine	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	E014.FC/VA	2	MPN/g	<2	----	----	----	<2
Metals									
Aluminum	7429-90-5	E440/WP	50	µg/g	----	----	----	20400	----
Antimony	7440-36-0	E440/WP	0.10	µg/g	----	----	----	0.18	----
Arsenic	7440-38-2	E440/WP	0.10	µg/g	----	----	----	4.17	----
Barium	7440-39-3	E440/WP	0.50	µg/g	----	----	----	140	----
Beryllium	7440-41-7	E440/WP	0.10	µg/g	----	----	----	0.71	----
Bismuth	7440-69-9	E440/WP	0.20	µg/g	----	----	----	0.25	----
Boron	7440-42-8	E440/WP	5.0	µg/g	----	----	----	20.0	----
Cadmium	7440-43-9	E440/WP	0.020	µg/g	----	----	----	0.157	----
Calcium	7440-70-2	E440/WP	50	µg/g	----	----	----	81800	----
Chromium	7440-47-3	E440/WP	0.50	µg/g	----	----	----	38.0	----
Cobalt	7440-48-4	E440/WP	0.10	µg/g	----	----	----	9.38	----
Copper	7440-50-8	E440/WP	0.50	µg/g	----	----	----	28.7	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	Sample A 0-2" ----	Sample A 0-2" ----	Sample A 2-8" ----	Sample A 0-8" ----	Sample B 0-2" ----
				Client sampling date / time	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:45
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2520177-001	WP2520177-002	WP2520177-003	WP2520177-004	WP2520177-005
					Result	Result	Result	Result	Result
Metals									
Iron	7439-89-6	E440/WP	50	µg/g	----	----	----	20700	----
Lead	7439-92-1	E440/WP	0.50	µg/g	----	----	----	9.71	----
Lithium	7439-93-2	E440/WP	2.0	µg/g	----	----	----	26.7	----
Magnesium	7439-95-4	E440/WP	20	µg/g	----	----	----	38600	----
Manganese	7439-96-5	E440/WP	1.0	µg/g	----	----	----	394	----
Molybdenum	7439-98-7	E440/WP	0.10	µg/g	----	----	----	0.43	----
Nickel	7440-02-0	E440/WP	0.50	µg/g	----	----	----	27.9	----
Phosphorus	7723-14-0	E440/WP	50	µg/g	----	----	----	696	----
Potassium	7440-09-7	E440/WP	100	µg/g	----	----	----	4020	----
Selenium	7782-49-2	E440/WP	0.20	µg/g	----	----	----	0.20	----
Silver	7440-22-4	E440/WP	0.10	µg/g	----	----	----	0.53	----
Sodium	7440-23-5	E440/WP	50	µg/g	----	----	----	283	----
Strontium	7440-24-6	E440/WP	0.50	µg/g	----	----	----	74.4	----
Sulfur	7704-34-9	E440/WP	1000	µg/g	----	----	----	<1000	----
Thallium	7440-28-0	E440/WP	0.050	µg/g	----	----	----	0.252	----
Tin	7440-31-5	E440/WP	2.0	µg/g	----	----	----	<2.0	----
Titanium	7440-32-6	E440/WP	1.0	µg/g	----	----	----	597	----
Tungsten	7440-33-7	E440/WP	0.50	µg/g	----	----	----	<0.50	----
Uranium	7440-61-1	E440/WP	0.050	µg/g	----	----	----	2.69	----
Vanadium	7440-62-2	E440/WP	0.20	µg/g	----	----	----	49.7	----
Zinc	7440-66-6	E440/WP	2.0	µg/g	----	----	----	58.3	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	Sample A 0-2" ----	Sample A 0-2" ----	Sample A 2-8" ----	Sample A 0-8" ----	Sample B 0-2" ----
				Client sampling date / time	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:15	19-Nov-2025 10:45
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2520177-001	WP2520177-002	WP2520177-003	WP2520177-004	WP2520177-005
					Result	Result	Result	Result	Result
Metals									
Zirconium	7440-67-7	E440/WP	1.0	µg/g	----	----	----	8.4	----

