January 9, 2026

Township of Bonfield
365 Highway 531
Bonfield, Ontario P0H 1E0

E-mail: pwmanager@bonfieldtownship.org

Attention: Alex Hackenbrook
Public Works Manager

Re: 2025 Annual Water Quality Summary Report
Bonfield Landfill Site, 185 Bluesea Road, Bonfield, Ontario
Pinchin File: 236957.007

1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by the Township of Bonfield (Client) to prepare an annual groundwater and surface water quality summary report for the Bonfield Landfill Site (hereafter referred to as the "Site"). The landfill is located at 185 Bluesea Road, approximately 3 kilometres (km) south of the Township of Bonfield in Lot 10, Concession 5 of the Township of Bonfield in the District of Nipissing, Ontario. The Township of Bonfield is located approximately 31 km east of North Bay, Ontario. The Site location is indicated on Figure 1 (all Figures are provided in Appendix I).

The purpose of completing the monitoring program was to assess the hydraulic media for contaminants of concern as a compliance requirement under the Site's Ministry of the Environment, Conservation and Parks (MECP) Certificate of Approval (CofA, now referred to as an Environmental Compliance Approval (ECA)), Number **A530702** (issued June 24, 1980) and the applicable regulatory requirements during the spring, summer and fall of 2025. To achieve the reporting objectives of this Site monitoring program, Pinchin conducted groundwater, surface water and potable well water sampling at the Site on May 5 (spring), July 7 (summer) and September 24 (fall), 2025.

2.0 BACKGROUND

The Site is located at Universal Transverse Mercator (UTM) coordinates Zone 17T, 644,106 metres (m) Easting and 5,118,768 m Northing (North American Datum 1983). Landfill coordinates were obtained using a Global Positioning System and are accurate within 10 m.

The Site is an operational landfill currently under management by the Client with oversight by the MECP (formerly known as the Ministry of Environment and Climate Change (MOECC)). The Site is approved for a total fill area of 12.0 hectares and was approved to accept domestic and commercial waste as early as 1980. A copy of the most current ECA for the Site is provided in Appendix II.

3.0 SCOPE OF WORK

The scope of work was completed in accordance with applicable MECP guidelines and legislation. The monitoring program as requested by the Client included the following scope of work:

- Mobilization to the Site during the spring, summer and fall of 2025 and the collection of groundwater, surface water and potable well water (summer only) samples from the existing well network, surface water monitoring locations and residential monitoring locations;
- Submission of representative groundwater, surface water and potable well water (summer only) samples to an accredited analytical laboratory for analysis of the chemical parameters outlined by the Client; and
- Preparation of a summary report outlining the 2025 field work completed and the findings of the analytical results.

All monitoring locations for groundwater, surface water and potable well water are illustrated on Figure 2.

The investigation methodology was also conducted in general accordance with, and reference is made to the following regulatory and guidance documents:

- MECP document entitled "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*", dated December 1996 (MECP Sampling Guideline);
- MECP document entitled "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*", dated March 9, 2004, amended July 1, 2011 (Analytical Methods);
- Ontario Regulation 169/03 "*Ontario Drinking Water Quality Standards"* under the Safe Drinking Water Act, dated 2002 (ODWQS);
- MECP document entitled "*Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines*", dated June 2003 (ODWQS Guideline);
- Ontario Regulation 903 R.R.O. 1990 "*Wells*", under the Ontario Water Resources Act, as amended in 2019;
- MECP document entitled "*Water Management Policies Guidelines Provincial Water Quality Objectives*" (PWQO), dated July 1994, revised February 1999;
- MECP document entitled "*Rationale for the Development of Soil and Groundwater Standards for Use at Contaminated Sites in Ontario*" (Table 3.1 - Aquatic Protection Values) dated April 15, 2011 (APV); and

- Canadian Council of Ministers of the Environment (CCME) document entitled "*Canadian Environmental Quality Guidelines*" (Water Quality Guidelines for the Protection of Freshwater Aquatic Life) dated 1999 (CWQG).

3.1 Monitoring Procedures and Methods

3.1.1 Standard Operating Procedures

The following Pinchin Standard Operating Procedures (SOPs) were followed by Pinchin field personnel for each portion of this project:

- Groundwater Sampling SOP;
- Surface Water Sampling SOP; and
- Potable Well Water Sampling SOP.

All Pinchin monitoring SOPs have been developed in accordance with the MECP Sampling Document and are consistent with standard engineering practices.

3.1.2 Groundwater Monitoring Activities

To perform the groundwater water monitoring activities, the following tasks were conducted:

- Pinchin notified the Client prior to field activities and subsequently mobilized staff from the local Sudbury office to the Site on May 5, July 7 and September 24, 2025;
- Static groundwater levels were collected using a Solinst™ water level tape. Measurements were collected from the top of riser pipe;
- During the monitoring events, groundwater from each monitoring well was purged prior to the collection of the sample using a moderate-flow sample methodology via high-density polyethylene (HDPE) or low-density polyethylene (LDPE) 3/8" tubing and a Waterra™ inertial foot valve system. The inertial pumping system was chosen as an approved method to minimize sediment/particulate within each sample and to minimize sample agitation and well trauma in accordance with the MECP Sampling Document. Pinchin purged a minimum of three well volumes to a maximum of six well volumes, or until dry, using the inertial pump system until the well volume column was representative of the surrounding formation.
- During purging activities, additional groundwater monitoring parameters were collected from each monitoring well using a YSI-556 water quality meter for measurement of field parameters. Sample residual was disposed of onto the ground surface within the landfill confines;

- Groundwater samples were collected using the inertial pumping system in accordance with the MECP Sampling Document. Dissolved metals were field-filtered using a dedicated in-line 0.45-micron disposable filter. Upon completion of field sampling and monitoring activities, all samples collected were submitted to the project laboratory, SGS Canada Inc. (SGS) in Lakefield, Ontario. All parameters were analyzed by the project laboratory using MECP approved procedures and are consistent with the analytical methods prescribed in the Analytical Methods document; and
- The groundwater samples collected were analyzed at the project laboratory for the list of parameters provided by the Client. Groundwater sample results were compared to the applicable ODWQS.

3.1.3 Surface Water Monitoring Activities

To perform the surface water monitoring activities, the following tasks were conducted:

- Pinchin notified the Client prior to field activities and subsequently mobilized staff from the local Sudbury office to the Site on May 5, July 7 and September 24, 2025;
- All field activities at each monitoring location were initiated at downstream locations working upstream to avoid sediment disturbance and influencing sample integrity;
- Surface water samples were collected during each sampling event using a direct grab sampling methodology in accordance with the MECP Sampling Document. Upon completion of field sampling and monitoring activities, all samples collected were submitted to SGS. All parameters were analyzed by the project laboratory using MECP approved procedures and are consistent with the analytical methods prescribed in the Analytical Methods document;
- During sampling activities, surface water monitoring field parameters were collected at each surface water monitoring location using a YSI-556 water quality meter; and
- Surface water samples were analyzed during the monitoring event at the pre-determined monitoring locations for the list of parameters provided by the Client. Sample results were compared to the applicable PWQO, APV and CWQG criteria.

3.1.4 Potable Well Water Monitoring Activities

To perform the well water monitoring activities, the following tasks were conducted:

- Pinchin notified the Client prior to field activities and subsequently mobilized staff from the local Sudbury office to the Site on July 7, 2025;

- Prior to collecting the samples, any aerator, strainer, or hose attachments on the tap were removed. Samples were collected directly into the sampling container provided by the lab and intermediate sampling devices were avoided;
- The residential potable well water samples were obtained at the municipal addresses from a continuous moderate pressure stream at an untreated tap;
- Upon completion of field sampling and monitoring activities, all samples collected were submitted to SGS. All parameters were analyzed by the project laboratory using MECP approved procedures and are consistent with the analytical methods prescribed in the Analytical Methods document; and
- The potable water samples collected were analyzed at the project laboratory for the list of parameters provided by the Client. Residential sample results were compared to the applicable ODWQS.

