

[illegible]

Ontario Drinking Water Quality Standards: Ontario Regulations (6050) "Ontario Drinking Water Quality Standards" under the Safe Drinking Water Act, dated 2002, and "Technical Support Document for Ontario Drinking Water Standards: Objectives and Guidelines", dated June 2003.

6700 9510 440711 4000 **6700** 9510 440711 4000 **6700** 9510 440711 4000

REPORTS COLLECTION LINE
Customer Services 877 (Toll-Free) 866-1177

Not Applicable - Criteria included in the RFP

Units All Units in mg/L. Urinary Creatinine Noted.

Background Characteristics (Description of the Maximum Achievable Condition) Considered

Minimum Acceptable Component Values
Reduction Coefficient

Maximum City-Size Acceptable Containment

Can It Help Calculate an Old Car Value?

TABLE 12
Surface Water Quality Results - Pond
McGarry Waste Disposal Site
Terraship of McGarry, Ontario

Parameter	Units	RDL	Pond (17 U 618683 m E, 6332341 m N)										PMO	APV	CMO
			23-May-18	4-Oct-18	14-May-19	23-Sep-19	3-Jun-21	5-Aug-21	23-May-22	3-Aug-22	27-Sep-22				
pH	pH Units	NA	6.4	6.74	-	7.6	6.66	-	-	-	-	6.5-8.5	6.5-8.5	8.0-9.0	
BOD	mg/L	5	<5	<5	-	<0	3.9	-	-	-	-	-	-	-	
Electrical Conductivity	uS/cm	2	18	5	-	413	101	-	-	-	-	-	-	-	
Total Dissolved Solids	mg/L	20	38	28	-	303	89	-	-	-	-	-	-	-	
Total Suspended Solids	mg/L	<10	173	-	-	21	10	-	-	-	-	-	-	-	
Alkalinity (as CaCO3)	mg/L	5	<5	<5	-	186	52	-	-	-	-	-	-	-	
Total Hardness (as CaCO3)	mg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	-	
Fluoride	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Chloride	mg/L	0.1	0.23	1.17	-	13.7	<0.50	-	-	-	-	-	180	128	
Ammonia as N	mg/L	0.05	<0.05	<0.05	-	<0.020	<0.020	-	-	-	-	-	-	2.9	
Nitrite as N	mg/L	0.05	<0.05	<0.05	-	<0.010	<0.010	-	-	-	-	-	-	0.06	
Bromide	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Sulfate	mg/L	0.1	1.76	0.48	-	23	0.38	-	-	-	-	-	100	-	
Cyano phosphide as P	mg/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Ammonia as N	mg/L	0.02	<0.02	<0.02	-	0.097	<0.010	-	-	-	-	-	-	-	
Total Kjeldahl Nitrogen	mg/L	0.1	0.41	0.16	-	1.48	0.8	-	-	-	-	-	-	-	
Total Phosphorous	mg/L	0.02	6.1	0.32	-	6.151	0.8448	-	-	-	-	0.03	-	-	
Chemical Oxygen Demand	mg/L	5	21	<5	-	83	48	-	-	-	-	-	-	-	
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphate	mg/L	0.001	0.004	0.002	-	0.004	<0.0010	-	-	-	-	0.001	0.04	0.004	
Calcium	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium	mg/L	0.05	-	-	-	-	-	-	-	-	-	-	-	-	
Trinitro and Ligates	mg phenol/L	0.1	-	-	-	-	-	-	-	-	-	-	-	-	
Aluminum	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-	
Antimony	mg/L	0.003	-	-	-	-	-	-	-	-	-	-	-	-	
Arsenic	mg/L	0.003	<0.003	-	-	<0.003	-	-	-	-	-	-	-	-	
Barium	mg/L	0.002	0.003	-	-	0.002	-	-	-	-	-	-	-	-	
Beryllium	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	-	-	
Boron	mg/L	0.01	<0.010	-	-	-	-	-	-	-	-	0.1	0.15	-	
Cadmium	mg/L	0.002	0.0001	-	-	0.0001	-	-	-	-	-	0.2	3.55	1.5	
Chromium	mg/L	0.003	<0.003	-	-	0.003	-	-	-	-	-	0.0002	0.00021	0.00017	
Cobalt	mg/L	0.001	-	-	-	-	-	-	-	-	-	-	0.004	-	
Copper	mg/L	0.003	<0.002	-	-	-	-	-	-	-	-	0.005	0.0009	-	
Iron	mg/L	0.01	0.008	1.61	-	1.48	0.001	-	-	-	-	0.3	1	-	
Lead	mg/L	0.002	<0.001	-	-	-	-	-	-	-	-	0.005	0.002	-	
Manganese	mg/L	0.002	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel	mg/L	0.002	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium	mg/L	0.004	-	-	-	-	-	-	-	-	-	-	-	-	
Silver	mg/L	0.002	-	-	-	-	-	-	-	-	-	-	-	-	
Strontium	mg/L	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Thallium	mg/L	0.005	-	-	-	-	-	-	-	-	-	-	-	-	
Titanium	mg/L	0.002	-	-	-	-	-	-	-	-	-	-	-	-	
Vanadium	mg/L	0.002	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc	mg/L	0.005	0.008	-	-	-	-	-	-	-	-	-	-	-	
Field Measurements															
Temperature	C	-	16.35	8.98	-	25.8	19.50	-	-	-	-	-	-	-	
pH	pH Units	-	5.19	6.04	-	7.72	9.07	-	-	-	-	-	-	-	
Conductivity	uS/cm	-	13	5	-	464.1	96.1	-	-	-	-	-	-	-	
Oxidation Reduction Potential	mV	-	115.3	-101.3	-	167.1	183.5	-	-	-	-	-	-	-	
Dissolved Oxygen	mg/L	-	6.93	70.8	-	1.79	8.26	-	-	-	-	-	-	-	