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

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	Sample B 0-2" ----	Sample B 2-8" ----	Sample B 0-8" ----	----	----
				Client sampling date / time	19-Nov-2025 10:45	19-Nov-2025 10:45	19-Nov-2025 10:45	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2520177-006	WP2520177-007	WP2520177-008	----	----
					Result	Result	Result	----	----
Physical Tests									
Loss on ignition @ 375°C	----	E205B/SK	1.0	%	5.7	5.6	----	----	----
Particle Size									
Sand (>0.075mm)	----	E178/SK	1.0	%	2.3	1.1	----	----	----
Fines (<0.075mm)	----	E178/SK	1.0	%	97.7	98.9	----	----	----
Texture class	----	E178/SK	-	-	Fine	Fine	----	----	----
Metals									
Aluminum	7429-90-5	E440/WP	50	µg/g	----	----	15100	----	----
Antimony	7440-36-0	E440/WP	0.10	µg/g	----	----	0.19	----	----
Arsenic	7440-38-2	E440/WP	0.10	µg/g	----	----	3.00	----	----
Barium	7440-39-3	E440/WP	0.50	µg/g	----	----	130	----	----
Beryllium	7440-41-7	E440/WP	0.10	µg/g	----	----	0.54	----	----
Bismuth	7440-69-9	E440/WP	0.20	µg/g	----	----	0.32	----	----
Boron	7440-42-8	E440/WP	5.0	µg/g	----	----	18.5	----	----
Cadmium	7440-43-9	E440/WP	0.020	µg/g	----	----	0.225	----	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	Sample B 0-2" ----	Sample B 2-8" ----	Sample B 0-8" ----	----	----
				Client sampling date / time	19-Nov-2025 10:45	19-Nov-2025 10:45	19-Nov-2025 10:45	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2520177-006	WP2520177-007	WP2520177-008	----	----
					Result	Result	Result	----	----
Metals									
Calcium	7440-70-2	E440/WP	50	µg/g	----	----	96100	----	----
Chromium	7440-47-3	E440/WP	0.50	µg/g	----	----	29.1	----	----
Cobalt	7440-48-4	E440/WP	0.10	µg/g	----	----	7.00	----	----
Copper	7440-50-8	E440/WP	0.50	µg/g	----	----	34.5	----	----
Iron	7439-89-6	E440/WP	50	µg/g	----	----	15800	----	----
Lead	7439-92-1	E440/WP	0.50	µg/g	----	----	10.7	----	----
Lithium	7439-93-2	E440/WP	2.0	µg/g	----	----	19.8	----	----
Magnesium	7439-95-4	E440/WP	20	µg/g	----	----	43900	----	----
Manganese	7439-96-5	E440/WP	1.0	µg/g	----	----	316	----	----
Molybdenum	7439-98-7	E440/WP	0.10	µg/g	----	----	0.71	----	----
Nickel	7440-02-0	E440/WP	0.50	µg/g	----	----	20.8	----	----
Phosphorus	7723-14-0	E440/WP	50	µg/g	----	----	800	----	----
Potassium	7440-09-7	E440/WP	100	µg/g	----	----	2880	----	----
Selenium	7782-49-2	E440/WP	0.20	µg/g	----	----	0.34	----	----
Silver	7440-22-4	E440/WP	0.10	µg/g	----	----	1.39	----	----
Sodium	7440-23-5	E440/WP	50	µg/g	----	----	460	----	----
Strontium	7440-24-6	E440/WP	0.50	µg/g	----	----	77.5	----	----
Sulfur	7704-34-9	E440/WP	1000	µg/g	----	----	1800	----	----
Thallium	7440-28-0	E440/WP	0.050	µg/g	----	----	0.184	----	----
Tin	7440-31-5	E440/WP	2.0	µg/g	----	----	3.1	----	----
Titanium	7440-32-6	E440/WP	1.0	µg/g	----	----	464	----	----

Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)				Client sample ID	Sample B 0-2" ----	Sample B 2-8" ----	Sample B 0-8" ----	----	----
				Client sampling date / time	19-Nov-2025 10:45	19-Nov-2025 10:45	19-Nov-2025 10:45	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WP2520177-006	WP2520177-007	WP2520177-008	----	----
					Result	Result	Result	----	----
Metals									
Tungsten	7440-33-7	E440/WP	0.50	µg/g	----	----	<0.50	----	----
Uranium	7440-61-1	E440/WP	0.050	µg/g	----	----	3.08	----	----
Vanadium	7440-62-2	E440/WP	0.20	µg/g	----	----	38.3	----	----
Zinc	7440-66-6	E440/WP	2.0	µg/g	----	----	55.5	----	----
Zirconium	7440-67-7	E440/WP	1.0	µg/g	----	----	7.0	----	----

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

ALS Canada Ltd.

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WP2520177**	Page	: 1 of 7
Client	: **WSP Canada Inc.**	Laboratory	: ALS Environmental - Winnipeg
Contact	: Darren Keam	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	: 181-03988-01	Date Samples Received	: 19-Nov-2025 13:08
PO	: ----	Issue Date	: 02-Dec-2025 08:31
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: 181-03988-01 (E)		
No. of samples received	: 8		
No. of samples analysed	: 8		

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 Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

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: **Soil/Solid**

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

Analyte Group : Analytical Method / 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 Sample A 0-8"	E440	19-Nov-2025	28-Nov-2025	180 days	9 days	✓	28-Nov-2025	180 days	9 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap Sample B 0-8"	E440	19-Nov-2025	28-Nov-2025	180 days	9 days	✓	28-Nov-2025	180 days	9 days	✓
Microbiological Tests : Thermotolerant (Fecal) Coliforms (MTF)										
Sterile whirl-pak bag Sample A 0-2"	E014.FC	19-Nov-2025	21-Nov-2025	48 hrs	52 hrs	× EHT	21-Nov-2025	48 hrs	52 hrs	× EHT
Microbiological Tests : Thermotolerant (Fecal) Coliforms (MTF)										
Sterile whirl-pak bag Sample B 0-2"	E014.FC	19-Nov-2025	21-Nov-2025	48 hrs	52 hrs	× EHT	21-Nov-2025	48 hrs	52 hrs	× EHT
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag Sample A 0-2"	E178	19-Nov-2025	----	----	----		24-Nov-2025	180 days	5 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag Sample A 2-8"	E178	19-Nov-2025	----	----	----		24-Nov-2025	180 days	5 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag Sample B 0-2"	E178	19-Nov-2025	----	----	----		24-Nov-2025	180 days	5 days	✓

Matrix: **Soil/Solid**

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

Analyte Group : Analytical Method / 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
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
LDPE bag Sample B 2-8"	E178	19-Nov-2025	----	----	----		24-Nov-2025	180 days	5 days	✓
Physical Tests : Loss On Ignition (375°C)										
LDPE bag Sample A 0-2"	E205B	19-Nov-2025	----	----	----		24-Nov-2025	365 days	5 days	✓
Physical Tests : Loss On Ignition (375°C)										
LDPE bag Sample A 2-8"	E205B	19-Nov-2025	----	----	----		24-Nov-2025	365 days	5 days	✓
Physical Tests : Loss On Ignition (375°C)										
LDPE bag Sample B 0-2"	E205B	19-Nov-2025	----	----	----		24-Nov-2025	365 days	5 days	✓
Physical Tests : Loss On Ignition (375°C)										
LDPE bag Sample B 2-8"	E205B	19-Nov-2025	----	----	----		24-Nov-2025	365 days	5 days	✓
Physical Tests : Moisture Content by Gravimetry										
Sterile whirl-pak bag Sample A 0-2"	E144	19-Nov-2025	----	----	----		25-Nov-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Sterile whirl-pak bag Sample B 0-2"	E144	19-Nov-2025	----	----	----		25-Nov-2025	----	----	