3.1.5 Quality Assurance for Sampling and Analysis

Pinchin uses recognized industry standards, including the Canadian Council of Ministers of the Environment (CCME) *Subsurface Assessment Handbook for Contaminated Sites* and MECP's manual *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* for conducting environmental assessments. For quality assurance, all work is supervised and internally reviewed by senior staff members. As such, various QA/QC protocols were followed during the water quality sampling events to ensure that representative samples were obtained, and that representative analytical data were reported by the laboratory.

Field QA/QC protocols that were employed by Pinchin included the following:

- Clean, labelled and pre-preserved (when applicable) sample containers were provided by the laboratory;
- Water quality samples were collected in the laboratory supplied sample containers;
- The monitoring wells were purged to remove stagnant water prior to sample collection, so that representative groundwater samples could be obtained. Dedicated purging and sampling equipment was used for monitoring well development, purging and sampling at each location to minimize the potential for cross-contamination;
- All water quality samples were placed in coolers on ice immediately upon collection with appropriate sample temperatures maintained prior to submission to the laboratory;
- Dedicated and disposable Nitrile™ gloves were used for all sample handling;

- All non-dedicated monitoring and sampling equipment (i.e. water level meter and YSI-556) was cleaned before initial use and between uses to minimize the potential for cross-contamination by washing with an Alconox™/potable water mixture followed by a deionized water rinse;
- Field duplicate groundwater, surface water and potable well water (summer only) samples were collected during the spring, summer and fall sampling event (1 in 10); and
- Sample collection and handling procedures were performed in general accordance with the MECP Sampling Guideline.

The SGS laboratory has an established QA/QC program and is a member of the Canadian Association for Laboratory Accreditation (CALA) and is accredited by the Standards Council of Canada (SCC) for specified environmental analyses. SGS's internal laboratory QA/QC consisted of the analysis of laboratory duplicate, method blank, matrix spike and spiked blank samples, an evaluation of relative percent difference calculations for laboratory duplicate samples and an evaluation of surrogate recoveries for the method blank, matrix spike and spiked blank samples.

4.0 ASSESSMENT, INTERPRETATION AND DISCUSSION

4.1 Depth to Groundwater

At the time of preparation of this report, Pinchin has not been provided any borehole logs or elevation survey data for the monitoring wells at the Site. Therefore, accurate triangulation of the groundwater elevations at the Site could not be completed through water level contouring, and the groundwater flow direction at the Site could not be determined. The measured depths to groundwater for each of the 2025 monitoring events are provided in Table 1 (all tables are provided in Appendix III).

A survey of the top of casing elevations should be completed for each of the groundwater monitoring wells during the next regularly scheduled monitoring event. The top of casing elevations is required to determine the groundwater flow direction at the Site which is necessary in order to accurately evaluate leachate migration from the Site and to properly apply the MECP's Guideline B-7 criteria to evaluate landfill compliance.

4.2 Groundwater Quality Monitoring Results

The current groundwater monitoring well network at the Site consists of seven overburden monitoring wells (MW1, MW2, MW3S, MW4, MW5, MW6 and MW7S) and two bedrock monitoring wells (MW3D and MW7D). A review of the sample dataset for the spring, summer and fall monitoring program identified the following parameters that exceeded the ODWQS:

Parameter	ODWQS (mg/L)	Monitoring Well ID
Hardness (high)	100	All samples from MW1, MW2, MW3D, MW4 and MW7S.
Hardness (low)	80	All samples from MW3S, MW5, MW6 and MW7D.
Iron	0.3	All samples from MW2, MW3D, MW4 and MW5. Summer sample from MW6. Summer and fall samples from MW7S.
Manganese	0.05	All samples from MW2, MW3D, MW4, MW5, MW6 and MW7S. Spring and summer samples from MW7D. Fall sample from MW1.
Aluminum	0.1	Spring samples from MW3S and MW4.

The analytical data for each well in comparison to the applicable regulatory criteria is provided in Tables 2 through 10. Copies of the laboratory analytical reports are presented in Appendix IV.

4.3 Surface Water Quality Monitoring Results

The current surface water sampling program at the Site consists of three surface water monitoring locations (SWA, SWB and SWC). A review of the sample dataset for the spring, summer and fall monitoring program identified the following parameters that exceeded the PWQO, APV and/or CWQG:

Parameter	PWQO (mg/L)	APV (mg/L)	CWQG (mg/L)	Monitoring Station ID
pH	6.5 (Low) - 8.5 (High)	-	6.5 (Low) - 9.0 (High)	SWA (spring and summer), SWB (all samples) and SWC (spring) exceed the PWQO and the CWQG.
Aluminum	0.075	-	0.1	SWB (all samples exceed the PWQO and the CWQG)
Iron	0.3	-	0.3	All samples from all locations exceed PWQO and CWQG.
Phenols	0.001	0.961	0.004	SWB (spring and fall) and SWC (summer) exceed the PWQO. SWB (summer) exceeds the CWQG.
Chromium	0.0089	0.064	0.001	SWA (summer) and SWB (fall) exceed the CWQG.
Cobalt	0.0009	0.0052	-	SWA (summer) and SWB (fall) exceed the PWQO.

Parameter	PWQO (mg/L)	APV (mg/L)	CWQG (mg/L)	Monitoring Station ID
Potassium	-	0.039	-	All samples from all locations exceed APV.
Total Phosphorous	0.03	-	-	SWA (summer) and SWB (fall) exceed PWQO.

The analytical data for each surface water monitoring station in comparison to the applicable regulatory criteria is provided in Tables 11 through 13. Copies of the laboratory analytical reports are presented in Appendix IV.

4.4 Potable Well Water Quality Monitoring Results

The current potable well water sampling program at the Site consists of two potable wells located at the municipal addresses of 1 Grand Desert Road (1GDR) and 6 Grand Desert Road (6GDR). Pinchin collected potable well water samples from the 6GDR residential monitoring location during the summer 2025 monitoring event. No sample could be collected at the 1GDR residential monitoring location during the summer 2025 monitoring event as no resident was present at the time of sample collection. A summary of water quality monitoring data relative to the regulatory standards is presented in Tables 14 and 15 for 1GDR and 6GDR, respectively. Copies of the laboratory analytical reports are presented in Appendix IV.

A review of the analytical water quality results for the 2025 monitoring period identified the following parameters that exceeded the ODWQS:

Parameter	ODWQS (mg/L)	Monitoring Well ID
Total Hardness (low)	80-100	6 GDR
Aluminum	0.1	6 GDR

Total hardness and aluminum are both operational guidelines for drinking water systems set by the ODWQS and are not considered to be a significant human health or environmental concern originating from the Site. Concentrations of these parameters are consistent with the historic monitoring record at this location.

Lead is considered to be a significant concern for drinking water systems and is a human health-related parameter. An elevated concentration of lead was previously identified at residential monitoring location 1GDR during the summer 2024 monitoring event; however, as previously noted, no sample could be collected during 2025 to confirm this finding. The concentration of lead in the summer of 2024 was elevated compared to the historic record is, therefore, potentially anomalous and may be attributed to standing water within the pipes or tap fixtures that could not be removed at the time of sampling. The lead concentrations at GDR1 should be confirmed during the next regularly scheduled sampling event.