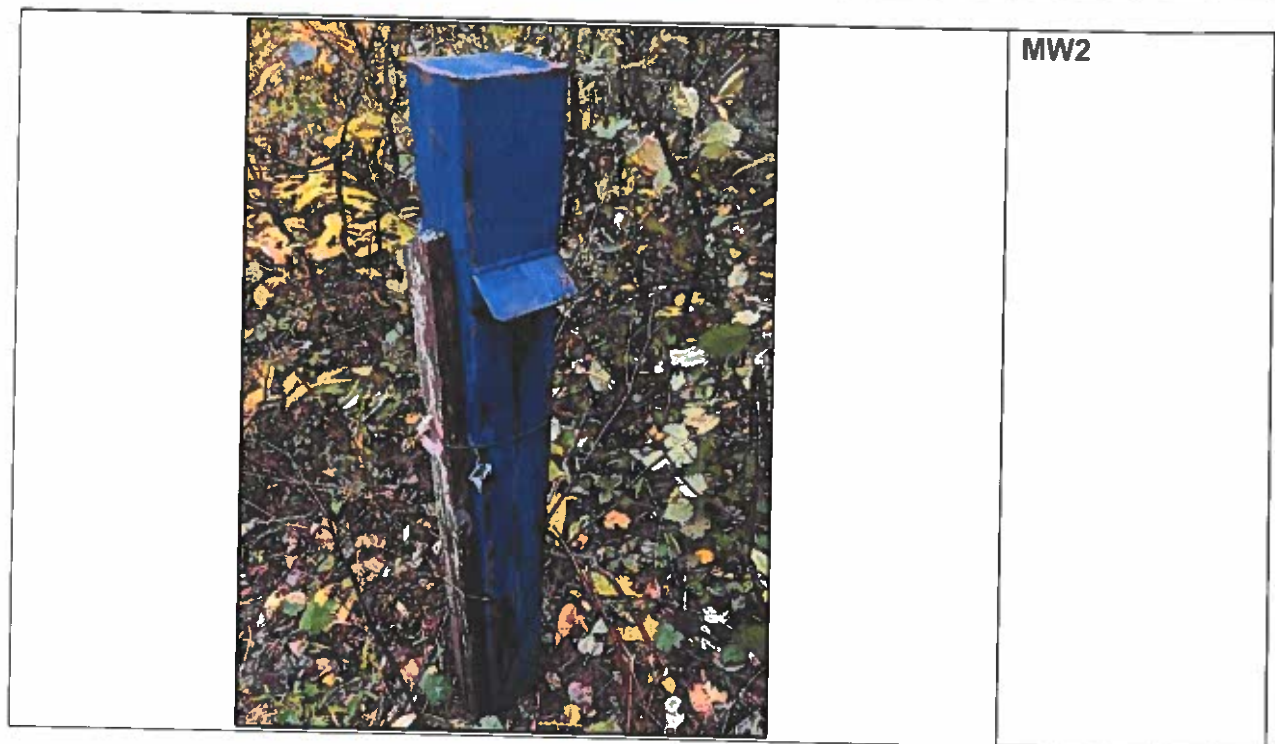
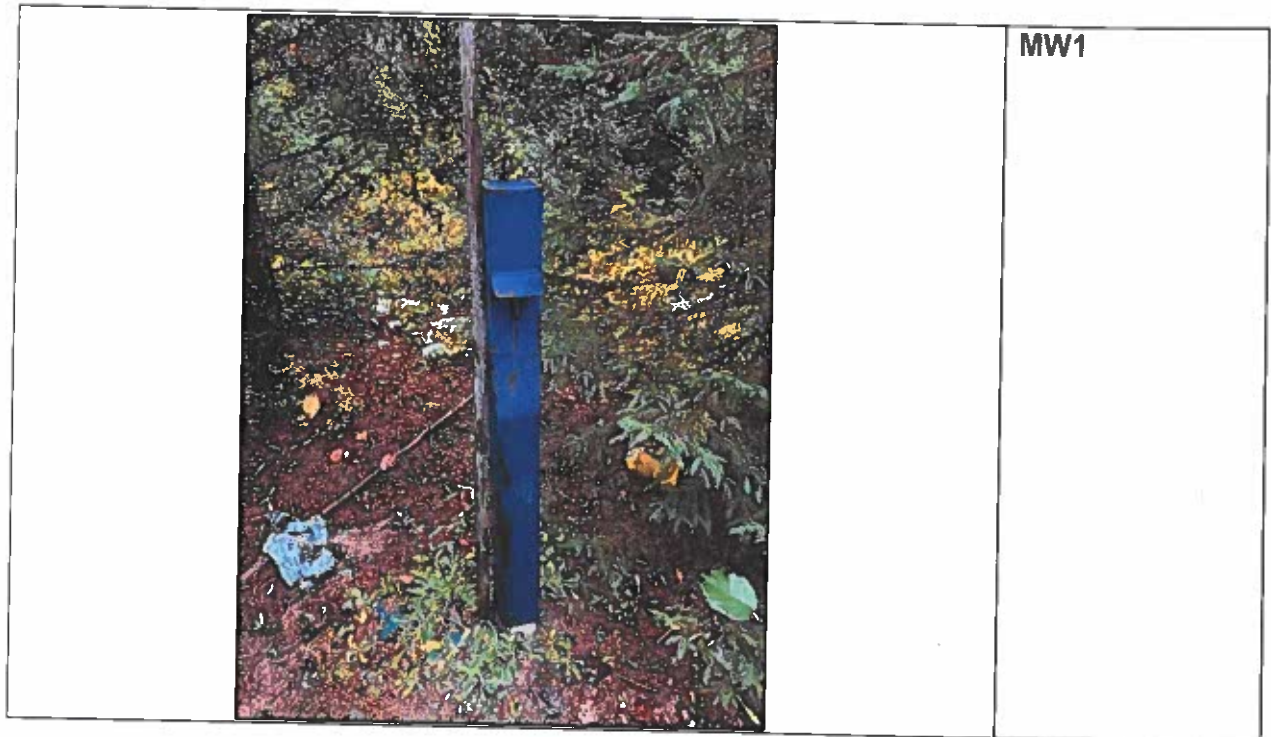
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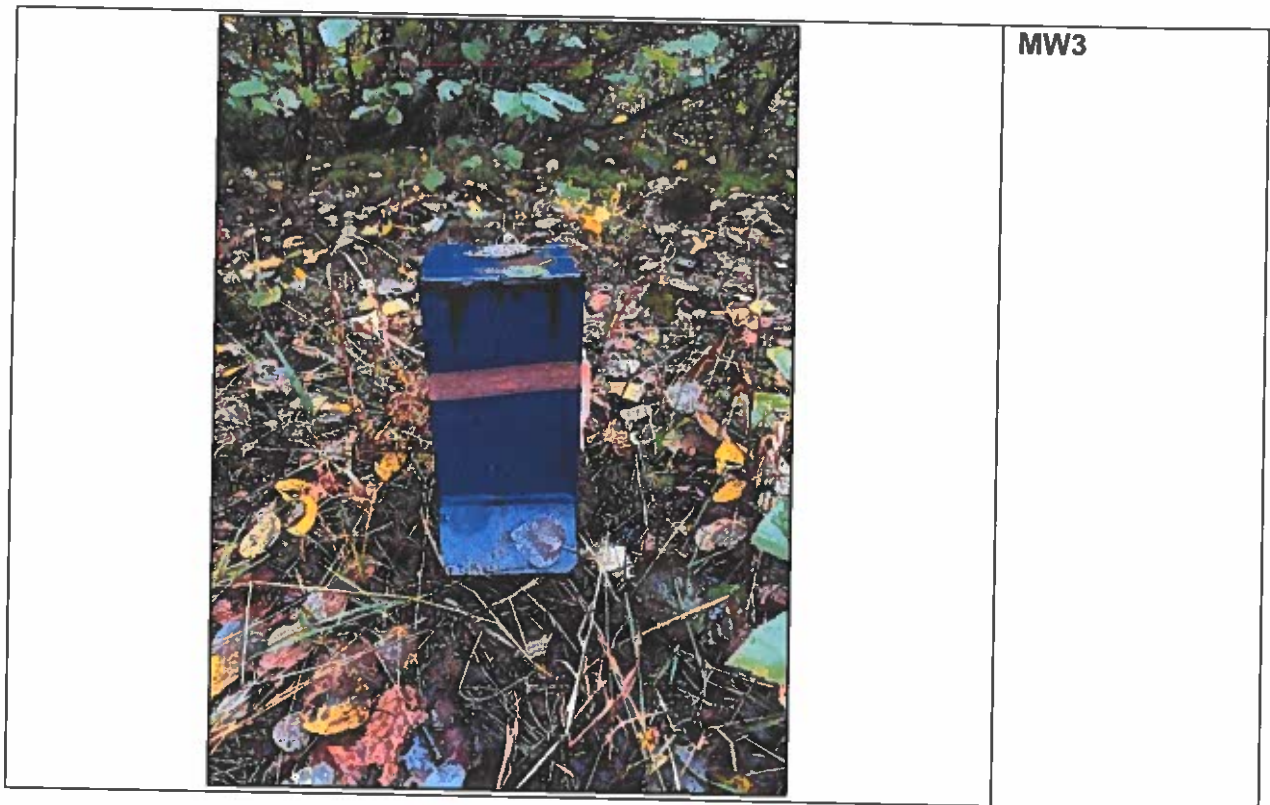
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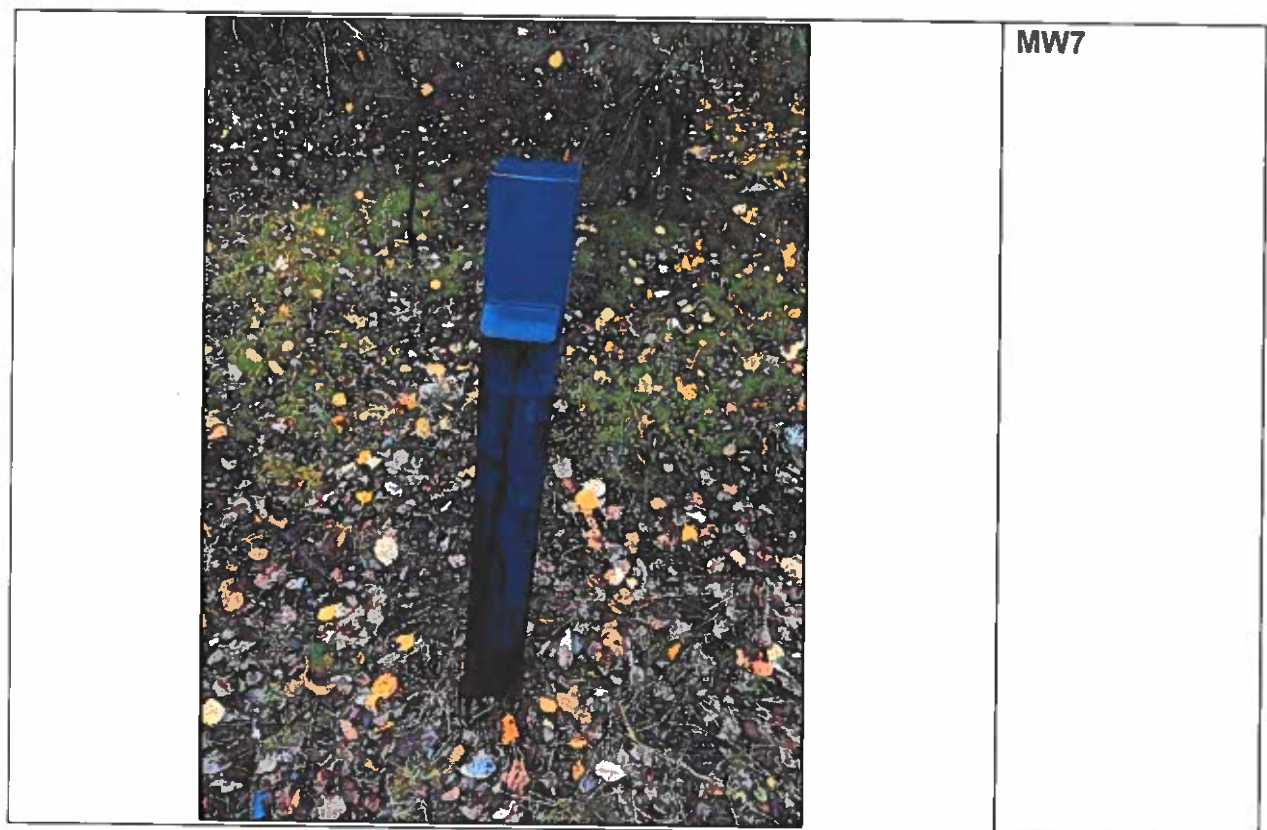
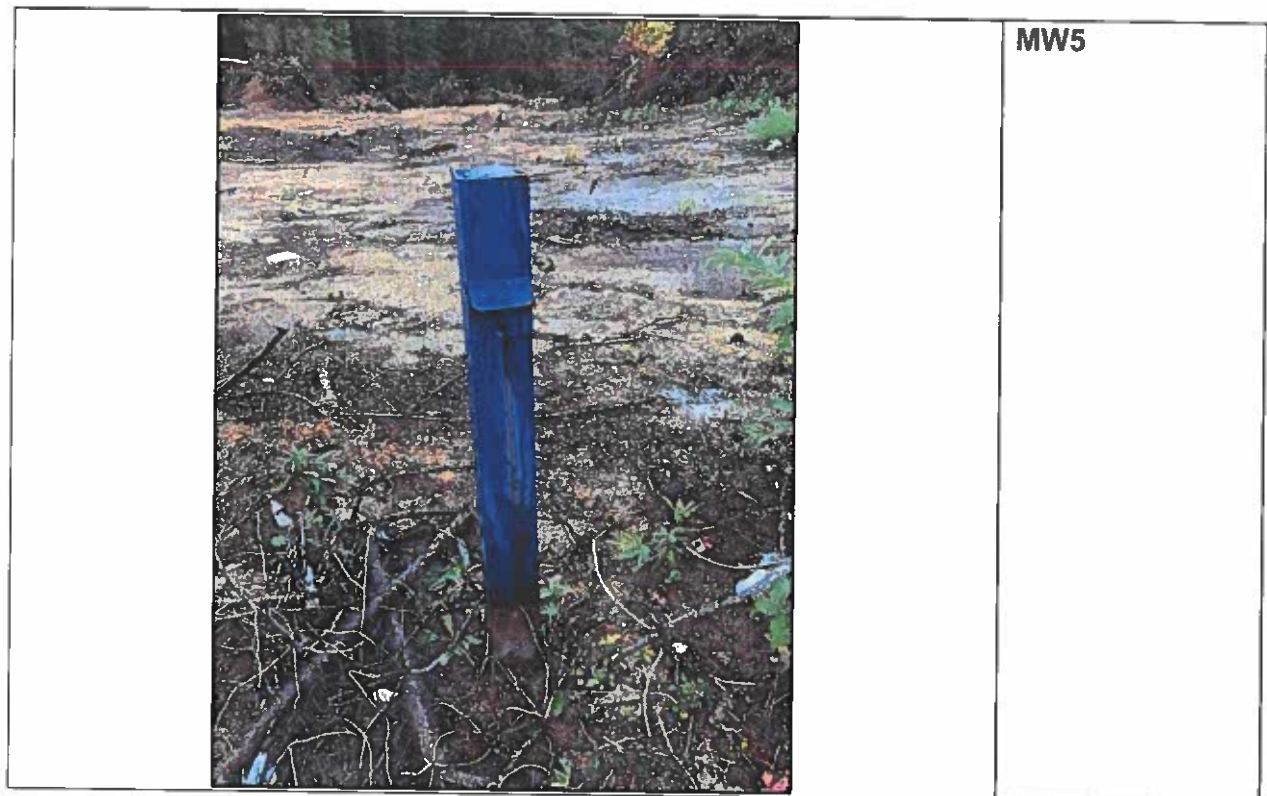
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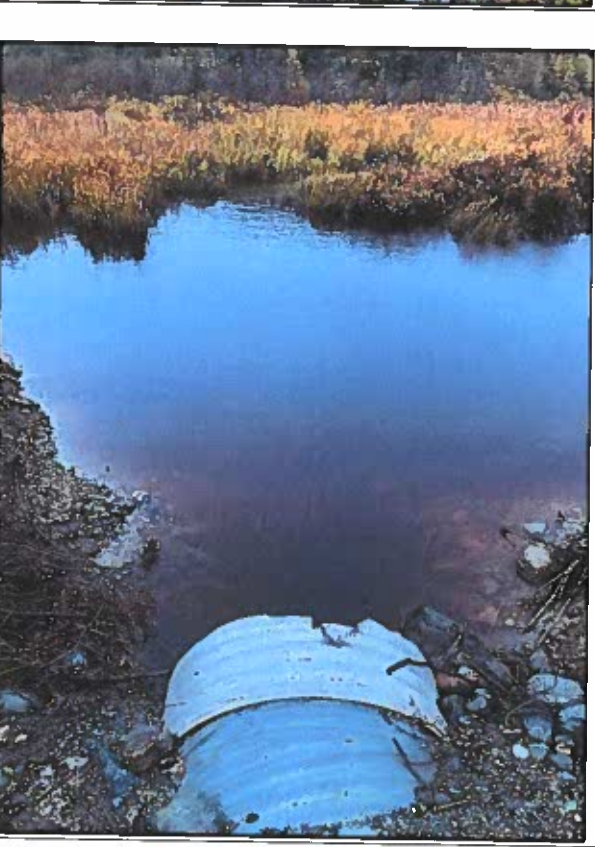
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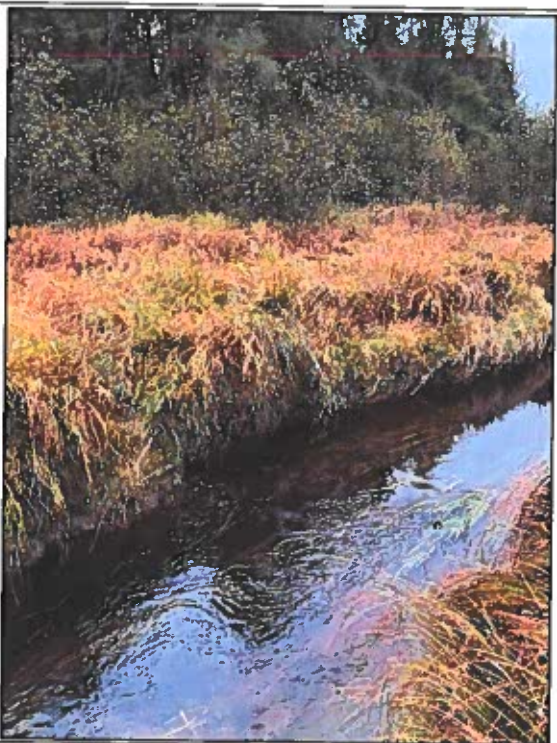
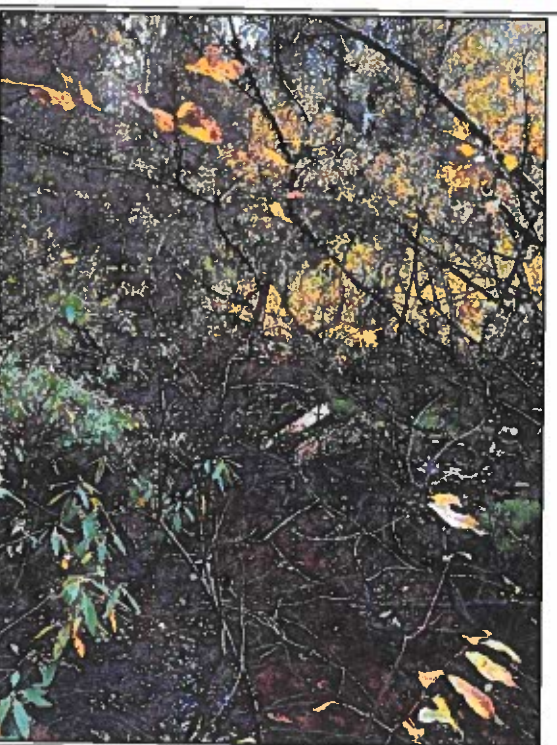
APPENDIX V
Photographic Log