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)							
Thermotolerant (Fecal) Coliforms (MTF)	E014.FC	2349914	1	12	8.3	5.0	✓
Moisture Content by Gravimetry	E144	2355095	1	5	20.0	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	2352539	1	18	5.5	5.0	✓
Loss On Ignition (375°C)	E205B	2353456	1	9	11.1	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2360077	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Moisture Content by Gravimetry	E144	2355095	1	5	20.0	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	2352539	1	18	5.5	5.0	✓
Loss On Ignition (375°C)	E205B	2353456	1	9	11.1	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2360077	2	20	10.0	10.0	✓
Method Blanks (MB)							
Thermotolerant (Fecal) Coliforms (MTF)	E014.FC	2349914	1	12	8.3	5.0	✓
Moisture Content by Gravimetry	E144	2355095	1	5	20.0	5.0	✓
Loss On Ignition (375°C)	E205B	2353456	1	9	11.1	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	2360077	1	20	5.0	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
Thermotolerant (Fecal) Coliforms (MTF)	E014.FC ALS Environmental - Vancouver	Soil/Solid	EPA 1680 (mod)	Samples are processed, inoculated into a series of fermentation tubes followed by incubation and subsequent inoculations dependent on the target organisms. Fermentation tubes exhibiting positive reactions proceed to confirmation steps specific to the target organism. Moisture determination is performed to report test results on a dry-weight basis.
Moisture Content by Gravimetry	E144 ALS Environmental - Vancouver	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 ALS Environmental - Saskatoon	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.
Loss On Ignition (375°C)	E205B ALS Environmental - Saskatoon	Soil/Solid	CSSS (2008) 28.3 (mod)	Loss On Ignition (LOI) is determined by drying a portion of an air dried and ground sampled at 105°C, then igniting at 375°C for 16-20 hours. The weight loss after ignition is reported as % loss on ignition. LOI is reported on a dry weight basis. LOI at 375°C can be considered an estimation of Organic Matter Content according to Alberta Agriculture (1988).
Metals in Soil/Solid by CRC ICPMS	E440 ALS Environmental - Winnipeg	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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Solid sample preparation (MTF)	EP014 ALS Environmental - Vancouver	Soil/Solid	EPA 1680 (mod)	The procedure involves mixing the sample with deionized/distilled water at a 1:10 ratio of sample to water.
Digestion for Metals and Mercury	EP440 ALS Environmental - Winnipeg	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	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	: **WP2520177**	Page	: 1 of 10
Client	: WSP Canada Inc.	Laboratory	: ALS Environmental - Winnipeg
Contact	: Darren Keam	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	: 181-03988-01	Date Samples Received	: 19-Nov-2025 13:08
PO	: ----	Date Analysis Commenced	: 21-Nov-2025
C-O-C number	: ----	Issue Date	: 02-Dec-2025 08:34
Sampler	: ----		
Site	: ----		
Quote number	: 181-03988-01 (E)		
No. of samples received	: 8		
No. of samples analysed	: 8		

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
- 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*
Brieanna Allen	Production/Validation Manager	Vancouver Organics, Burnaby, British Columbia
Colby Bingham	Laboratory Supervisor	Saskatoon Sask Soils, Saskatoon, Saskatchewan
Hedy Lai	Team Leader - Inorganics	Saskatoon Inorganics, Saskatoon, Saskatchewan
Kevin Baxter	Supervisor - Inorganic	Winnipeg Metals, Winnipeg, Manitoba
Lindsay Gung	Department Manager - Inorganics	Vancouver Microbiology, Burnaby, British Columbia