4.5 Data Quality Evaluation

In order to provide confidence in the data obtained, a comprehensive QA/QC component was included in the monitoring program. The QA/QC procedures developed for this monitoring program are prepared in accordance with MECP Sampling Document and in most cases, exceed the minimum requirements.

Water quality samples collected by Pinchin were generated in accordance with acceptable procedures. No analytical hold times were exceeded for samples submitted for analysis, and sample temperatures upon receipt at the project laboratory were below 10° Celsius.

All field instrumentation calibration checks were completed by Pinchin field staff members prior to use on-Site. All field operations conducted by Pinchin field staff members were completed using standard equipment decontamination and sampling procedures, and no deviations from the sampling plan were noted.

One groundwater and one surface water duplicate sample pair were collected from the Site during the spring, summer and fall sampling events. One potable well water duplicate pair was also collected from the Site during the summer event. The duplicate pairs were submitted for laboratory analysis of the full suite of analytical parameters. All duplicate data for 2025 are provided in Tables 16, 17 and 18 for groundwater, surface water and potable well water, respectively.

The following table summarizes the duplicate pairs for 2025:

Sampling Event	Duplicate Sample ID	Original Sample ID
Spring 2025 (May 5, 2025)	GW DUP	MW3D
	SW DUP	SWC
Summer 2025 (July 7, 2025)	GW DUP	MW4
	SW DUP	SWB
	RW DUP	6 GDR
Fall 2025 (September 24, 2025)	GW DUP	MW3D
	SW DUP	SWA

Relative per cent difference (RPD) values (the absolute difference between two values divided by the average value and expressed as a per cent) were calculated between the parent sample and the field duplicate as part of the QA/QC program. RPD results of sample and duplicate analyses that are less than 50 percent indicate an acceptable level of analytical uncertainty. RPD values calculated for measured analyte concentrations for sample and duplicate pairs that exceed 50 per cent generally warrant discussion because they may indicate the presence of elevated analytical uncertainty and a potential for making interpretive errors based on the analysis results.

Use of calculated RPD values to assess analytical uncertainty when using measured analyte concentrations for sample and sample duplicate pairs is not appropriate when either measured analyte concentration is within a multiple of 5 of the method detection limit (a value designated as the practical quantification limit (PQL)) where analytical uncertainty is typically elevated.

The calculated RPDs for the original and field duplicate samples have been compared to the performance standards considered acceptable by Pinchin (i.e., 50%). Each of the calculated RPDs met the corresponding performance standard for all 2025 monitoring events with the exception of:

- Aluminum for the surface water sample SWA during the fall event (RPD of 72.73%); and
- Molybdenum for the potable water sample 6GDR during the summer event (RPD of 58.82%).

Upon review of the QA/QC results for spring, summer and fall sampling programs, Pinchin has not identified any significant concerns that would warrant the invalidation of any of the field or laboratory data; therefore, Pinchin considers the data generated as part of this program to be reliable.

The analytical laboratory employed to perform the laboratory analyses (SGS) is accredited by the Standards Council of Canada/Canadian Association for Laboratory Accreditation in accordance with ISO/IEC 17025:1999 – "*General Requirements for the Competence of Testing and Calibration Laboratories*" for the tested parameters and has met the standards for proficiency testing developed by the Standards Council of Canada for parameters set out in the Soil, Ground Water and Sediment Standards.

The laboratory minimum detection limits were reported to be at or lower than the required MECP reporting detection limits for the parameters analyzed. A comparison of the internal laboratory duplicate samples indicates that all samples and the respective duplicates are within acceptable limits.

5.0 CONCLUSIONS

Based on the work completed, the following is a summary of the activities and findings of the 2025 annual monitoring program:

- All groundwater, surface water and potable well water (summer only) sampling locations were monitored during the spring (May 5, 2025), summer (July 7, 2025) and fall (September 24, 2025) sampling events with the exception of potable well 1GDR during the summer event due to the resident not being present at the time of sample collection;
- Groundwater, surface water and potable well water samples were submitted for laboratory analysis of parameters identified by the Client;

- Based on site-specific information, the groundwater quality was assessed based on the ODWQS;
- Based on site-specific information, the surface water quality was assessed based on the PWQO, APV and CWQG;
- Based on site-specific information, the potable well water quality was assessed based on the ODWQS;
- All reported concentrations in the groundwater samples submitted for analysis satisfied the respective ODWQS parameters with the exception of:
    - Hardness (high) at MW1, MW2, MW3D, MW4 and MW7S;
    - Hardness (low) at MW3S, MW5, MW6 and MW7D;
    - Iron at MW2, MW3D, MW4, MW5, MW7S; and
    - Manganese at all locations except MW3S.
- All reported concentrations in the surface water samples submitted for analysis satisfied the respective PWQO, APV and/or CWQG parameters with the exception of:
    - pH (low) at all locations;
    - Aluminum at SWB;
    - Iron at all locations;
    - Phenols at SWB and SWC;
    - Chromium at SWA and SWB;
    - Cobalt at SWA and SWB;
    - Potassium at all locations; and
    - Total phosphorous at SWA and SWB.
- The summer sampling event of 6 Grand Desert Road (6 GDR) quantified exceedances of total hardness (low) and aluminum which are consistent with the historic database and do not present a significant concern originating from the Site;
- All of the quantified groundwater and surface water concentrations are within the range of the historic database and indicate that the landfill is continuing to operate as designed (i.e., as a natural attenuation landfill facility); and
- Guideline B-7 criteria could not be established due to insufficient groundwater elevation data.

6.0 RECOMMENDATIONS

Based on a review of the existing dataset, regulatory requirements and 2025 results obtained from the existing groundwater monitoring wells, surface water locations and potable well water locations, Pinchin recommends the following:

- Continue with routine monitoring of all the available groundwater monitoring wells and surface water monitoring locations tri-annually during the spring, summer and fall of each year and residential water monitoring locations once annually during the summer of each year as per the Site's amended ECA;
- A survey of the top of casing elevations should be completed for each of the groundwater monitoring wells during the next regularly scheduled monitoring event. The top of casing elevations are required to determine the groundwater flow direction at the Site which is necessary in order to accurately evaluate leachate migration from the Site and to properly apply the MECP's Guideline B-7 criteria to evaluate landfill compliance;
- The elevated lead concentration observed at residential monitoring location 1GDR during the summer 2024 event could not be confirmed during the summer 2025 as no sample could be collected. The summer 2024 lead concentration is interpreted to be potentially anomalous; this interpretation should be confirmed during the next regularly scheduled monitoring event (i.e., summer 2026); and
- The Client should continue to ensure that waste disposal operations are conducted in accordance with the Site's 1980 CofA requirements, as well as the applicable current guidelines and regulations for landfilling.

7.0 DISCLAIMER

This water quality monitoring and reporting program was performed for the Township of Bonfield (Client) in order to investigate the environmental condition of the groundwater and surface water at the Bonfield Landfill Site (Site). The term recognized environmental condition means the presence or likely presence of any hazardous substance on a property under conditions that indicate an existing release, past release, or a material threat of a release of a hazardous substance into structures on the property or into the ground, groundwater, or surface water of the property. This 2025 Annual Water Quality Summary Report does not quantify the extent of the current and/or recognized environmental condition or the cost of any remediation.

Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from sample locations. Samples have been analyzed for a limited number of contaminants that are

expected to be present at the Site, and the absence of information relating to a specific contaminant does not indicate that it is not present.

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions on a property. Performance of this 2025 Annual Water Quality Summary Report to the standards established by Pinchin is intended to reduce, but not eliminate uncertainty regarding the potential for recognized environmental conditions on the Site and recognizes reasonable limits on time and cost.