		MW8
		SW1

		SW2
		Ditch

APPENDIX VI

Laboratory Certificates of Analysis



FINAL REPORT

CA14845-MAY22 R1

304108 McGarry Landfill SW

Prepared for

Pinchin Ltd

First Page

CLIENT DETAILS

Client **Pinchin Ltd**

Address **662 Falconbridge Rd, Unit 3, Sudbury
Canada, P3A 4S4
Phone: 705-521-0560 Fax:**

Contact **Meagan Bradley**

Telephone **705-521-0560**

Facsimile

Email **mbradley@Pinchin.com; tmcbride@pinchin.com; avelle@pinchir**

Project **304108 McGarry Landfill SW**

Order Number

Samples **Surface Water (3)**

LABORATORY DETAILS

Project Specialist **Jill Campbell, B.Sc.,GISAS**

Laboratory **SGS Canada Inc.**

Address **185 Concession St., Lakefield ON, K0L 2H0**

Telephone **2165**

Facsimile **705-652-6365**

Email **jill.campbell@sgs.com**

SGS Reference **CA14845-MAY22**

Received **05/26/2022**

Approved **06/10/2022**

Report Number **CA14845-MAY22 R1**

Date Reported **06/10/2022**

COMMENTS

Temperature of Sample upon Receipt: 4 degrees C

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

CA14845-MAY22 R1

Client: Pinchin Ltd
Project: 304108 McGarry Landfill SW
Project Manager: Meagan Bradley
Sampler: Alana Valle

MATRIX: WATER

Parameter	Units	RL	Sample Number	6	7	8
			Sample Name	SW1	SW2	Ditch
			Sample Matrix	Surface Water	Surface Water	Surface Water
			Sample Date	25/05/2022	25/05/2022	25/05/2022
			Result	Result	Result	Result
General Chemistry						
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 41	< 41	4
Total Suspended Solids	mg/L	2		2	37	3
Alkalinity	mg/L as CaCO3	2		4	5	6
Conductivity	uS/cm	2		79	83	20
Total Dissolved Solids	mg/L	30		97	80	97
Chemical Oxygen Demand	mg/L	8		19	11	42
Ammonia+Ammonium (N)	as N mg/L	0.04		< 0.04	< 0.04	< 0.04
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05		0.19	0.23	0.67
Metals and Inorganics						
Sulphate	mg/L	2		< 2	< 2	< 2
Nitrite (as N)	as N mg/L	0.03		< 0.03	< 0.03	< 0.03
Nitrate (as N)	as N mg/L	0.06		< 0.06	< 0.06	< 0.06
Arsenic (total)	mg/L	0.0002		0.0011	0.0009	0.0011
Barium (total)	mg/L	0.00002		0.00550	0.00650	0.00334
Boron (total)	mg/L	0.002		0.002	0.002	0.003
Cadmium (total)	mg/L	0.000003		0.000041	0.000036	0.000116
Chromium (total)	mg/L	0.00008		0.00107	0.00092	0.00208
Copper (total)	mg/L	0.0002		0.0021	0.0022	0.0033
Iron (total)	mg/L	0.007		0.542	0.432	0.639
Phosphorus (total)	mg/L	0.003		0.012	0.015	0.051
Lead (total)	mg/L	0.00009		0.00047	0.00032	0.00023
Zinc (total)	mg/L	0.002		0.006	0.006	0.026



FINAL REPORT

CA14845-MAY22 R1

Client: Pinchin Ltd
Project: 304108 McGarry Landfill SW
Project Manager: Meagan Bradley
Sampler: Alana Valle

MATRIX: WATER

Sample Number	6	7	8
Sample Name	SW1	SW2	Ditch
Sample Matrix	Surface Water	Surface Water	Surface Water
Sample Date	25/05/2022	25/05/2022	25/05/2022

Parameter

Other (ORP)

Unit	RL	Result	Result	Result
No unit	0.05	6.40	6.82	6.73
mg/L	1	23	24	< 1
mg/L	0.00001	< 0.00001	< 0.00001	0.00001

Phenols

4AAP-Phenolics	mg/L	0.001	< 0.001	< 0.001	0.001
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FINAL REPORT

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QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Alkalinity	EWL0835-MAY22	mg/L as CaCO3	2	< 2	0	20	104	80	120	NA		

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Ammonia+Ammonium (N)	SKA0026-JUN22	mg/L	0.04	<0.04	ND	10	96	90	110	86	75	125
Ammonia+Ammonium (N)	SKA0048-JUN22	mg/L	0.04	<0.04	ND	10	100	90	110	95	75	125



FINAL REPORT

QC SUMMARY

Anions by discrete analyzer
Method: US EPA 325.2 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-028

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Chloride	DIO5041-JUN22	mg/L	1	<1	ND	20	101	80	120	108	75	125
Sulphate	DIO5041-JUN22	mg/L	2	<2	7	20	109	80	120	113	75	125

Anions by IC
Method: EPA300MA300-Ions1.3 | Internal ref.: ME-CA-JENVIIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Nitrite (as N)	DIO0628-MAY22	mg/L	0.03	<0.03	ND	20	97	90	110	100	75	125
Nitrate (as N)	DIO0628-MAY22	mg/L	0.06	<0.06	ND	20	102	90	110	105	75	125



FINAL REPORT

CA14845-MAY22 R1

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spiked Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spiked Recovery (%)	Recovery Limits (%)	Low	High	Spiked Recovery (%)	Recovery Limits (%)
Biochemical Oxygen Demand (BOD5)	BOD0058-MAY22	mg/L	2	< 2	20	30	110	70	130	95	70	130

Chemical Oxygen Demand

Method: HACH 8000 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spiked Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spiked Recovery (%)	Recovery Limits (%)	Low	High	Spiked Recovery (%)	Recovery Limits (%)
Chemical Oxygen Demand	EWL0035-JUN22	mg/L	8	< 8	0	20	106	80	120	91	75	125

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spiked Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spiked Recovery (%)	Recovery Limits (%)	Low	High	Spiked Recovery (%)	Recovery Limits (%)
Conductivity	EWL0635-MAY22	uS/cm	2	< 2	0	20	100	90	110	NA	Low	High



FINAL REPORT

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QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Mercury (dissolved)	EHG0061-MAY22	mg/L	0.00001	< 0.00001	ND	20	93	80	120	NV	70	130

Metals In aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Arsenic (total)	EMS0250-MAY22	mg/L	0.0002	<0.0002	3	20	104	90	110	103	70	130
Barium (total)	EMS0250-MAY22	mg/L	0.00002	<0.00002	3	20	103	90	110	82	70	130
Boron (total)	EMS0250-MAY22	mg/L	0.002	<0.002	2	20	98	90	110	100	70	130
Cadmium (total)	EMS0250-MAY22	mg/L	0.000003	<0.000003	4	20	98	90	110	102	70	130
Chromium (total)	EMS0250-MAY22	mg/L	0.00008	<0.00008	ND	20	100	90	110	99	70	130
Copper (total)	EMS0250-MAY22	mg/L	0.0002	<0.0002	0	20	97	90	110	103	70	130
Iron (total)	EMS0250-MAY22	mg/L	0.007	<0.007	11	20	101	90	110	NV	70	130
Lead (total)	EMS0250-MAY22	mg/L	0.00009	<0.00001	2	20	104	90	110	105	70	130
Phosphorus (total)	EMS0250-MAY22	mg/L	0.003	<0.003	8	20	97	90	110	NV	70	130
Zinc (total)	EMS0250-MAY22	mg/L	0.002	<0.002	0	20	101	90	110	113	70	130



FINAL REPORT

CA14845-MAY22 R1

QC SUMMARY

pH

Method: SM 4500 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
pH	EWL0635-MAY22	No unit	0.05	NA	0		100	Low	High	NA	Low	High

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-JENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
4AAP-Phenolics	SKA0283-MAY22	mg/L	0.001	<0.001	ND	10	106	80	120	103	75	125

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-JENVIEWL-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
Total Dissolved Solids	EWL0592-MAY22	mg/L	30	<30	0	20	108	80	120	NA	Low	High



FINAL REPORT

CA14845-MAY22 R1

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-TENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Splice / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)		Splice Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0845-MAY22	mg/L	2	< 2	2	10	95	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-TENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Splice / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)		Splice Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen (N)	SKA0031-JUN22	mg/L	0.05	<0.05	ND	10	103	90	110	107	75	125



FINAL REPORT

CA14845-MAY22 R1

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicates: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

↑ Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

– End of Analytical Report –



Request for Laboratory Services and CHAIN OF CUSTODY (General)

SGS Environmental Services - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Toll Free: 877-747-7658 Fax: 705-652-6365 Web: www.ca.sgs.com (4)

SGS Environmental Services - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-872-4500 Toll Free: 877-848-8080 Fax: 519-872-0381 Web: www.ca.sgs.com (4)

Laboratory Information Section

Received Date (mm/dd/yyyy): 05/25/22

LAB LIMS #: MAY14845

Received Time (After Hours Only):

Temperature Upon Receipt (°C): 4x3

Billing & Reporting Information

Invoice/Receipt to (3):

Company: Pinchin

Attention: Meagan Bradley

Address: 662 Falconbridge Rd, Unit 3

Sudbury, ON

P3A 4S4

Email: mbradley@pinchin.com

Quote #: 2022 330

Attached Parameter List: ☐ YES ☐ NO

Turnaround Time

Is "Rush Turnaround Time Required?" ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Project Name/Number: 304108 McGarry Landfill SW

P.O. #:

Client Information/Report To:

Client Lab #:

Company Name:

Phone Number: 705-621-0560

Contact Name:

Fax Number:

Address:

E-mail:

Copy to:

Sample Information

Analysis Requested

(please enter the analysis required below and check off which analysis applies to each sample)

Sample Identifier

Date Sampled (mm/dd/yyyy)

Time Sampled

of Bottles

Field Filtered

SW Package

SW1

5/15/22

9-12

3

N

X

SW2

↓

↓

↓

↓

X

Ditch

↓

↓

↓

↓

X

Road

↓

↓

↓

↓

X

Sampled By (1): (Name) Alana Valle

(Signature) AV

Date: 05/25/22 (mm/dd/yyyy)

Relinquished by (2): (Name) Alana Valle

(Signature) AV

Date: 05/25/22 (mm/dd/yyyy)

Note: (1) Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. (4) Completion of work may require the subcontracting of samples between the London and Lakefield laboratories.