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
Physical Tests (QC Lot: 2353456)											
EO2510634-001	Anonymous	Loss on ignition @ 375°C	----	E205B	1.0	%	1.9	1.9	0.02	Diff <2x LOR	----
Physical Tests (QC Lot: 2355095)											
VA25D0874-001	Anonymous	Moisture	----	E144	0.25	%	0.79	0.76	0.03	Diff <2x LOR	----
Particle Size (QC Lot: 2352539)											
WP2520177-002	Sample A 0-2"	Sand (>0.075mm)	----	E178	1.0	%	2.4	2.6	0.2	Diff <2x LOR	----
Microbiological Tests (QC Lot: 2349914)											
VA25D0972-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E014.FC	793	MPN/g	<808	<793	0	Diff <2x LOR	----
Metals (QC Lot: 2360077)											
WP2519675-003	Anonymous	Aluminum	7429-90-5	E440	50	mg/kg	12100	11700	3.13%	40%	----
		Antimony	7440-36-0	E440	0.10	mg/kg	0.29	0.29	0.004	Diff <2x LOR	----
		Arsenic	7440-38-2	E440	0.10	mg/kg	4.78	4.78	0.0208%	30%	----
		Barium	7440-39-3	E440	0.50	mg/kg	120	110	8.51%	40%	----
		Beryllium	7440-41-7	E440	0.10	mg/kg	0.55	0.50	0.05	Diff <2x LOR	----
		Bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Boron	7440-42-8	E440	5.0	mg/kg	16.1	15.7	0.4	Diff <2x LOR	----
		Cadmium	7440-43-9	E440	0.020	mg/kg	0.315	0.290	8.48%	30%	----
		Calcium	7440-70-2	E440	50	mg/kg	69000	74500	7.66%	30%	----
		Chromium	7440-47-3	E440	0.50	mg/kg	24.6	23.0	6.94%	30%	----
		Cobalt	7440-48-4	E440	0.10	mg/kg	7.20	6.86	4.78%	30%	----
		Copper	7440-50-8	E440	0.50	mg/kg	18.1	17.2	5.48%	30%	----
		Iron	7439-89-6	E440	50	mg/kg	17100	15000	12.5%	30%	----
		Lead	7439-92-1	E440	0.50	mg/kg	23.3	22.8	1.96%	40%	----
		Lithium	7439-93-2	E440	2.0	mg/kg	14.6	13.0	11.4%	30%	----
		Magnesium	7439-95-4	E440	20	mg/kg	27900	28800	3.35%	30%	----
		Manganese	7439-96-5	E440	1.0	mg/kg	435	446	2.38%	30%	----
		Molybdenum	7439-98-7	E440	0.10	mg/kg	1.49	1.21	20.4%	40%	----
		Nickel	7440-02-0	E440	0.50	mg/kg	20.8	19.1	8.19%	30%	----
		Phosphorus	7723-14-0	E440	50	mg/kg	378	363	3.95%	30%	----
		Potassium	7440-09-7	E440	100	mg/kg	2340	2160	8.11%	40%	----
		Selenium	7782-49-2	E440	0.20	mg/kg	0.20	0.21	0.0009	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: 2360077) - continued											
WP2519675-003	Anonymous	Silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Sodium	7440-23-5	E440	50	mg/kg	313	309	1.29%	40%	----
		Strontium	7440-24-6	E440	0.50	mg/kg	64.0	66.2	3.46%	40%	----
		Sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440	0.050	mg/kg	0.165	0.151	0.013	Diff <2x LOR	----
		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	170	162	4.52%	40%	----
		Tungsten	7440-33-7	E440	0.50	mg/kg	1.23	1.22	0.02	Diff <2x LOR	----
		Uranium	7440-61-1	E440	0.050	mg/kg	0.920	0.879	4.58%	30%	----
		Vanadium	7440-62-2	E440	0.20	mg/kg	41.0	38.0	7.52%	30%	----
		Zinc	7440-66-6	E440	2.0	mg/kg	61.4	59.8	2.57%	30%	----
		Zirconium	7440-67-7	E440	1.0	mg/kg	8.0	7.9	0.632%	30%	----

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: 2355095)						
Moisture	----	E144	0.25	%	<0.25	----
Microbiological Tests (QCLot: 2349914)						
Coliforms, thermotolerant [fecal]	----	E014.FC	2	MPN/g	<2	----
Metals (QCLot: 2360077)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 2360077) - continued						
Titanium	7440-32-6	E440	1	mg/kg	<1.0	----
Tungsten	7440-33-7	E440	0.5	mg/kg	<0.50	----
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	----