This 2025 Annual Water Quality Summary Report was performed in general compliance with currently acceptable practices for environmental site investigations and specific Client requests as applicable to this Site.

This summary report was prepared for the exclusive use of the Client subject to the conditions and limitations contained within the duly authorized work plan. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it is the responsibility of the third parties. If additional parties require reliance on this report, written authorization from Pinchin will be required. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow up actions and costs. No other warranties are implied or expressed. Furthermore, this report should not be construed as legal advice.

Pinchin will not be responsible for any consequential or indirect damages. Pinchin will only be held liable for damages resulting from the negligence of Pinchin. Pinchin will not be liable for any losses or damage if the Client has failed, within a period of two years following the date upon which the claim is discovered within the meaning of the Limitations Act, 2002 (Ontario), to commence legal proceedings against Pinchin to recover such losses or damage.

Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

8.0 CLOSING REMARKS

We trust that the foregoing information is satisfactory for your present requirements.

Should you have any questions about the report or require additional information, please contact the Project Manager, Meagan Bradley, at 705.521.0560, or by email at mbradley@pinchin.com.

Pinchin Ltd.

Prepared by:

MJ Vincent
Project Technologist

Reviewed by:

Craig Kelly, B.Sc., P.Geo., QP$_{ESA}$
Senior Technical Manager

Encl. Appendix I – Figures
Appendix II – Environmental Compliance Approval
Appendix III – Summary Tables
Appendix IV – Laboratory Certificates of Analysis

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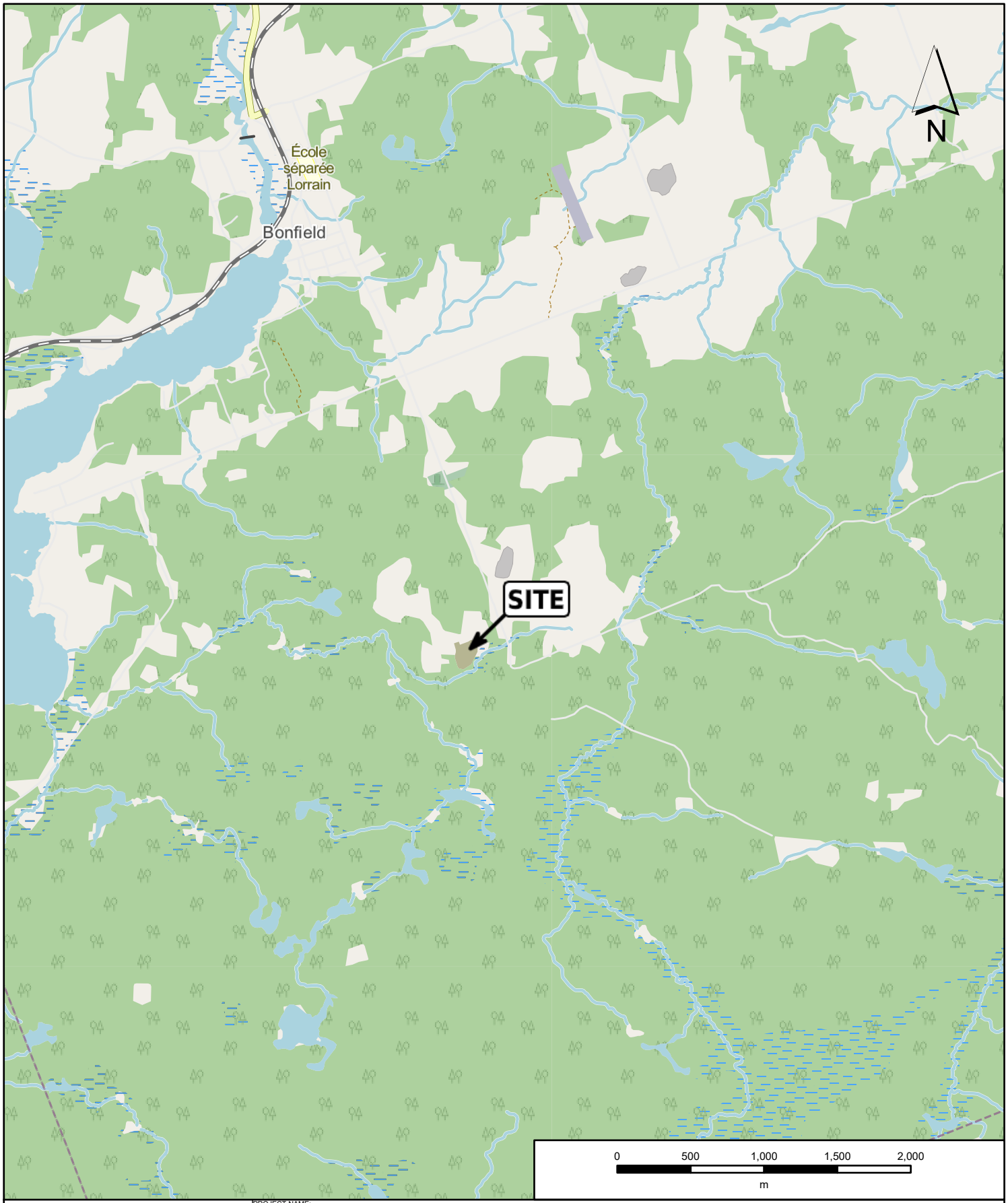
Template: Groundwater Monitoring Report Template, EDR, July 23, 2024

APPENDIX I
Figures



PINCHIN

PROJECT NAME:	2025 ANNUAL WATER QUALITY SUMMARY REPORT
CLIENT NAME:	TOWNSHIP OF BONFIELD
PROJECT LOCATION:	BONFIELD LANDFILL SITE, LOT 10, CONCESSION 5, TOWNSHIP OF BONFIELD, DISTRICT OF NIPISSING, ONTARIO
FIGURE NAME:	KEY MAP
FIGURE NUMBER	1

PROJECT NUMBER:	SCALE:	DRAWN BY:	REVIEWED BY:	DATE:
236957.007	1:50,000	NJ	AV	DECEMBER 2025

N

LEGEND

- APPROXIMATE CURRENT LIMIT OF WASTE
- MONITORING WELL (BEDROCK)
- MONITORING WELL (OVERBURDEN)
- RESIDENTIAL POTABLE WATER WELL
- SURFACE WATER WELL

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

PINCHIN

PROJECT NAME:
2025 ANNUAL WATER QUALITY SUMMARY REPORT

CLIENT NAME:
TOWNSHIP OF BONFIELD

PROJECT LOCATION:
BONFIELD LANDFILL SITE, LOT 10, CONCESSION 5, TOWNSHIP OF BONFIELD, DISTRICT OF NIPISSING, ONTARIO

FIGURE NAME:
SITE PLAN

PROJECT NUMBER:	SCALE:
236957.007	AS SHOWN
DRAWN BY: NJ	REVIEWED BY: AV
DATE: DECEMBER 2025	FIGURE NUMBER: 2

APPENDIX II
Environmental Compliance Approval

212416

DATED THE 24th DAY OF

JUNE, 1980

SEP 10 10 22 AM '80

BETWEEN

THE DIRECTOR

-and-

TOWNSHIP OF BONFIELD

REGISTRY DIVISION OF NIPISSING
NO36 INSTRUMENT RECEIVED
at the Land Registry Office at
North Bay, Ontario under above
number and date.