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FINAL REPORT

CA14843-MAY22 R1

304108 McGarry Landfill GW

Prepared for

Pinchin Ltd

First Page

CLIENT DETAILS

Client Pinchin Ltd
Address 662 Falconbridge Rd, Unit 3, Sudbury
Canada, P3A 4S4
Phone 705-521-0560 **Fax:**
Contact Meagan Bradley
Telephone 705-521-0560
Facsimile
Email mbradley@Pinchin.com;tmcbride@pinchin.com;avalle@pinchir
Project 304108 McGarry Landfill GW
Order Number
Samples Ground Water (8)

LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS
Laboratory SGS Canada Inc.
Address 185 Concession St., Lakefield ON, K0L 2H0
Telephone 2165
Facsimile 705-652-6365
Email jill.campbell@sgs.com
SGS Reference CA14843-MAY22
Received 05/26/2022
Approved 06/10/2022
Report Number CA14843-MAY22 R1
Date Reported 06/10/2022

COMMENTS

Temperature of Sample upon Receipt: 4 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: NA

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

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Client: Pinchin Ltd
Project: 304108 McGarry Landfill GW
Project Manager: Meagan Bradley
Samplers: Alana Valle

MATRIX: WATER

Sample Number	7	8	9	10	11	12	13	14
Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Sample Date	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022

Parameter	Units	RL	Result	Result	Result	Result	Result	Result
BTEX								
Benzene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	< 4†	< 4†	< 4†	< 4†	< 4†	5
Total Suspended Solids	mg/L	2	15000	12100	516	126	51	122
Alkalinity	mg/L as CaCO3	2	12	12	12	600	14	611
Conductivity	uS/cm	2	28	28	33	1540	41	1510
Total Dissolved Solids	mg/L	30	89	365	< 30	1090	< 30	1100
Chemical Oxygen Demand	mg/L	8	11	10	< 8	46	< 8	38
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05	< 0.05	< 0.05	< 0.05	4.00	< 0.05	4.19
Ammonia+Ammonium (N)	as N mg/L	0.04	< 0.04	0.06	< 0.04	3.67	< 0.04	3.63
Dissolved Organic Carbon	mg/L	1	< 1	2	1	10	< 1	10

Metals and Inorganics

Phosphorus (total)	mg/L	0.03	4.82	3.95	0.14	0.07	< 0.03	0.09
Sulphate	mg/L	2	6	41	2	400	3	400
Nitrite (as N)	as N mg/L	0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Nitrate (as N)	as N mg/L	0.06	< 0.06	0.08	0.61	< 0.06	< 0.06	< 0.06
Arsenic (dissolved)	mg/L	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	0.279
Barium (dissolved)	mg/L	0.00002	0.00588	0.00097	0.0189	0.119	0.00559	0.115
Boron (dissolved)	mg/L	0.002	0.003	0.007	0.006	3.96	0.006	3.38
Calcium (dissolved)	mg/L	0.01	2.68	2.21	3.18	334	6.84	311



FINAL REPORT

CA14843-MAY22 R1

Client: Pinchin Ltd
Project: 304108 McGarry Landfill GW
Project Manager: Meagan Bradley
Samplers: Alana Valle

MATRIX: WATER

Parameter	Units	RL	Sample Number	7	8	9	10	11	12	13	14
			Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022
				Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics (continued)											
Cadmium (dissolved)	mg/L	0.000003		< 0.000003	0.000003	0.000007	< 0.000003	< 0.000003	0.000014	0.000011	0.000005
Chromium (dissolved)	mg/L	0.00008		0.00056	0.00023	0.00048	0.00152	0.00426	0.00028	0.00066	0.00155
Copper (dissolved)	mg/L	0.0002		0.0004	< 0.0002	0.0010	0.0007	0.0007	0.0007	0.0008	< 0.0002
Iron (dissolved)	mg/L	0.007		0.029	< 0.007	< 0.007	61.2	0.090	0.008	0.056	56.6
Potassium (dissolved)	mg/L	0.009		0.263	0.414	0.842	19.0	0.394	0.041	0.040	17.4
Magnesium (dissolved)	mg/L	0.001		0.643	0.573	0.631	37.8	0.968	1.13	0.299	33.4
Manganese (dissolved)	mg/L	0.00001		0.00109	0.00196	0.108	6.10	0.0035	0.0566	0.0128	5.76
Sodium (dissolved)	mg/L	0.01		1.18	2.84	1.24	16.7	1.29	0.76	2.30	14.9
Lead (dissolved)	mg/L	0.00009		< 0.00009	< 0.00009	< 0.00009	0.00013	< 0.00009	< 0.00009	< 0.00009	0.00012
Zinc (dissolved)	mg/L	0.002		< 0.002	< 0.002	< 0.002	0.062	< 0.002	0.024	< 0.002	0.055
Other (ORP)											
pH	No unit	0.05		6.89	6.83	6.96	7.94	7.33	7.56	6.31	7.57
Chloride	mg/L	1		1	4	< 1	4	< 1	< 1	< 1	3
Mercury (total)	mg/L	0.00001		< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001



FINAL REPORT

CA14843-MAY22 R1

Client: Pinchin Ltd
Project: 304108 McGarry Landfill GW
Project Manager: Meagan Bradley
Samplers: Alana Valle

MATRIX: WATER

Sample Number	7	8	9	10	11	12	13	14
Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Sample Date	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022	25/05/2022
Parameter	Units	RL	Result	Result	Result	Result	Result	Result
Phenols								
4AAP-Phenolics	mg/L	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.005
VOCs								
1,4-Dichlorobenzene	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	µg/L	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	µg/L	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2



FINAL REPORT

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QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Alkalinity	EWL0635-MAY22	mg/L as CaCO ₃	2	< 2	0	20	104	80	120	NA		

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Ammonia+Ammonium (N)	SKA0019-JUN22	mg/L	0.04	<0.04	ND	10	99	90	110	92	75	125



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Anions by discrete analyzer
Method: US EPA 325.2 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	High	Splice Recovery (%)	Recovery Limits (%)
Chloride	DIO5041-JUN22	mg/L	1	<1	ND	20	101	80	80	120	108	75
Sulphate	DIO5041-JUN22	mg/L	2	<2	7	20	109	80	80	120	113	75

Anions by IC
Method: EPA300/MA300-Ions 1.3 | Internal ref.: ME-CA-IENVIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	High	Splice Recovery (%)	Recovery Limits (%)
Nitrite (as N)	DIO0628-MAY22	mg/L	0.03	<0.03	ND	20	97	90	90	110	100	75
Nitrate (as N)	DIO0628-MAY22	mg/L	0.06	<0.06	ND	20	102	90	90	110	105	75



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWML-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	Splice Recovery (%)	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0052-MAY22	mg/L	2	< 2	8	30	109	70	130	NV	70	130

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-IENVIEWML-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	Splice Recovery (%)	Low	High
Dissolved Organic Carbon	SKA0087-JUN22	mg/L	1	<1	ND	20	94	90	110	91	75	125
Dissolved Organic Carbon	SKA0287-MAY22	mg/L	1	<1	0	20	107	90	110	105	75	125

Chemical Oxygen Demand

Method: HACH 8000 | Internal ref.: ME-CA-IENVIEWML-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	Splice Recovery (%)	Low	High
Chemical Oxygen Demand	EWL0690-MAY22	mg/L	8	<8	6	20	104	80	120	113	75	125



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Conductivity	EWL0635-MAY22	uS/cm	2	< 2	0	20	100	90	110	NA		

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Mercury (total)	EHG0001-JUN22	mg/L	0.00001	< 0.00001	ND	20	108	80	120	NV	70	130
Mercury (total)	EHG0061-MAY22	mg/L	0.00001	< 0.00001	ND	20	93	80	120	NV	70	130



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-ENVISPE-LAK-AV-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Arsenic (dissolved)	EMS0229-MAY22	mg/L	0.0002	<0.0002	ND	20	99	90	110	99	70	130
Barium (dissolved)	EMS0229-MAY22	mg/L	0.00002	<0.00002	4	20	100	90	110	107	70	130
Boron (dissolved)	EMS0229-MAY22	mg/L	0.002	<0.002	ND	20	104	90	110	100	70	130
Calcium (dissolved)	EMS0229-MAY22	mg/L	0.01	<0.01	9	20	97	90	110	98	70	130
Cadmium (dissolved)	EMS0229-MAY22	mg/L	0.000003	<0.000003	ND	20	103	90	110	96	70	130
Chromium (dissolved)	EMS0229-MAY22	mg/L	0.00008	<0.00008	ND	20	101	90	110	103	70	130
Copper (dissolved)	EMS0229-MAY22	mg/L	0.0002	<0.0002	ND	20	98	90	110	102	70	130
Iron (dissolved)	EMS0229-MAY22	mg/L	0.007	<0.007	ND	20	104	90	110	125	70	130
Potassium (dissolved)	EMS0229-MAY22	mg/L	0.009	<0.009	ND	20	97	90	110	95	70	130
Magnesium (dissolved)	EMS0229-MAY22	mg/L	0.001	<0.001	2	20	110	90	110	99	70	130
Manganese (dissolved)	EMS0229-MAY22	mg/L	0.00001	<0.00001	0	20	99	90	110	104	70	130
Sodium (dissolved)	EMS0229-MAY22	mg/L	0.01	<0.01	8	20	109	90	110	100	70	130
Lead (dissolved)	EMS0229-MAY22	mg/L	0.00009	<0.00001	3	20	104	90	110	105	70	130
Zinc (dissolved)	EMS0229-MAY22	mg/L	0.002	<0.002	1	20	103	90	110	103	70	130
Arsenic (dissolved)	EMS0256-MAY22	mg/L	0.0002	<0.0002	11	20	104	90	110	103	70	130
Barium (dissolved)	EMS0256-MAY22	mg/L	0.00002	<0.00002	8	20	103	90	110	102	70	130
Boron (dissolved)	EMS0256-MAY22	mg/L	0.002	<0.002	8	20	96	90	110	100	70	130
Calcium (dissolved)	EMS0256-MAY22	mg/L	0.01	<0.01	0	20	98	90	110	101	70	130
Cadmium (dissolved)	EMS0256-MAY22	mg/L	0.000003	<0.000003	17	20	98	90	110	102	70	130
Chromium (dissolved)	EMS0256-MAY22	mg/L	0.00008	<0.00008	0	20	100	90	110	100	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	High	Spike Recovery (%)	Recovery Limits (%)	High
Copper (dissolved)	EMS0256-MAY22	mg/L	0.0002	<0.0002	0	20	97	90	110	103	70	130
Iron (dissolved)	EMS0256-MAY22	mg/L	0.007	<0.007	11	20	101	90	110	NV	70	130
Potassium (dissolved)	EMS0256-MAY22	mg/L	0.009	<0.009	1	20	98	90	110	97	70	130
Magnesium (dissolved)	EMS0256-MAY22	mg/L	0.001	<0.001	0	20	105	90	110	97	70	130
Manganese (dissolved)	EMS0256-MAY22	mg/L	0.00001	<0.00001	2	20	103	90	110	108	70	130
Sodium (dissolved)	EMS0256-MAY22	mg/L	0.01	<0.01	1	20	102	90	110	91	70	130
Lead (dissolved)	EMS0256-MAY22	mg/L	0.00009	<0.00001	4	20	104	90	110	105	70	130
Zinc (dissolved)	EMS0256-MAY22	mg/L	0.002	<0.002	1	20	101	90	110	113	70	130