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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2355095)									
Moisture	----	E144	0.25	%	50 %	99.9	90.0	110	----
Metals (QCLot: 2360077)									
Aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	91.6	80.0	120	----
Antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	98.2	80.0	120	----
Arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	98.7	80.0	120	----
Barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	97.6	80.0	120	----
Beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	99.7	80.0	120	----
Bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	95.5	80.0	120	----
Boron	7440-42-8	E440	5	mg/kg	100 mg/kg	96.9	80.0	120	----
Cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	95.0	80.0	120	----
Calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	96.2	80.0	120	----
Chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	93.6	80.0	120	----
Cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	94.4	80.0	120	----
Copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	94.8	80.0	120	----
Iron	7439-89-6	E440	50	mg/kg	100 mg/kg	94.4	80.0	120	----
Lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	95.2	80.0	120	----
Lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	101	80.0	120	----
Magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	92.9	80.0	120	----
Manganese	7439-96-5	E440	1	mg/kg	25 mg/kg	92.7	80.0	120	----
Molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	99.2	80.0	120	----
Nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	93.0	80.0	120	----
Phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	92.0	80.0	120	----
Potassium	7440-09-7	E440	100	mg/kg	5000 mg/kg	88.8	80.0	120	----
Selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	92.5	80.0	120	----
Silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	84.6	80.0	120	----
Sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	87.4	80.0	120	----
Strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	96.8	80.0	120	----
Sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	93.4	80.0	120	----
Thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	96.8	80.0	120	----
Tin	7440-31-5	E440	2	mg/kg	50 mg/kg	96.4	80.0	120	----
Titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	91.8	80.0	120	----
Tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	96.3	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 2360077) - continued									
Uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	98.1	80.0	120	----
Vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	94.5	80.0	120	----
Zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	93.4	80.0	120	----
Zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	94.6	80.0	120	----

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
Physical Tests (QCLot: 2353456)									
QC-2353456-002	RM	Loss on ignition @ 375°C	----	E205B	8 %	108	80.0	120	----
Particle Size (QCLot: 2352539)									
QC-2352539-001	RM	Sand (>0.075mm)	----	E178	40.1 %	101	88.0	112	----
Metals (QCLot: 2360077)									
QC-2360077-003	RM	Aluminum	7429-90-5	E440	21000 mg/kg	99.0	70.0	130	----
QC-2360077-003	RM	Antimony	7440-36-0	E440	24.8 mg/kg	81.1	70.0	130	----
QC-2360077-003	RM	Arsenic	7440-38-2	E440	19.2 mg/kg	101	70.0	130	----
QC-2360077-003	RM	Barium	7440-39-3	E440	677 mg/kg	114	70.0	130	----
QC-2360077-003	RM	Beryllium	7440-41-7	E440	1.67 mg/kg	114	70.0	130	----
QC-2360077-003	RM	Bismuth	7440-69-9	E440	1.56 mg/kg	100	70.0	130	----
QC-2360077-003	RM	Cadmium	7440-43-9	E440	2.09 mg/kg	96.0	70.0	130	----
QC-2360077-003	RM	Calcium	7440-70-2	E440	4540 mg/kg	105	70.0	130	----
QC-2360077-003	RM	Chromium	7440-47-3	E440	53 mg/kg	98.1	70.0	130	----
QC-2360077-003	RM	Cobalt	7440-48-4	E440	31.2 mg/kg	94.1	70.0	130	----
QC-2360077-003	RM	Copper	7440-50-8	E440	953 mg/kg	97.8	70.0	130	----
QC-2360077-003	RM	Iron	7439-89-6	E440	32800 mg/kg	93.1	70.0	130	----
QC-2360077-003	RM	Lead	7439-92-1	E440	885 mg/kg	93.1	70.0	130	----
QC-2360077-003	RM	Lithium	7439-93-2	E440	47.2 mg/kg	104	70.0	130	----
QC-2360077-003	RM	Magnesium	7439-95-4	E440	7030 mg/kg	101	70.0	130	----
QC-2360077-003	RM	Manganese	7439-96-5	E440	8140 mg/kg	100	70.0	130	----
QC-2360077-003	RM	Molybdenum	7439-98-7	E440	23.7 mg/kg	106	70.0	130	----
QC-2360077-003	RM	Nickel	7440-02-0	E440	941 mg/kg	101	70.0	130	----
QC-2360077-003	RM	Phosphorus	7723-14-0	E440	640 mg/kg	84.1	70.0	130	----
QC-2360077-003	RM	Potassium	7440-09-7	E440	10100 mg/kg	96.1	70.0	130	----
QC-2360077-003	RM	Selenium	7782-49-2	E440	1 mg/kg	111	60.0	140	----
QC-2360077-003	RM	Silver	7440-22-4	E440	8.49 mg/kg	103	70.0	130	----
QC-2360077-003	RM	Sodium	7440-23-5	E440	1530 mg/kg	99.7	70.0	130	----
QC-2360077-003	RM	Strontium	7440-24-6	E440	37.6 mg/kg	105	70.0	130	----
QC-2360077-003	RM	Sulfur	7704-34-9	E440	4310 mg/kg	80.4	50.0	150	----
QC-2360077-003	RM	Thallium	7440-28-0	E440	0.83 mg/kg	117	70.0	130	----
QC-2360077-003	RM	Tin	7440-31-5	E440	3.73 mg/kg	96.5	40.0	160	----
QC-2360077-003	RM	Titanium	7440-32-6	E440	2820 mg/kg	93.8	70.0	130	----
QC-2360077-003	RM	Tungsten	7440-33-7	E440	6.79 mg/kg	113	70.0	130	----