DEPUTY LAND REGISTRAR

PROVISIONAL CERTIFICATE

OF APPROVAL

UNDER

THE ENVIRONMENTAL

PROTECTION ACT, 1971

LOT 10, CONCESSION 5

TOWNSHIP OF BONFIELD

DISTRICT OF NIPISSING

TOWNSHIP OF BONFIELD

BONFIELD, ONTARIO

PUBLIC

6.2

Ministry of the Environment
Ontario

Provisional Certificate No. 530702

PROVISIONAL CERTIFICATE OF APPROVAL
WASTE DISPOSAL SITE

Under The Environmental Protection Act, 1971 and the regulations and subject to the limitations thereof, this Provisional Certificate of Approval is issued to:

Township of Bonfield
514 Yonge Street
Bonfield, Ontario
P0H 1E0

for the use and operation of a 12 hectare landfilling site

all in accordance with the following plans and specifications:

Located: Lot 10, Concession 5
Township of Bonfield
District of Nipissing

which includes the use of the site only for the disposal of the following categories of waste (NOTE: Use of the site for additional categories of wastes requires a new application and amendments to the Provisional Certificate of Approval) domestic and commercial wastes

and subject to the following conditions:

1. No operation shall be carried out at the site after sixty days from this condition becoming enforceable unless this Certificate including the reasons for this condition has been registered by the applicant as an instrument in the appropriate Land Registry Office against title to the site and a duplicate registered copy thereof has been returned by the applicant to the Director.

Dated this 24th day of June, 1980.

Director, Section 39,
The Environmental Protection Act, 1971

MOE 1408 (10/79)

Ontario Ministry of the Environment

NOTICE

TO: Township of Bonfield
514 Yonge Street
Bonfield, Ontario
P0H 1E0

You are hereby notified that Provisional Certificate of Approval No. A 530702 has been issued to you subject to the conditions outlined therein.

The reasons for the imposition of these conditions are as follows:

The reason for the condition requiring registration of the Certificate is that Section 46 of The Environmental Protection Act, 1971 prohibits any use being made of the lands after they cease to be used for waste disposal purposes within a period of twenty-five years in which such land ceased to be used unless the approval of the Minister for the proposed use has been given . The purpose of this prohibition is to protect future occupants of the site and the environment from any hazards which might occur as a result of waste being disposed of on the site. This prohibition and potential hazard should be drawn to the attention of future owners and occupants by the Certificate being registered on title.

You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board.

This Notice should be served upon:

The Secretary,
Environmental Appeal Board,
1 St. Clair Ave. West,
5th Floor,
Toronto, Ontario.
M4V 1K7

AND

The Director,
Section, 39
Ministry of the Environment,

DATED 24th day of June , 19 80 .

Director,
Section, 39
Ministry of the Environment.

MOE 1044 1/80

APPENDIX III
Summary Tables

TABLE 1
Groundwater Monitoring Location Data
Bonfield Landfill Site
Bonfield, Ontario

Well ID Number	Date (dd/mm/yyyy)	Ground Surface Elevation (masl)	TOC Elevation (masl)	Height of TOC from Ground Surface (m)	Water Level Measurement from TOC (m)	Total Well Depth from TOC (m)	Depth to Groundwater (mbgs)	Calculated Water Level Elevation (masl)	UTM Coordinates			Comments
									Zone	Easting (m)	Northing (m)	
MW1	17/05/2017	-	-	-	3.41	-	-	-	17	643969	5118666	-
	17/08/2017			-	5.10	-	-					-
	10/11/2017			-	5.43	-	-					-
	23/05/2018			-	4.79	-	-					-
	15/08/2018			-	5.49	-	-					-
	10/10/2018			-	5.59	-	-					-
	24/05/2019			0.85	3.55	6.88	2.70					-
	26/07/2019			0.85	4.87	6.75	4.02					-
	25/09/2019			0.70	5.82	6.89	5.12					-
	08/06/2020			0.70	5.00	6.88	4.30					-
	26/08/2020			0.81	5.20	6.85	4.39					-
	21/10/2020			0.80	5.54	7.00	4.74					-
	11/05/2021			0.80	5.15	6.85	4.35					-
	06/08/2021			0.80	5.52	6.85	4.72					-
	05/10/2021			0.80	5.52	7.00	4.72					-
	02/05/2022			0.80	4.99	6.98	4.19					-
	05/08/2022			0.84	5.56	6.84	4.72					Purged Dry
	17/10/2022			0.83	5.92	6.92	5.09					Purged Dry
	10/05/2023			0.80	4.30	6.97	3.50					Purged Dry
	02/08/2023			0.80	5.23	6.97	4.43					Purged Dry
	28/09/2023			0.77	5.59	6.89	4.82					Purged Dry
	16/05/2024			0.79	5.16	6.97	4.37					Purged Dry, poor recovery, clear, no odour
	24/07/2024			0.73	5.12	7.03	4.39					Purged dry, clear no odour
	01/10/2024			0.79	5.56	7.11	4.77					Odour when well lid removed. Purged dry.
	05/05/2025			0.79	5.22	7.06	4.43					Clear, odour, good condition, poor recovery.
	25/07/2025			0.78	4.63	6.84	3.85					Brown, odour, good condition, purged dry.
	24/09/2025			0.77	5.58	6.93	4.81					-
MW2	17/05/2017	-	-	-	1.6	-	-	-	17	644041	5118617	-
	17/08/2017			-	2.18	-	-					-
	10/11/2017			-	2.20	-	-					-
	23/05/2018			-	1.97	-	-					-
	15/08/2018			-	2.41	-	-					-
	10/10/2018			-	2.27	-	-					-
	24/05/2019			0.70	1.54	4.13	0.84					-
	26/07/2019			0.60	2.16	4.33	1.56					-
	25/09/2019			0.61	2.43	4.33	1.82					-
	08/06/2020			0.61	2.15	4.34	1.54					-
	26/08/2020			0.70	2.56	4.41	1.86					-
	21/10/2020			0.67	2.38	4.39	1.71					-
	11/05/2021			0.67	N/A	N/A	N/A					-
	06/08/2021			0.65	2.39	4.32	1.74					-
	05/10/2021			0.66	2.15	4.35	1.49					-
	02/05/2022			0.66	1.91	4.33	1.25					Purged Dry, GW DUP
	05/08/2022			0.67	2.43	4.39	1.76					Purged Dry
	17/10/2022			0.67	2.50	4.33	1.83					Purged Dry
	10/05/2023			0.65	1.72	4.34	1.07					Purged Dry
	02/08/2023			0.65	2.38	4.40	1.73					Purged Dry
	28/09/2023			0.69	2.46	4.67	1.77					Purged Dry
	16/05/2024			0.68	2.05	4.34	1.37					Purged dry, poor recovery, red, no odour
	24/07/2024			0.66	2.06	4.34	1.40					Purged dry, yellow, no odour
	01/10/2024			0.65	2.45	4.44	1.80					Purged dry, yellow, no odour.
	05/05/2025			0.66	1.90	4.33	1.24					Clear, no odour, good condition, poor recovery.
	25/07/2025			0.68	1.95	4.31	1.27					Orange, no odour, good condition, purged dry.
	24/09/2025			0.68	2.55	4.36	1.87					Purged dry.
MW3S	17/05/2017	-	-	-	1.37	-	-	-	17	644076	5118644	-
	17/08/2017			-	1.83	-	-					-
	10/11/2017			-	1.86	-	-					-
	23/05/2018			-	1.60	-	-					-
	15/08/2018			-	2.13	-	-					-
	10/10/2018			-	1.84	-	-					-
	24/05/2019			0.68	1.30	4.01	0.62					-
	26/07/2019			0.59	1.88	4.57	1.29					-
	25/09/2019			0.52	2.07	4.15	1.55					-
	08/06/2020			0.52	1.86	4.50	1.34					-
	26/08/2020			0.68	2.21	4.58	1.53					-
	21/10/2020			0.67	1.98	4.07	1.31					-
	11/05/2021			0.67	N/A	N/A	N/A					-
	06/08/2021			0.70	2.29	4.62	1.59					-
	05/10/2021			0.68	1.77	4.60	1.09					-
	02/05/2022			0.69	1.62	4.57	0.93					Purged Dry
	05/08/2022			0.67	2.05	4.57	1.38					Purged Dry
	17/10/2022			0.67	2.04	4.65	1.37					Purged Dry
	10/05/2023			0.67	1.48	4.58	0.81					Purged Dry
	02/08/2023			0.67	2.02	3.85	1.35					-
	28/09/2023			0.68	2.04	4.63	1.36					Purged Dry
	16/05/2024			0.68	1.72	4.58	1.04					Purged Dry, poor recovery, brown, no odour
	24/07/2024			0.68	1.71	4.68	1.03					Purged dry, casing lid rusted open.
	01/10/2024			0.67	2.07	4.64	1.40					Purged dry, orange colour.
	05/05/2025			0.69	1.62	4.64	0.93					Clear/yellow, no odour, good condition, poor recovery. Short tubing
	25/07/2025			0.71	0.62	4.60	-0.09					Orange, no odour, good condition, poor recovery
	24/09/2025			0.69	2.22	4.57	1.53					-
MW3D	17/05/2017	-	-	-	1.64	-	-	-	17	644076	5118644	-
	17/08/2017			-	2.04	-	-					-
	10/11/2017			-	2.12	-	-					-
	23/05/2018			-	1.90	-	-					-
	15/08/2018			-	2.27	-	-					-
	10/10/2018			-	2.18	-	-					-
	24/05/2019			0.65	1.57	12.04	0.92					-
	26/07/2019			0.57	2.02	12.12	1.45					-
	25/09/2019			0.57	2.27	12.20	1.70					-
	08/06/2020			0.57	2.13	12.15	1.56					-
	26/08/2020			0.65	2.38	12.03	1.73					-
	21/10/2020			0.65	2.26	12.03	1.61					-
	11/05/2021			0.65	2.32	12.18	1.67					-
	06/08/2021			0.66	2.29	12.39	1.63					-
	05/10/2021			0.64	2.13	11.27	1.49					-
	02/05/2022			0.65	1.95	12.14	1.30					-
	05/08/2022			0.66	2.27	12.09	1.61					-
	17/10/2022			0.63	2.37	12.19	1.74					GW DUP
	10/05/2023			0.65	1.77	12.11	1.12					-
	02/08/2023			0.65	2.23	12.24	1.58					-
	28/09/2023			0.67	2.3	12.27	1.63					GW DUP
	16/05/2024			0.58	2.01	12.11	1.43					Cap wont close, good recovery, orange brown, no odour
	24/07/2024			0.62	1.98	12.34	1.36					Casing lid rusted open, purged dry, GW DUP
	01/10/2024			0.62	2.25	12.33	1.63					Casing lid is rusted open, well cap present. GW DUP.
	05/05/2025			0.63	1.94	12.19	1.31					Clear, no odour, ok condition, good recovery. Casing lid is rusted open, well cap present. GW DUP
	25/07/2025			0.67	1.95	12.20	1.28					Clear, no odour, ok condition, good recovery. Casing lid is rusted open
	24/09/2025			0.64	2.34	12.15	1.70					Casing lid is rusted open. GW Dup.