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	High	Spike Recovery (%)	Recovery Limits (%)	High
pH	EWL0635-MAY22	No unit	0.05	NA	0	100	100	NA	NA	NA	NA	NA



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Phenols by SFA

Method: SM 530B-D | Internal ref.: ME-CA-TENVISFA-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0283-MAY22	mg/L	0.002	<0.002	ND	10	106	80	120	103	75	125

Phosphorus by SFA

Method: SM 4500-P J | Internal ref.: ME-CA-TENVISFA-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Phosphorus (total)	SKA0017-JUN22	mg/L	0.03	<0.03	3	10	106	90	110	87	75	125
Phosphorus (total)	SKA0036-JUN22	mg/L	0.03	<0.03	4	10	100	90	110	99	75	125

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-TENVIEWL-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Dissolved Solids	EWL0637-MAY22	mg/L	30	<30	ND	20	98	80	120	NA		



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	Spike Recovery (%)	Recovery Limits (%)	High
Total Suspended Solids	EWL0003-JUN22	mg/L	2	< 2	0	10	92	90	90	NA	NA	
Total Suspended Solids	EWL0645-MAY22	mg/L	2	< 2	2	10	95	90	90	NA	NA	

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	Spike Recovery (%)	Recovery Limits (%)	High
Total Kjeldahl Nitrogen (N)	SKA0010-JUN22	mg/L	0.05	<0.05	ND	10	105	90	90	99	75	125
Total Kjeldahl Nitrogen (N)	SKA0031-JUN22	mg/L	0.05	<0.05	ND	10	103	90	90	107	75	125



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-IENV/IGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	High	Spike Recovery (%)	Low	High
1,4-Dichlorobenzene	GCM0509-MAY22	µg/L	0.5	<0.5	ND	30	90	60	130	98	50	140
Benzene	GCM0509-MAY22	µg/L	0.5	<0.5	ND	30	90	60	130	101	50	140
Dichloromethane	GCM0509-MAY22	µg/L	0.5	<0.5	ND	30	87	60	130	97	50	140
Toluene	GCM0509-MAY22	µg/L	0.5	<0.5	ND	30	91	60	130	102	50	140
Vinyl Chloride	GCM0509-MAY22	µg/L	0.2	<0.2	ND	30	97	50	140	107	50	140

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.



FINAL REPORT

CA14843-MAY22 R1

QC SUMMARY

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
↑ Reporting limit raised.
↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

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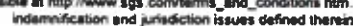
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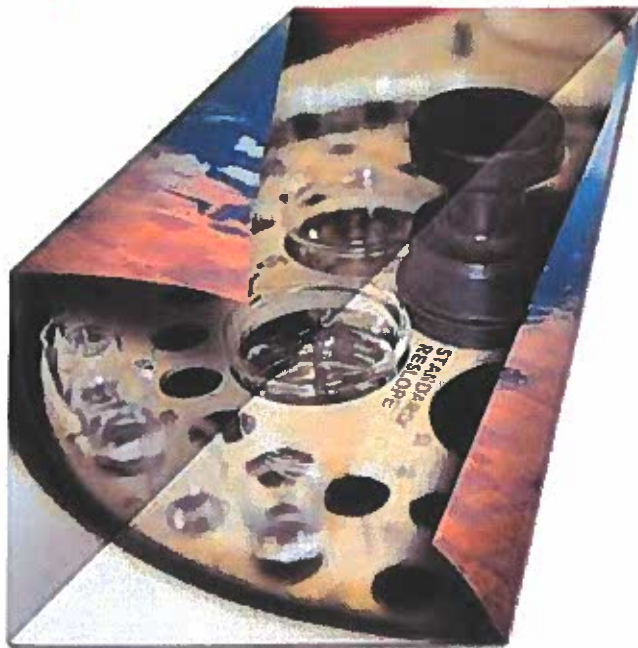
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This report supersedes all previous versions.

– End of Analytical Report –





FINAL REPORT

CA15083-AUG22 R1

304108-McGarry Landfill SW

Prepared for

Pinchin Ltd

First Page

CLIENT DETAILS

Client **Pinchin Ltd**

Address **662 Falconbridge Rd, Unit 3, Sudbury
Canada, P3A 4S4
Phone: 705-521-0560 Fax:**

Contact **Meagan Bradley**

Telephone **705-521-0560**

Facsimile

Email **mbradley@Pinchin.com;tmcbride@pinchin.com;avalle@pinchir**

Project **304108-McGarry Landfill SW**

Order Number

Samples **Surface Water (3)**

LABORATORY DETAILS

Project Specialist **Brad Moore Hon. B.Sc**

Laboratory **SGS Canada Inc.**

Address **185 Concession St., Lakefield ON, K0L 2H0**

Telephone **705-652-2143**

Facsimile **705-652-6365**

Email **brad.moore@sgs.com**

SGS Reference **CA15083-AUG22**

Received **08/05/2022**

Approved **08/12/2022**

Report Number **CA15083-AUG22 R1**

Date Reported **08/12/2022**

COMMENTS

Temperature of Sample upon Receipt: 6 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc



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FINAL REPORT

CA15083-AUG22 R1

Client: Pinchin Ltd
Project: 304108-McGarry Landfill SW
Project Manager: Meagan Bradley
Samplers: Alana Valle

MATRIX: WATER

L1 = PWQD_L / WATER / -- Table 2 - General - July 1999 PBS 3303E

Sample Number 6 7 8
Sample Name SW1 SW2 Ditch
Sample Matrix Surface Water Surface Water Surface Water
Sample Date 03/08/2022 03/08/2022 03/08/2022

Parameter	Units	RL	L1	Result	Result	Result
General Chemistry						
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 41	< 41	< 41
Total Suspended Solids	mg/L	2		2	28	20
Alkalinity	mg/L as CaCO3	2		4	41	6
Conductivity	uS/cm	2		54	95	21
Total Dissolved Solids	mg/L	30		49	60	< 30
Chemical Oxygen Demand	mg/L	8		37	30	37
Ammonia+Ammonium (N)	as N mg/L	0.04		0.06	0.05	0.04
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05		0.45	0.52	0.83

Metals and Inorganics

Sulphate	mg/L	2		< 2	< 2	< 2
Nitrite (as N)	as N mg/L	0.03		< 0.03	< 0.03	< 0.03
Nitrate (as N)	as N mg/L	0.06		< 0.06	0.48	< 0.06
Hardness	mg/L as CaCO3	0.05		8.2	40.5	7.0
Iron (total)	mg/L	0.007	0.3	0.084	1.18	0.771
Phosphorus (total)	mg/L	0.003	0.01	0.121	0.116	0.231
Calcium (total)	mg/L	0.01		2.32	10.6	2.02
Magnesium (total)	mg/L	0.001		0.585	3.42	0.472
Sodium (total)	mg/L	0.01		8.98	5.50	1.25



FINAL REPORT

CA15083-AUG22 R1

Client: Pinchin Ltd
Project: 304108-McGarry Landfill SW
Project Manager: Meagan Bradley
Samplers: Alana Valle

MATRIX: WATER

L1 = PW00_L / WATER / -- Table 2 - General - July 1999 PHS 3303E

Sample Number	6	7	8
Sample Name	SW1	SW2	Ditch
Sample Matrix	Surface Water	Surface Water	Surface Water
Sample Date	03/08/2022	03/08/2022	03/08/2022

Parameter	Units	RL	L1	Result	Result
Other (ORP)	No unit	0.05	0.1	6.44	6.06
			8.6		
Chloride	mg/L	1		13	< 1

Phenols

4AAP-Phenolics	mg/L	0.001	0.001	0.002	0.004
----------------	------	-------	-------	-------	-------

EXCEEDANCE SUMMARY

PWQO_L / WATER

/ - - Table 2 -

General - July 1999

PIBS 3303E

L1

Parameter	Method	Units	Result
-----------	--------	-------	--------

SW1

Iron	SM 3030/EPA 200.8	mg/L	0.884	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.121	0.01
pH	SM 4500	No unit	6.44	0.1

SW2

Iron	SM 3030/EPA 200.8	mg/L	1.18	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.116	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001

Ditch

Iron	SM 3030/EPA 200.8	mg/L	0.771	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.231	0.01
pH	SM 4500	No unit	6.06	0.1
4AAP-Phenolics	SM 5530B-D	mg/L	0.004	0.001



FINAL REPORT

CA15083-AUG22 R1

QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-IENV/IEML-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Alkalinity	EWL0135-AUG22	mg/L as CaCO ₃	2	< 2	0	20	100	80	120	NA		
								Low	High		Low	High

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENV/ISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Ammonia+Ammonium (N)	SKA0090-AUG22	mg/L	0.04	<0.04	9	10	99	90	110	90	75	125
								Low	High		Low	High



FINAL REPORT

CA15083-AUG22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 325.2 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Chloride	DIO5031-AUG22	mg/L	1	<1	ND	20	97	80	80	120	101	75
Sulphate	DIO5031-AUG22	mg/L	2	<2	1	20	107	80	80	120	105	75

Anions by IC

Method: EPA300/MA300-Ions 1.3 | Internal ref.: ME-CA-IENVIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Nitrite (as N)	DIO0146-AUG22	mg/L	0.03	<0.03	1	20	96	90	90	110	102	75
Nitrate (as N)	DIO0146-AUG22	mg/L	0.06	<0.06	0	20	97	90	90	110	103	75



FINAL REPORT

CA15083-AUG22 R1

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Biochemical Oxygen Demand (BOD ₅)	BOD0016-AUG22	mg/L	2	< 2	7	30	105	70	70	130	71	70
												130

Chemical Oxygen Demand

Method: HACH 8000 | Internal ref.: ME-CA-IENVIEWWL-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Chemical Oxygen Demand	EWL0129-AUG22	mg/L	8	< 8	4	20	100	80	80	120	102	75
												125

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-IENVIEWWL-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Conductivity	EWL0135-AUG22	uS/cm	2	< 2	0	20	99	80	80	110	NA	NA



FINAL REPORT

CA15083-AUG22 R1

QC SUMMARY

Metals in aqueous samples - ICP-MS
Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-JENVISPE-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Calcium (total)	EMS0053-AUG22	mg/L	0.01	<0.01	6	20	92	90	110	99	70	130
Iron (total)	EMS0053-AUG22	mg/L	0.007	<0.007	7	20	100	90	110	NV	70	130
Magnesium (total)	EMS0053-AUG22	mg/L	0.001	<0.001	5	20	91	90	110	96	70	130
Sodium (total)	EMS0053-AUG22	mg/L	0.01	<0.01	7	20	93	90	110	123	70	130
Phosphorus (total)	EMS0053-AUG22	mg/L	0.003	<0.003	1	20	100	90	110	NV	70	130

pH

Method: SM 4500 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0135-AUG22	No unit	0.05	NA	0		100			NA		



FINAL REPORT

CA15083-AUG22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
4AAP-Phenolics	SKA0084-AUG22	mg/L	0.001	<0.001	ND	10	101	80	105	120	105	75
												125

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-IENVIEWL-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Total Dissolved Solids	EWL0115-AUG22	mg/L	30	<30	0	20					NA	

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Total Suspended Solids	EWL0147-AUG22	mg/L	2	< 2	2	10	96	90	110		NA	
Total Suspended Solids	EWL0165-AUG22	mg/L	2	< 2	1	10	100	90	110		NA	



FINAL REPORT

CA15083-AUG22 R1

QC SUMMARY

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Low	High
Total Kjeldahl Nitrogen (N)	SKA0076-AUG22	mg/L	0.05	<0.05	1	10	102	90	110	120	75	125