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report: RM Target Concentration	Recovery (%) RM	Recovery Limits (%) Low	Recovery Limits (%) High	Qualifier
Metals (QCLot: 2360077) - continued									
QC-2360077-003	RM	Uranium	7440-61-1	E440	3.57 mg/kg	117	70.0	130	----
QC-2360077-003	RM	Vanadium	7440-62-2	E440	63 mg/kg	96.3	70.0	130	----
QC-2360077-003	RM	Zinc	7440-66-6	E440	810 mg/kg	93.5	70.0	130	----
QC-2360077-003	RM	Zirconium	7440-67-7	E440	7.68 mg/kg	99.5	70.0	130	----

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 - 777233

Page of

Report To	Contact and company name below will appear on the final report
Company:	WSP Canada
Contact:	Darren Keam
Phone:	204 250 4010
Company address below will appear on the final report	
Street:	1600 Buffalo Pl, Wpg
City/Province:	
Postal Code:	

Report Format / Distribution	
Select Report Format:	[X] PDF [X] EXCEL [ ] EDD (DIGITAL)
Quality Control (QC) Report with Report	[ ] YES [ ] NO
[X] Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	darren.keam@wsp.com
Email 2	
Email 3	

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

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

PRIORITY (Business Days)		EMERGENCY	
4 day [P4-20%]	[ ]	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.

Invoice To	Same as Report To	[ ] YES [ ] NO
	Copy of Invoice with Report	[ ] YES [ ] NO
Company:		
Contact:		

Invoice Distribution	
Select Invoice Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	Capayablesinvoices@wsp.com
Email 2	

Project Information	
ALS Account # / Quote #:	
Job #:	181-03988-01
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:

Sampler:

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	Fecal Coliforms	PSA <75um	Soil Organic Matter	Total Metals + Hg	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	Sample A 0-2"	19-11-25	1015	Grab soil	1	X					
	Sample A 0-2"	"	"	"	1		X	X			
	Sample A 2-8"	"	"	"	1		X	X			
	Sample A 0-8"	"	"	"					X		
	Sample B 0-2"	"	1045	"	1	X					
	Sample B 0-2"	"	1045	"	1		X	X			
	Sample B 2-8"	"	1045	"	1		X	X			
	Sample B 0-8"	"	1045	"					X		

Environmental Division
Winnipeg
Work Order Reference
WP2520177
Telephone : 1 204 255 9720

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

Are samples taken from a Regulated DW System? [ ] YES [X] NO

Are samples for human consumption/ use? [ ] YES [X] 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
2.1	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [redacted]	Date: 19-11-25	Time: 1pm	Received by: [redacted]	Date: NOV 19	Time: 1:08	Received by:	Date:	Time:

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**.