TABLE 1
Groundwater Monitoring Location Data
Bonfield Landfill Site
Bonfield, Ontario

Well ID Number	Date (dd/mm/yyyy)	Ground Surface Elevation (masl)	TOC Elevation (masl)	Height of TOC from Ground Surface (m)	Water Level Measurement from TOC (m)	Total Well Depth from TOC (m)	Depth to Groundwater (mbgs)	Calculated Water Level Elevation (masl)	UTM Coordinates			Comments
									Zone	Easting (m)	Northing (m)	
MW4	17/05/2017	-	-	-	1.34	-	-	-	17	644107	5118701	-
	17/08/2017			-	1.78	-	-					-
	10/11/2017			-	1.89	-	-					-
	23/05/2018			-	1.65	-	-					-
	15/08/2018			-	2.08	-	-					-
	10/10/2018			-	1.95	-	-					-
	24/05/2019			0.89	1.28	4.58	0.39					-
	26/07/2019			0.89	1.71	4.57	0.82					-
	25/09/2019			0.81	2.05	4.57	1.24					-
	08/06/2020			0.81	1.86	4.57	1.05					-
	26/08/2020			0.88	2.13	4.63	1.25					-
	21/10/2020			0.85	2.04	4.57	1.19					-
	11/05/2021			0.85	N/A	N/A	N/A					-
	06/08/2021			0.86	2.03	4.64	1.17					-
	05/10/2021			0.86	1.88	4.58	1.02					-
	02/05/2022			0.86	1.64	4.64	0.78					Purged Dry
	05/08/2022			0.87	1.99	4.63	1.12					GW DUP
	17/10/2022			0.84	2.10	4.63	1.26					-
	10/05/2023			0.88	1.45	4.65	0.57					GW DUP
	02/08/2023			0.88	2.03	4.6	1.15					GW DUP
	28/09/2023			0.82	2.03	4.67	1.21					-
	16/05/2024			0.87	1.75	4.65	0.88					Orange, no odour, GW DUP
	24/07/2024			0.86	1.72	4.68	0.86					Good recovery, grey, no odour
	01/10/2024			0.84	2.03	4.7	1.19					Casing lid is rusted open, well cap present.
	05/05/2025			0.86	1.68	4.64	0.82					Clear, no odour, ok condition, good recovery. Casing lid is rusted open, well cap present.
	25/07/2025			0.88	1.64	4.55	0.76					Orange, no odour, ok condition, good recovery. Casing lid is rusted open, GW DUP
	24/09/2025			0.86	2.10	4.57	1.24					Casing lid is rusted open.
MW5	17/05/2017	-	-	-	6.99	-	-	-	17	643990	5118631	-
	17/08/2017			-	4.19	-	-					-
	10/11/2017			-	4.46	-	-					-
	23/05/2018			-	3.67	-	-					-
	15/08/2018			-	4.27	-	-					-
	10/10/2018			-	4.43	-	-					-
	24/05/2019			0.73	3.02	7.07	2.29					-
	26/07/2019			0.76	3.99	7.03	3.23					-
	25/09/2019			0.75	4.38	6.99	3.63					-
	08/06/2020			0.75	4.79	7.08	4.04					-
	26/08/2020			0.81	4.36	6.87	3.55					-
	21/10/2020			0.81	4.31	7.11	3.50					-
	11/05/2021			0.81	3.92	7.02	3.11					-
	06/08/2021			0.83	4.20	7.05	3.37					-
	05/10/2021			0.83	4.06	7.05	3.23					-
	02/05/2022			0.80	3.76	6.98	2.96					-
	05/08/2022			0.80	4.28	7.09	3.48					Purged Dry
	17/10/2022			0.81	4.42	6.98	3.61					Purged Dry
	10/05/2023			0.82	3.36	5.91	2.54					Purged Dry
	02/08/2023			0.82	4.6	5.92	3.78					Purged Dry
	28/09/2023			0.83	4.31	7.07	3.48					Purged Dry
	16/05/2024			0.77	4.21	5.91	3.44					Orange, no odour, Purged dry
	24/07/2024			-	-	-	-					Tubing stuck
	01/10/2024			0.76	4.53	7.18	3.77					Tubing pulled for measurements. Purged dry.
	05/05/2025			0.81	3.75	6.95	2.94					Orange, no odour, good condition, poor recovery.
	25/07/2025			0.85	4.20	7.11	3.35					Yellow, no odour, good condition, purged dry.
	24/09/2025			0.85	4.45	7.11	3.60					-
MW6	17/05/2017	-	-	-	1.38	-	-	-	17	644013	5118576	-
	17/08/2017			-	1.91	-	-					-
	10/11/2017			-	1.88	-	-					-
	23/05/2018			-	1.55	-	-					-
	15/08/2018			-	1.15	-	-					-
	10/10/2018			-	1.79	-	-					-
	24/05/2019			0.64	1.29	4.12	0.65					-
	26/07/2019			0.56	2.04	4.23	1.48					-
	25/09/2019			0.54	2.06	4.17	1.52					-
	08/06/2020			0.54	1.82	4.25	1.28					-
	26/08/2020			0.62	2.15	4.18	1.53					-
	21/10/2020			0.61	1.94	4.24	1.33					-
	11/05/2021			0.61	1.70	4.18	1.09					-
	06/08/2021			0.65	1.99	4.17	1.34					-
	05/10/2021			0.65	1.73	4.29	1.08					-
	02/05/2022			0.64	1.56	4.16	0.92					Purged Dry
	05/08/2022			0.63	2.04	4.28	1.41					Purged Dry
	17/10/2022			0.63	1.99	4.25	1.36					Purged Dry
	10/05/2023			0.64	1.72	4.34	1.08					Purged Dry
	02/08/2023			0.64	2.09	4.17	1.45					Purged Dry
	28/09/2023			0.62	2.11	4.32	1.49					Purged Dry
	16/05/2024			0.62	1.94	4.34	1.32					Purged dry, yellow, no odour, poor recovery.
	24/07/2024			0.6	1.71	4.33	1.11					Purged dry, yellow, no odour
	01/10/2024			0.59	2.15	4.33	1.56					Purged dry, yellow, no odour
	05/05/2025			0.63	1.57	4.29	0.94					Orangeish, no odour, good condition, poor recovery.
	25/07/2025			0.68	1.58	4.14	0.90					Brown, no odour, good condition, purged dry.
	24/09/2025			0.63	2.27	4.08	1.64					-
MW7S	17/05/2017	-	-	-	2.52	-	-	-	17	644218	5118818	-
	17/08/2017			-	3.16	-	-					-
	10/11/2017			-	3.37	-	-					-
	23/05/2018			-	2.99	-	-					-
	15/08/2018			-	3.66	-	-					-
	10/10/2018			-	3.59	-	-					-
	24/05/2019			0.55	2.45	4.43	1.90					-
	26/07/2019			0.48	3.21	4.40	2.73					-
	25/09/2019			0.48	3.59	4.41	3.11					-
	08/06/2020			0.48	3.34	4.45	2.86					-
	26/08/2020			0.56	3.79	4.43	3.23					-
	21/10/2020			0.57	3.71	4.50	3.14					-
	11/05/2021			0.57	3.29	4.43	2.72					-
	06/08/2021			0.50	3.62	4.50	3.12					-
	05/10/2021			0.56	3.46	4.50	2.90					-
	02/05/2022			0.47	2.98	4.47	2.51					-
	05/08/2022			0.56	3.50	4.47	2.94					Purged Dry
	17/10/2022			0.56	3.70	4.50	3.14					Purged Dry
	10/05/2023			0.55	2.73	4.52	2.18					Purged Dry
	02/08/2023			0.55	3.42	4.32	2.87					Purged Dry
	28/09/2023			0.55	3.63	4.37	3.08					Purged Dry
	16/05/2024			0.55	3.26	4.52	2.71					Orange, no odour, okay recovery
	24/07/2024			0.54	3.29	4.81	2.75					Good recovery, orange, has odour
	01/10/2024			0.53	3.66	4.54	3.13					Purged dry, orange colour.
	05/05/2025			0.55	3.1	4.48	2.55					Clear, no odour, good condition, poor recovery.
	25/07/2025			0.56	3.07	4.38	2.51					Clear, no odour, good condition, purged dry.
	24/09/2025			0.56	3.71	4.44	3.15					-