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

↑ Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

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– End of Analytical Report –



Request for Laboratory Services and CHAIN OF CUSTODY (General)

SGS Environmental Services - Lakeside: 185 Concession St., Lakeside, ON K0L 2H0 Phone: 705-652-2000 Toll Free: 877-747-7658 Fax: 705-652-6365 Web: www.ca.sgs.com (4)

SGS Environmental Services - London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com (4)

Laboratory Information Section

Received Date (mm/dd/yyyy): 08/05/2022

LAB LIMS #: Aug 13083

Received Time (After Hours Only):

Temperature Upon Receipt (°C): 5, 6, 8

Billing & Reporting Information

Invoice/Receipt to (3):

Company: Pinchin

Attention: Meagan Bradley

Address: 662 Falconbridge Rd, Unit 3

Sudbury, ON

P3A 4S4

Email: mbradley@pinchin.com

Quote #: 2022 330

Attached Parameter List:

☐ YES ☐ NO

Turnaround Time

Is 'Rush Turnaround Time Required? ☐ YES ☒

Specify:

* Rush TA Requests Require Lab Approval

Project Name/Number: 304108 McGarry Landfill SW

P.O. #:

Client Information/Report To:

Client Lab #:

Company Name:

Phone Number:

705-521-0560

Contact Name:

Fax Number:

Address:

E-mail:

Copy to:

Sample Information

Analysis Requested

(please enter the analysis required below and check off which analysis applies to each sample)

Sample Identifier

Date
Sampled
(mm/dd/yyyy)Time
Sampled# of
Bottles

Field Filtered

SW Package

✓ SW1
✓ SW2
✓ Ditch
Pond

8/3/22

2-5

7

N

X

↓

↓

7

N

X

↓

↓

7

N

X

X

Sampled By (1): (Name) Alana Valle

(Signature) AV

Date: 08/04/22 (mm/dd/yyyy)

Relinquished by (2): (Name) Alana Valle

(Signature) AV

Date: 08/04/22 (mm/dd/yyyy)

Note: (1) Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. (4) Completion of work may require the subcontracting of samples between the London and Lakeside laboratories.

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FINAL REPORT

CA15086-AUG22 R1

304108-McGarry Landfill GW

Prepared for

Pinchin Ltd

First Page

CLIENT DETAILS

Client Pinchin Ltd
Address 662 Falconbridge Rd, Unit 3, Sudbury
Canada, P3A 4S4
Phone: 705-521-0560. **Fax:**
Contact Meagan Bradley
Telephone 705-521-0560
Facsimile
Email mbradley@Pinchin.com; tmcbride@pinchin.com; avelle@pinchir
Project 304108-McGarry Landfill GW
Order Number
Samples Ground Water (8)

LABORATORY DETAILS

Project Specialist Brad Moore Hon. B.Sc
Laboratory SGS Canada Inc.
Address 185 Concession St., Lakefield ON, K0L 2H0
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Email brad.moore@sgs.com
SGS Reference CA15086-AUG22
Received 08/05/2022
Approved 09/08/2022
Report Number CA15086-AUG22 R1
Date Reported 09/08/2022

COMMENTS

Temperature of Sample upon Receipt: 4 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: NA

SIGNATORIES

Brad Moore Hon. B.Sc



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FINAL REPORT

CA15086-AUG22 R1

Client: Pinchin Ltd

Project: 304108-McGarry Landfill GW

Project Manager: Meagan Bradley

Sampler: Alana Valle

MATRIX: WATER

L1 = ODWS_AO_OG / WATER / ... Table 4 - Drinking Water - Reg O.169_03

L2 = ODWS_MAC / WATER / ... Table 1,2 and 3 - Drinking Water - Reg O.169_03

Parameter	Units	RL	L1	L2	Sample Number	7	8	9	10	11	12	13	14
					Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
						Result	Result	Result	Result	Result	Result	Result	Result
BTEX													
Benzene	µg/L	0.5		1		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	µg/L	0.5		60		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
General Chemistry													
Biochemical Oxygen Demand (BOD5)	mg/L	2				< 4†	< 4†	< 4†	< 4†	< 4†	< 4†	< 4†	< 4†
Total Suspended Solids	mg/L	2				127000	12000	322	130	24	6	159	79
Alkalinity	mg/L as CaCO3	2	500			10	22	7	510	10	22	6	502
Conductivity	uS/cm	2				28	52	24	1410	39	49	19	1400
Total Dissolved Solids	mg/L	30	500			109	66	< 30	1040	< 30	31	< 30	994
Chemical Oxygen Demand	mg/L	8				< 8	< 8	< 8	33	< 8	< 8	< 8	29
Ammonia+Ammonium (N)	as N mg/L	0.04				< 0.04	< 0.04	< 0.04	2.49	< 0.04	< 0.04	< 0.04	2.43
Dissolved Organic Carbon	mg/L	1	5			1	1	2	9	1	1	3	9

Metals and Inorganics

Sulphate	mg/L	2	500			9	12	< 2	310	6	< 2	3	310
Nitrate (as N)	as N mg/L	0.06		10		< 0.06	< 0.06	0.49	< 0.06	< 0.06	< 0.06	0.42	< 0.06
Barium (dissolved)	mg/L	0.00002		1		0.00470	0.0107	0.0216	0.0736	0.00974	0.00633	0.0149	0.0769
Boron (dissolved)	mg/L	0.002		5		< 0.002	< 0.002	0.003	3.03	0.004	0.047	0.012	3.10
Calcium (dissolved)	mg/L	0.01				2.86	4.46	2.16	237	4.71	7.83	1.34	239
Iron (dissolved)	mg/L	0.007	0.3			0.020	0.014	0.025	41.4	0.034	0.075	0.053	39.9
Magnesium (dissolved)	mg/L	0.001				0.570	0.931	0.368	36.1	0.670	0.770	0.323	36.6
Sodium (dissolved)	mg/L	0.01	200	20		1.30	3.55	1.21	28.4	1.11	0.70	1.02	28.6



FINAL REPORT

CA15086-AUG22 R1

Client: Pinchin Ltd
Project: 304108-McGarry Landfill GW
Project Manager: Meagan Bradley
Sampler: Alana Valle

MATRIX: WATER

L1 = ODWS_AO_OG / WATER / ... Table 4 - Drinking Water - Reg O.169_03

L2 = ODWS_MAC / WATER / ... Table 1,2 and 3 - Drinking Water - Reg O.169_03

Parameter	Units		RL	L1	L2	Sample Number	7	8	9	10	11	12	13	14
						Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
						Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
						Sample Date	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022	03/08/2022
Other (ORP)														
pH	No unit	0.05	8.5				6.79	6.92	6.62	7.32	7.10	7.20	5.82	7.30
Chloride	mg/L	1	250				3	5	< 1	3	< 1	< 1	< 1	4
VOCs														
1,4-Dichlorobenzene	µg/L	0.5					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Dichloromethane	µg/L	0.5					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	µg/L	0.2					< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	ODWS_AO_OG / WATER / -- Table 4 - Drinking Water - Reg O.169_03	ODWS_MAC / WATER / -- Table 1,2 and 3 - Drinking Water - Reg O.169_03
				L1	L2

MW4

Alkalinity	SM 2320	mg/L as CaCO3	510	500	
Total Dissolved Solids	SM 2540C	mg/L	1040	500	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	41.4	0.3	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	28.4		20
Dissolved Organic Carbon	SM 5310	mg/L	9	5	

GW DUP

Alkalinity	SM 2320	mg/L as CaCO3	502	500	
Total Dissolved Solids	SM 2540C	mg/L	994	500	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	39.9	0.3	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	28.8		20
Dissolved Organic Carbon	SM 5310	mg/L	9	5	



FINAL REPORT

CA15086-AUG22 R1

QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-IENVIEWIL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	Spike Recovery (%)	Recovery Limits (%)	High
Alkalinity	EWL0135-AUG22	mg/L as CaCO ₃	2	< 2	0	20	100	80	120	NA		

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	Spike Recovery (%)	Recovery Limits (%)	High
Ammonia+Ammonium (N)	SKA0090-AUG22	mg/L	0.04	<0.04	9	10	99	90	110	90	75	125



FINAL REPORT

CA15086-AUG22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 325.2 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	High	Spike Recovery (%)	Recovery Limits (%)	High
Chloride	DIO5031-AUG22	mg/L	1	<1	ND	20	97	80	120	101	75	125
Sulphate	DIO5031-AUG22	mg/L	2	<2	1	20	107	80	120	105	75	125
Chloride	DIO5034-AUG22	mg/L	1	<1	ND	20	100	80	120	103	75	125
Sulphate	DIO5034-AUG22	mg/L	2	<2	ND	20	107	80	120	104	75	125

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	High	Spike Recovery (%)	Recovery Limits (%)	High
Nitrate (as N)	DIO146-AUG22	mg/L	0.06	<0.06	0	20	97	90	110	103	75	125
Nitrate (as N)	DIO158-AUG22	mg/L	0.06	<0.06	ND	20	94	90	110	99	75	125



FINAL REPORT

CA15086-AUG22 R1

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.			
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)		
									Low	High	Low	High	
Biochemical Oxygen Demand (BOD5)	BOD0016-AUG22	mg/L	2	< 2	7	30	105	70	130		71	70	130

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-IENVISFA-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Dissolved Organic Carbon	SKA0099-AUG22	mg/L	1	<1	2	20	100	90	110	99	75	125

Chemical Oxygen Demand

Method: HACH 8000 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chemical Oxygen Demand	EWL0129-AUG22	mg/L	8	<8	4	20	100	80	120	102	75	125
Chemical Oxygen Demand	EWL0149-AUG22	mg/L	8	<8	ND	20	100	80	120	95	75	125



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QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Low	High
Conductivity	EWL0135-AUG22	uS/cm	2	< 2	0	20	99	90	110	NA		

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Low	High
Barium (dissolved)	EMS0043-AUG22	mg/L	0.00002	<0.00002	0	20	104	90	110	113	70	130
Boron (dissolved)	EMS0043-AUG22	mg/L	0.002	<0.002	4	20	103	90	110	103	70	130
Calcium (dissolved)	EMS0043-AUG22	mg/L	0.01	<0.01	0	20	92	90	110	99	70	130
Iron (dissolved)	EMS0043-AUG22	mg/L	0.007	<0.007	ND	20	101	90	110	NV	70	130
Magnesium (dissolved)	EMS0043-AUG22	mg/L	0.001	<0.001	1	20	91	90	110	96	70	130
Sodium (dissolved)	EMS0043-AUG22	mg/L	0.01	<0.01	2	20	93	90	110	123	70	130
Boron (dissolved)	EMS0044-SEP22	mg/L	0.002	<0.002	12	20	102	90	110	96	70	130



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QC SUMMARY

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWML-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
pH	EWL0135-AUG22	No unit	0.05	NA	0		100			NA		

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-IENVIEWML-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Total Dissolved Solids	EWL0094-AUG22	mg/L	30	<30	ND	20	96		80	120	NA	
Total Dissolved Solids	EWL0115-AUG22	mg/L	30	<30	0	20					NA	



FINAL REPORT

CA15086-AUG22 R1

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEW1-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	High	Splice Recovery (%)	Recovery Limits (%)
Total Suspended Solids	EWL0151-AUG22	mg/L	2	< 2	1	10	99	90	90	110	NA	NA
Total Suspended Solids	EWL0160-AUG22	mg/L	2	< 2	5	10	99	90	90	110	NA	NA
Total Suspended Solids	EWL0165-AUG22	mg/L	2	< 2	1	10	100	90	90	110	NA	NA
Total Suspended Solids	EWL0193-AUG22	mg/L	2	< 2	6	10	94	90	90	110	NA	NA

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-IENVIEW1-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Splice Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Splice Recovery (%)	Recovery Limits (%)	Low	High	Splice Recovery (%)	Recovery Limits (%)
1,4-Dichlorobenzene	GCM0164-AUG22	µg/L	0.5	<0.5	ND	30	92	60	60	130	97	50 140
Benzene	GCM0164-AUG22	µg/L	0.5	<0.5	ND	30	88	60	60	130	98	50 140
Dichloromethane	GCM0164-AUG22	µg/L	0.5	<0.5	ND	30	88	60	60	130	96	50 140
Toluene	GCM0164-AUG22	µg/L	0.5	<0.5	ND	30	89	60	60	130	97	50 140
Vinyl Chloride	GCM0164-AUG22	µg/L	0.2	<0.2	ND	30	101	50	50	140	114	50 140



FINAL REPORT

CA15086-AUG22 R1

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

N85 Insufficient sample for analysis.

RL Reporting Limit.

† Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

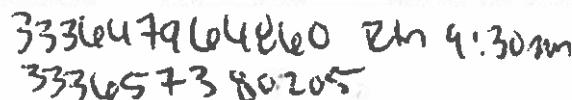
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This report supersedes all previous versions.

– End of Analytical Report –





FINAL REPORT

CA15694-SEP22 R1

304108-McGarry LF - Fall SW

Prepared for

Pinchin Ltd

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Maarit Wolfe, Hon.B.Sc
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0580. Fax:	Laboratory	SGS Canada Inc.
Contact	Meagan Bradley	Address	185 Concession St., Lakefield ON, K0L 2H0
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Facsimile		Facsimile	705-652-6365
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Project	304108-McGarry LF - Fall SW	SGS Reference	CA15694-SEP22
Order Number		Received	09/29/2022
Samples	Surface Water (3)	Approved	10/07/2022
		Report Number	CA15694-SEP22 R1
		Date Reported	10/07/2022

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA15694-SEP22 R1

Client: Pindhin Ltd
Project: 304108-McGarry LF - Fall SW
Project Manager: Meagan Bradley
Samplers: Sarah Burke

MATRIX: WATER

Sample Number	6	7	8
Sample Name	SW1	SW2	Ditch
Sample Matrix	Surface Water	Surface Water	Surface Water
Sample Date	27/09/2022	27/09/2022	27/09/2022

Parameter

Units

RL

Result

Result

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	< 4†	< 4†
Total Suspended Solids	mg/L	2	2	< 2
Alkalinity	mg/L as CaCO3	2	4	< 2
Conductivity	uS/cm	2	58	14
Total Dissolved Solids	mg/L	30	84	60
Chemical Oxygen Demand	mg/L	8	41	54
Ammonia+Ammonium (N)	as N mg/L	0.04	< 0.04	< 0.04
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05	0.39	0.71

Metals and Inorganics

Sulphate	mg/L	2	< 2	< 2
Nitrite (as N)	as N mg/L	0.03	< 0.03	< 0.03
Nitrate (as N)	as N mg/L	0.06	< 0.06	< 0.06
Hardness	mg/L as CaCO3	0.05	8.0	6.0
Calcium (total)	mg/L	0.01	2.21	1.51
Iron (total)	mg/L	0.007	0.744	0.996
Magnesium (total)	mg/L	0.001	0.603	0.538
Manganese (total)	mg/L	0.00001	0.0138	0.242
Sodium (total)	mg/L	0.01	9.84	0.26
Phosphorus (total)	mg/L	0.003	0.020	0.013



FINAL REPORT

CA15694-SEP22 R1

Client: Pinchin Ltd
Project: 304108-McGarry LF - Fall SW
Project Manager: Meagan Bradley
Sampler: Sarah Burke

MATRIX: WATER

Sample Number	6	7	8
Sample Name	SW1	SW2	Ditch
Sample Matrix	Surface Water	Surface Water	Surface Water
Sample Date	27/09/2022	27/09/2022	27/09/2022

Parameter	Units	RL	Result	Result	Result
Other (ORP)					
pH	No unit	0.05	6.23	6.25	5.53
Chloride	mg/L	1	15	13	< 1
Phenols					
4AAP-Phenolics	mg/L	0.001	0.002	0.002	0.012



FINAL REPORT

CA15694-SEP22 R1

QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Alkalinity	EWL0605-SEP22	mg/L as CaCO ₃	2	<2	1	20	98	80	120	NA		

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Ammonia+Ammonium (N)	SKA0009-OCT22	mg/L	0.04	<0.04	ND	10	99	90	110	94	75	125
Ammonia+Ammonium (N)	SKA0023-OCT22	mg/L	0.04	<0.04	ND	10	98	90	110	98	75	125



FINAL REPORT

CA15694-SEP22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 325.2 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Chloride	DIO5014-OCT22	mg/L	1	<1	ND	20	98	80	120	102	75	125
Sulphate	DIO5014-OCT22	mg/L	2	<2	3	20	111	80	120	111	75	125

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Nitrite (as N)	DIO0047-OCT22	mg/L	0.03	<0.03	ND	20	99	90	110	103	75	125
Nitrate (as N)	DIO0047-OCT22	mg/L	0.06	<0.06	ND	20	99	90	110	100	75	125



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QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0061-SEP22	mg/L	2	< 2	14	30	102	70	130	117	70	130

Chemical Oxygen Demand

Method: HACH 8000 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spikes Blank			Matrix Spikes / Ref.		
					RPD	AC (%)	Spikes Recovery (%)	Recovery Limits (%)		Spikes Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chemical Oxygen Demand	EWL0012-OCT22	mg/L	8	< 8	ND	20	100	80	120	94	75	125
Chemical Oxygen Demand	EWL0609-SEP22	mg/L	8	< 8	ND	20	102	80	120	112	75	125
Chemical Oxygen Demand	EWL0610-SEP22	mg/L	8	< 8	ND	20	102	80	120	115	75	125



FINAL REPORT

CA15694-SEP22 R1

QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Conductivity	EWL0605-SEP22	uS/cm	2	< 2	0	20	99	90	110	NA		

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Spike Recovery (%)	Recovery Limits (%)
Calcium (total)	EMS0274-SEP22	mg/L	0.01	<0.01	5	20	101	90	110	100	70	130
Iron (total)	EMS0274-SEP22	mg/L	0.007	<0.007	1	20	102	90	110	100	70	130
Magnesium (total)	EMS0274-SEP22	mg/L	0.001	<0.001	4	20	98	90	110	124	70	130
Manganese (total)	EMS0274-SEP22	mg/L	0.00001	<0.00001	2	20	103	90	110	127	70	130
Sodium (total)	EMS0274-SEP22	mg/L	0.01	<0.01	1	20	102	90	110	100	70	130
Phosphorus (total)	EMS0274-SEP22	mg/L	0.003	<0.003	3	20	102	90	110	NV	70	130



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QC SUMMARY

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank		Matrix Spike / Ref.	
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Spike Recovery (%)	Recovery Limits (%)
pH	EWL0605-SEP22	No unit	0.05	NA	0		100	Low High	NA	Low High

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank		Matrix Spike / Ref.	
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Spike Recovery (%)	Recovery Limits (%)
4AAP-Phenolics	SKA0008-OCT22	mg/L	0.001	0.0153	2	10	96	80 120	103	75 125

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-IENVIEWL-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank		Matrix Spike / Ref.	
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Spike Recovery (%)	Recovery Limits (%)
Total Dissolved Solids	EWL0599-SEP22	mg/L	30	<30	3	20	96	80 120	NA	Low High



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QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicates		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0010-OCT22	mg/L	2	< 2	1	10	92	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicates		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen (N)	SKA0010-OCT22	mg/L	0.05	<0.05	1	10	100	90	110	97	75	125



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CA15694-SEP22 R1

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NBS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

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-- End of Analytical Report --



FINAL REPORT

CA15693-SEP22 R1

304108-McGarry LF - Fall GW

Prepared for

Pinchin Ltd



FINAL REPORT

CA15693-SEP22 R1

First Page

CLIENT DETAILS

Client **Pinchin Ltd**

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Canada, P3A 4S4
Phone: 705-521-0560. Fax:**

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Telephone **705-521-0560**

Facsimile

Email **mbradley@Pinchin.com, tmcbride@pinchin.com, avalue@pinchir**

Project **304108-McGarry LF - Fall GW**

Order Number

Samples **Ground Water (8)**

LABORATORY DETAILS

Project Specialist **Maarit Wolfe, Hon.B.Sc**

Laboratory **SGS Canada Inc.**

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SGS Reference **CA15693-SEP22**

Received **09/29/2022**

Approved **10/13/2022**

Report Number **CA15693-SEP22 R1**

Date Reported **10/13/2022**

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: NA

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

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Client: Pinchin Ltd
Project: 304108-McGarry LF - Fall GW
Project Manager: Meagan Bradley
Sample: Sarah Burke

MATRIX: WATER

Parameter	Units	RL	Sample Number	7	8	9	10	11	12	13	14
			Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
			Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
			Sample Date	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022
				Result	Result	Result	Result	Result	Result	Result	Result
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1	< 4.1
Total Suspended Solids	mg/L	2		18100	10400	798	77	59	9	184	108
Alkalinity	mg/L as CaCO3	2		10	25	6	542	10	25	< 2	548
Conductivity	uS/cm	2		27	61	24	1290	39	49	33	1270
Total Dissolved Solids	mg/L	30		130	80	< 30	866	34	43	< 30	880
Chemical Oxygen Demand	mg/L	8		< 8	< 8	< 8	34	< 8	< 8	< 8	26
Ammonia+Ammonium (N)	as N mg/L	0.04		< 0.04	< 0.04	< 0.04	2.08	< 0.04	< 0.04	< 0.04	1.94
Dissolved Organic Carbon	mg/L	1		2	2	2	9	1	2	4	9

Metals and Inorganics

Sulphate	mg/L	2		9	7	2	160	7	< 2	5	150
Nitrate (as N)	as N mg/L	0.06		< 0.06	< 0.06	0.57	0.07	< 0.06	< 0.06	1.95	< 0.06
Barium (dissolved)	mg/L	0.00002		0.0104	0.00172	0.0164	0.0974	0.00438	0.00638	0.0208	0.0951
Boron (dissolved)	mg/L	0.002		0.003	0.002	0.003	3.68	0.006	0.004	0.004	3.66
Calcium (dissolved)	mg/L	0.01		2.68	4.86	2.00	210	4.44	7.40	1.59	211
Iron (dissolved)	mg/L	0.007		0.026	0.044	0.033	36.9	0.101	0.049	0.026	37.2
Magnesium (dissolved)	mg/L	0.001		0.591	1.26	0.390	30.9	0.763	0.851	0.482	31.4
Manganese (dissolved)	mg/L	0.00001		0.00142	0.0914	0.0231	2.61	0.00336	0.276	0.0275	2.55
Sodium (dissolved)	mg/L	0.01		1.21	3.77	0.92	19.4	0.98	0.48	1.92	19.3



FINAL REPORT

CA15693-SEP22 R1

Client: Pinchin Ltd
Project: 304108-McGarry LF - Fall GW
Project Manager: Meagan Bradley
Sample: Sarah Burke

MATRIX: WATER

Sample Number	7	8	9	10	11	12	13	14
Sample Name	MW1	MW2	MW3	MW4	MW5	MW7	MW8	GW DUP
Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Sample Date	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022
Parameter	Units	RL	Result	Result	Result	Result	Result	Result
Other (ORP)								
pH	No unit	0.05	6.96	5.92	6.50	7.47	7.15	5.34
Chloride	mg/L	1	5	5	<1	2	<1	<1
								2



FINAL REPORT

CA15693-SEP22 R1

QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-TENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Alkalinity	EWL0058-OCT22	mg/L as CaCO ₃	2	< 2	0	20	100	80	120	NA		
								Low	High		Low	High

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-TENVISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Ammonia+Ammonium (N)	SKA0002-OCT22	mg/L	0.04	<0.04	ND	10	100	90	110	96	75	125
								Low	High		Low	High