TABLE 1
Groundwater Monitoring Location Data
Bonfield Landfill Site
Bonfield, Ontario

Well ID Number	Date (dd/mm/yyyy)	Ground Surface Elevation (masl)	TOC Elevation (masl)	Height of TOC from Ground Surface (m)	Water Level Measurement from TOC (m)	Total Well Depth from TOC (m)	Depth to Groundwater (mbgs)	Calculated Water Level Elevation (masl)	UTM Coordinates			Comments
									Zone	Easting (m)	Northing (m)	
MW7D	17/05/2017	-	-	-	2.61	-	-	-	17	644218	5118818	-
	17/08/2017			-	3.17	-	-					-
	10/11/2017			-	3.46	-	-					-
	23/05/2018			-	3.65	-	-					-
	15/08/2018			-	3.50	-	-					-
	10/10/2018			-	3.63	-	-					-
	24/05/2019			0.67	2.57	8.42	1.90					-
	26/07/2019			0.57	3.26	8.53	2.69					-
	25/09/2019			0.56	3.65	8.54	3.09					-
	08/06/2020			0.56	3.45	8.54	2.89					-
	26/08/2020			0.64	3.80	8.40	3.16					-
	21/10/2020			0.70	3.80	8.50	3.10					-
	11/05/2021			0.70	3.38	8.44	2.68					-
	06/08/2021			0.68	3.62	8.62	2.94					-
	05/10/2021			0.65	3.50	8.51	2.85					-
	02/05/2022			0.65	3.05	8.47	2.40					-
	05/08/2022			0.65	3.55	8.37	2.90					-
	17/10/2022			0.65	3.72	8.62	3.07					-
	10/05/2023			0.64	2.82	8.40	2.18					-
	02/08/2023			0.64	3.47	8.40	2.83					-
	28/09/2023			0.64	3.66	8.57	3.02					-
	16/05/2024			0.56	3.17	8.40	2.61					Clear, no odour, good recovery, cap wont close
	24/07/2024			0.65	3.32	8.62	2.67					good recovery, clear, no odour
	01/10/2024			0.62	3.71	8.73	3.09					Casing lid is rusted open, well cap present.
	05/05/2025			0.65	3.20	8.61	2.55					yellow, no odour, ok condition, good recovery.
	25/07/2025			0.65	3.19	8.40	2.54					Clear, no odour, well casing rusted open.
	24/09/2025			0.65	3.73	8.48	3.08					Lid stuck open.