FINAL REPORT

CA15693-SEP22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 325.2 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chloride	DIO5012-OCT22	mg/L	1	<1	ND	20	100	80	120	105	75	125
Sulphate	DIO5012-OCT22	mg/L	2	<2	1	20	110	80	120	98	75	125
Chloride	DIO5014-OCT22	mg/L	1	<1	ND	20	98	80	120	102	75	125
Sulphate	DIO5014-OCT22	mg/L	2	<2	3	20	111	80	120	111	75	125

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.			
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	Low	High
								Low	High				
Nitrate (as N)	DIO0044-OCT22	mg/L	0.06	<0.06	ND	20	102	90	110	101	75	125	
Nitrate (as N)	DIO0047-OCT22	mg/L	0.06	<0.06	ND	20	99	90	110	100	75	125	



FINAL REPORT

CA15693-SEP22 R1

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Low	High
Biochemical Oxygen Demand (BOD5)	BOD0061-SEP22	mg/L	2	< 2	14	30	102	70	130	117	70	130

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-JENVISFA-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Low	High
Dissolved Organic Carbon	SKA0001-OCT22	mg/L	1	< 1	8	20	100	90	110	107	75	125

Chemical Oxygen Demand

Method: HACH 8000 | Internal ref.: ME-CA-JENVIEWL-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Low	High	Low	High
Chemical Oxygen Demand	EWL0609-SEP22	mg/L	8	< 8	ND	20	102	80	120	112	75	125
Chemical Oxygen Demand	EWL0610-SEP22	mg/L	8	< 8	ND	20	102	80	120	115	75	125



FINAL REPORT

CA15693-SEP22 R1

QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-TENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Conductivity	EWL0058-OCT22	uS/cm	2	< 2	5	20	98	90	110	NA		

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-TENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Barium (dissolved)	EMS0272-SEP22	mg/L	0.00002	<0.00002	0	20	97	90	110	100	70	130
Boron (dissolved)	EMS0272-SEP22	mg/L	0.002	<0.002	0	20	98	90	110	101	70	130
Calcium (dissolved)	EMS0272-SEP22	mg/L	0.01	<0.01	6	20	97	90	110	92	70	130
Iron (dissolved)	EMS0272-SEP22	mg/L	0.007	<0.007	3	20	97	90	110	100	70	130
Magnesium (dissolved)	EMS0272-SEP22	mg/L	0.001	<0.001	3	20	100	90	110	83	70	130
Manganese (dissolved)	EMS0272-SEP22	mg/L	0.00001	<0.00001	5	20	101	90	110	102	70	130
Sodium (dissolved)	EMS0272-SEP22	mg/L	0.01	<0.01	2	20	96	90	110	90	70	130
Boron (dissolved)	EMS0286-SEP22	mg/L	0.002	<0.002	4	20	97	90	110	87	70	130



FINAL REPORT

CA15693-SEP22 R1

QC SUMMARY

pH

Method: SM 4500 | Internal ref.: ME-CA-TENVIEWWL-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank		Matrix Spike / Ref.	
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Spike Recovery (%)	Recovery Limits (%)
pH	EWL0059-OCT22	No unit	0.05	NA	0		100	Low High	NA	Low High

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-TENVIEWWL-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank		Matrix Spike / Ref.	
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)	Spike Recovery (%)	Recovery Limits (%)
Total Dissolved Solids	EWL0597-SEP22	mg/L	30	<30	2	20	97	80 120	NA	Low High



FINAL REPORT

CA15693-SEP22 R1

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
Total Suspended Solids	EWL0035-OCT22	mg/L	2	< 2	0	10	94	90	110	NA		
Total Suspended Solids	EWL0045-OCT22	mg/L	2	< 2	0	10	91	90	110	NA		
Total Suspended Solids	EWL0048-OCT22	mg/L	2	< 2	4	10	96	90	110	NA		

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

† Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

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- End of Analytical Report -



APPENDIX VII
MECP Checklist

Appendix D-Monitoring and Screening Checklist

General Information and Instructions

General Information: The checklist is to be completed, and submitted with the Monitoring Report.

Instructions: A complete checklist consists of:

- (a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.
- (b) completed contact information for the Competent Environmental Practitioner (CEP)
- (c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

Definition of Groundwater CEP:

For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:

- (a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
- (b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..

Definition of Surface water CEP:

A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

Monitoring Report and Site Information	
Waste Disposal Site Name	McGarry WDS
Location (e.g. street address, lot, concession)	The Site is located approximately 4 kilometres (km) east of Virginiatown, Ontario, along the Quebec and Ontario border. Access to the Site is by a gravel road that extends off Raven Mountain Road, south of Highway 66.
GPS Location (taken within the property boundary at front gate/ front entry)	The Site is located at Universal Transverse Mercator (UTM) coordinates Zone 17U, 609,800 metres (m) Easting and 5,332,529 m Northing (North American Datum 1983).
Municipality	Township of McGarry
Client and/or Site Owner	Township of McGarry
Monitoring Period (Year)	2022
This Monitoring Report is being submitted under the following:	
Certificate of Approval No.:	A572402
Director's Order No.:	Type Here
Provincial Officer's Order No.:	Type Here
Other:	Type Here

Report Submission Frequency	☒ Annual ☐ Other	Specify (Type Here):
The site is:	☒ Active ☐ Inactive ☐ Closed	
If closed, specify C of A, control or authorizing document closure date:		Select Date
Has the nature of the operations at the site changed during this monitoring period?	☐ Yes ☒ No	
If yes, provide details:	Type Here	
Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i.e. exceeded the LEL for methane)	☐ Yes ☒ No	

Groundwater WDS Verification:

Based on all available information about the site and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:	☐ Yes ☒ No	MW3 - Casing has sunk. MW4 - Riser sticks up to a height that prevents the casing lid from closing. MW8 - Surficial concrete seal at the base appears to be compromised.
2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document(s):	☐ Yes ☒ No ☐ Not Applicable	If no, list exceptions below or attach information.

Groundwater Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date
MW6	Could not be located	All 2022 sampling events
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date

3) a) Some or all groundwater, leachate and WDS gas sampling and monitoring requirements have been established or defined outside of a ministry C of A, authorizing, or control document.		☐ Yes ☐ No ☒ Not Applicable	
b) If yes, the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:		☐ Yes ☐ No ☒ Not Applicable	If no, list exceptions below or attach additional information.
Groundwater Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date	
Type Here	Type Here	Select Date	
Type Here	Type Here	Select Date	
Type Here	Type Here	Select Date	
Type Here	Type Here	Select Date	
4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):			
☒ Yes ☐ No		If no, specify (Type Here):	

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.	☒ Yes ☐ No	If no, the potential design and operational concerns/exceptions are as follows (Type Here):	
6) The site meets compliance and assessment criteria.	☒ Yes ☐ No	If no, list and explain exceptions (Type Here):	
7) The site continues to perform as anticipated. There have been no unusual trends/ changes in measured leachate and groundwater levels or concentrations.	☒ Yes ☐ No	If no, list exceptions and explain reason for increase/change (Type Here):	
1) Is one or more of the following risk reduction practices in place at the site: (a) There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/treatment; or (b) There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or (c) The site meets the following two conditions (typically achieved after 15 years or longer of site operation): i. The site has developed stable leachate mound(s) and stable leachate plume geometry/concentrations; and ii. Seasonal and annual water levels and water quality fluctuations are well understood.	☒ Yes ☐ No	Note which practice(s):	☐ (a) ☐ (b) ☒ (c)
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	☐ Yes ☐ No ☒ Not Applicable	If yes, list value(s) that are/have been exceeded and follow-up action taken (Type Here):	

Groundwater CEP Declaration:

I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories*, or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

24-Feb-2023

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

☐ No changes to the monitoring program are recommended ☒ The following change(s) to the monitoring program is/are recommended:	Remove VOC analysis for all wells with the exception of the source well (MW4). Should VOCs be detected in MW4, the analysis of these parameters can be re-introduced to the program.
☐ No Changes to site design and operation are recommended ☒ The following change(s) to the site design and operation is/are recommended:	Type Here

Name:	Tim McBride		
Seal:	Add Image		
Signature:	Tim McBride Digitally signed by Tim McBride DN: PostalCode=LSN7W5, O=Pinchin Ltd., STREET=2470 Milltown Dr., S=Ontario, CA, CN=Tim McBride, Email=timc@pinchin.com Reason: I am the author of this document Location: Date: 2023.02.24 14:57:31-0500 Foxit PDF Editor Version: 12.1.0	Date:	24-Feb-2023
CEP Contact Information:	Tim McBride, B.Sc., P.Geo., QPESA		
Company:	Pinchin Ltd.		
Address:	662 Falconbridge Unit 3, Sudbury ON P3A 4S4		
Telephone No.:	705.521.0560	Fax No. :	705.521.1309
E-mail Address:	tmcbride@pinchin.com		
Co-signers for additional expertise provided:			
Signature:		Date:	Select Date
Signature:		Date:	Select Date

Surface Water WDS Verification:

Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):

Name (s)	Milky Creek
Distance(s)	Milky Creek is located approximately 500 m west of the Site.

Based on all available information and site knowledge, it is my opinion that:

Sampling and Monitoring Program Status:

1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions:	☒ Yes ☐ No	If no, identify issues (Type Here):
2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the Certificate(s) of Approval or relevant authorizing/control document(s) (if applicable):	☐ Yes ☐ No ☒ Not applicable (No C of A, authorizing / control document applies)	If no, specify below or provide details in an attachment.

Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date

3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.		☐ Yes ☐ No ☒ Not Applicable
b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:		☐ Yes ☐ No ☒ Not Applicable If no, specify below or provide details in an attachment.
Surface Water Sampling Location	Description/Explanation for change (change in name or location, additions, deletions)	Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/ outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):		☒ Yes ☐ No If no, specify (Type Here):

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):

- ☐ Yes
☒ No

If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table below or provide details in an attachment:

Parameter	Compliance or Assessment Criteria or Background	Amount by which Compliance or Assessment Criteria or Background Exceeded
e.g. Nickel	e.g. C of A limit, PWQO, background	e.g. X% above PWQO
pH	PWQO APV	SW2: 6.25 (fall) vs 6.5 - 8.5 range
Total Phosphorus	PWQO	SW2 - 0.116 mg/L (summer) vs 0.03 mg/L limit
Phenols	PWQO	SW2 - 0.002 mg/L (summer and fall) vs 0.001 mg/L limit
Iron	PWQO PWQO and APV	SW2 - 0.432 mg/L (spring) and 0.70 mg/L (fall) vs 0.3 mg/L limit SW2 - 1.18 mg/L (summer) vs 1.0 mg/L limit
Cadmium	APV	SW2 - 0.000036 mg/L (spring) vs 0.000017 mg/L limit
6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?	☒ Yes ☐ No	Naturally elevated at background location.

7) All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.	☒ Yes ☐ No	If no, list parameters and stations that is outside the expected range. Identify whether parameter concentrations show an increasing trend or are within a high historical range (Type Here)
8) For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g., PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):	☐ Yes ☐ No ☒ Not Known ☐ Not Applicable	If yes, provide details and whether remedial measures are necessary (Type Here)
9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	☐ Yes ☐ No ☒ Not Applicable	If yes, list value(s) that are/have been exceeded and follow-up action taken (Type Here)

Surface Water CEP Declaration:

I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories, or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

24-Feb-2023

Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

☒ No Changes to the monitoring program are recommended ☐ The following change(s) to the monitoring program is/are recommended:	Type Here
☒ No changes to the site design and operation are recommended ☐ The following change(s) to the site design and operation is/are recommended:	Type Here

CEP Signature	Tim McBride Digitally signed by Tim McBride DN: PostalCode=L5N7W5, O=Pinchin Ltd., STREET=2470 Milltowne Crt, S=Ontario, C=CA, CN=Tim McBride, E=tmcbride@pinchin.con Reason: I am the author of this document Location: Date: 2023.02.24 14:58:18-05'00' Foxit PDF Editor Version: 12.1.0	
Relevant Discipline	Hydrogeology	
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