Notes:

mbgs	Meters below ground surface
masl	Meters above sea level
m	Meters
TOC	Top of casing
-	No data available

TABLE 2
Groundwater Quality Results - MW1
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																												ODWQS
		Sample Collection Date (dd/mm/yyyy)																												
		MW1																												
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	337	723	754	346	682	833	-	-	-	-	-	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	**6.30**	**6.37**	**6.08**	6.84	7.21	6.87	-	-	-	-	-	7.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**106**	**291**	**203**	**118**	**263**	**298**	85	**420**	**440**	**270**	**260**	**430**	90	**138**	**373**	**248**	**220**	**283**	**174**	**238**	**312**	**173**	**350**	**566**	**153**	**232**	**472**	80 - 100
Total Dissolved Solids	mg/L	223	**503**	**540**	240	**540**	**548**	-	-	-	-	-	**800**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	7	20	20	6.43	56	29	5	14	42	11	30	48	6	6	29	7	4	9	5	5	10	5	31	26	4	6	33	250
Ammonia (Total)	mg/L	<0.1	0.20	<0.1	-	-	<0.02	<0.050	<0.050	0.069	0.09	0.061	<0.050	< 0.04	<0.1	<0.04	0.05	< 0.04	0.06	< 0.04	0.04	0.06	< 0.04	0.08	< 0.1	-	-	< 0.1	-
Ammonia as N	mg/L	-	-	-	0.08	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-
Ammonium - NH4	mg/L	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	**8**	**11**	**15**	**12.4**	**10.8**	**14.1**	-	-	-	-	-	**16**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	**0.28**	**0.40**	**0.60**	**0.38**	**0.66**	**0.89**	-	-	-	-	-	**19**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.5	0.60	0.60	0.46	0.66	0.89	0.58	0.49	1.3	0.5	<0.50	<1.0 (1)	0.49	0.55	0.57	0.48	0.5	0.5	0.49	0.51	0.65	0.41	0.63	0.8	< 0.5	0.5	1.1	-
Phenols	mg/L	<0.002	<0.002	0.00400	0.00	<0.001	0.00	<0.0010	0.001	0.0014	<0.0010	<0.0010	<0.0010	< 0.002	<0.002	<0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	33.40	92.80	62.80	37.60	85.40	96.80	28.00	140.00	150.00	89.00	87.00	140.00	48.80	45.10	123.00	81.5	73.7	92.7	57.3	78.6	105	54.8	113	186	50.8	75.8	153	-
Magnesium	mg/L	5.41	14.40	11.30	5.83	12.10	13.70	3.60	18.00	19.00	12.00	11.00	18.00	5.88	6.26	16.20	10.7	8.72	12.4	7.45	10.3	12.3	8.68	16.4	24.7	6.48	10.4	21.6	-
Sodium	mg/L	19.80	31.80	28.80	22.70	23.90	36.50	25.00	27.00	51.00	32.00	35.00	55.00	30.30	20.60	40.70	37.2	17.1	22.2	27.6	20	24.5	20.9	16.4	35	24.8	14.4	40	200
Potassium	mg/L	1.93	3.30	2.89	2.36	2.90	3.75	1.80	3.30	4.20	3.10	3.80	5.30	3.75	3.33	5.92	5.49	5.23	6.55	4.84	5.63	6.4	5	6.96	9.59	5.30	5.88	10.3	-
Aluminium	mg/L	**0.15**	0.05	0.06	0.04	0.03	0.04	-	0.06	0.03	0.03	0.02	0.03	0.03	**0.11**	0.02	0.029	0.031	0.03	0.031	0.031	0.037	0.023	0.02	0.031	0.022	0.025	0.038	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.0009	<0.00009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.00410	0.00410	0.01	<0.003	<0.003	<0.003	<0.001	0.00120	0.00150	<0.001	0.00	0.00110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.06	0.16	0.16	0.04	0.13	0.16	0.04	0.16	0.23	0.13	0.12	0.26	0.09	0.08	0.29	0.161	0.129	0.191	0.11	0.132	0.206	0.103	0.198	0.379	0.0990	0.132	0.352	1
Beryllium	mg/L	0.00	0.00	0.00	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.00001	0.00003	0.00002	0.000017	0.00002	0.00003	0.000039	0.000023	0.000033	0.000018	0.000023	0.000029	0.000015	0.000017	0.000025	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.62	1.00	1.95	1.21	1.24	2.49	1.00	0.91	2.90	1.10	1.30	2.00	0.98	0.88	1.66	1.48	1.3	1.08	2.27	1.48	1.6	1.36	1.26	2.67	1.40	1.06	2.83	5
Cadmium	mg/L	0.00006	0.00019	0.00022	<0.0001	<0.001	<0.002	<0.0001	<0.0001	0.00013	<0.00009	<0.00009	<0.00009	0.00004	0.00003	0.00012	0.000062	0.000038	0.000063	0.000044	0.000042	0.000076	0.000025	0.000049	0.000096	0.000417	0.000046	0.000066	0.005
Chromium	mg/L	0.00097	0.00078	0.00051	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00058	0.00062	0.00048	0.00056	0.00059	0.00057	0.00065	0.00102	0.00049	0.00035	0.00047	0.00059	0.00051	0.00049	0.00063	0.05
Cobalt	mg/L	0.00045	0.00076	0.00081	<0.0005	<0.001	<0.001	<0.0005	0.00057	0.00063	<0.0005	<0.0005	0.00068	0.00035	0.00032	0.00051	0.000462	0.000274	0.000345	0.000361	0.000315	0.000392	0.000309	0.000341	0.000493	0.000279	0.000256	0.000494	-
Copper	mg/L	0.00213	0.00261	0.00280	0.00400	0.00400	0.00500	0.00880	0.00440	0.00500	0.01000	0.00470	0.00540	0.00470	0.00470	0.00480	0.0062	0.0052	0.0063	0.0061	0.0063	0.0068	0.006	0.006	0.008	0.006	0.005	0.008	1
Iron	mg/L	0.29800	0.04400	0.01600	<0.010	<0.010	<0.010	0.30000	<0.1	<0.1	<0.1	<0.1	<0.1	0.05300	0.22700	0.01400	0.037	0.034	0.013	0.062	**0.666**	0.048	0.039	0.01	0.023	0.011	0.041	0.091	0.3
Lead	mg/L	0.00006	0.00002	0.00004	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	0.00013	<0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	0.00020	0.00020	0.00020	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.0001	0.00020	0.00020	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	-
Manganese	mg/L	**0.072**	**0.289**	**0.390**	**0.055**	**0.171**	**0.199**	0.022	**0.170**	**0.200**	**0.120**	**0.130**	**0.230**	**0.059**	**0.0514**	**0.135**	**0.121**	**0.12**	**0.129**	0.0395	**0.0906**	**0.125**	0.0359	**0.0688**	**0.132**	0.0176	0.035	**0.1**	0.05
Molybdenum	mg/L	0.00009	0.00005	0.00012	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	0.00022	0.00021	0.00027	0.0003	0.00026	0.00021	0.0003	0.00032	0.00029	< 0.0004	< 0.0004	0.0004	0.0005	< 0.0004	0.0004	-
Nickel	mg/L	0.00100	0.00210	0.00220	<0.003	<0.003	<0.003	0.00140	<0.001	0.00220	0.00110	0.00120	0.00170	0.00070	0.00400	0.00150	0.0012	0.0009	0.0008	0.001	0.0123	0.0014	0.0006	0.0009	0.0015	0.0006	0.0006	0.0015	-
Total Phosphorus	mg/L	0.01600	<0.003	<0.003	<0.05	<0.05	<0.05	0.13000	0.13000	<0.1	<0.1	<0.1	<0.020	0.14000	0.14000	0.34000	0.2	< 0.03	0.04	0.08	0.3	0.47	0.83	0.66	0.34	0.22	0.28	0.29	-
Selenium	mg/L	0.00021	0.00072	0.00046	<0.004	0.00700	0.00400	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00024	0.00032	0.00017	0.00032	0.00031	0.00026	0.00043	0.00074	0.00054	0.00029	0.00117	0.00055	0.00036	0.00033	0.00045	0.05
Silicon	mg/L	2.71	2.86	3.42	1.30	1.69	2.38	1.30	1.90	2.00	1.60	1.70	2.00	1.58	1.62	1.51	1.61	1.56	-	< 0.00005	1.74	1.84	1.37	1.45	1.88	1.32	1.61	1.97	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	1.58	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	<0.000005	0.00002	0.00005	<0.0003	<0.006	<0.006	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	0.00005	0.00003	0.00004	0.00004	0.000043	0.000036	0.000047	0.000035	0.000032	0.000041	0.000033	0.000039	0.000058	0.000026	0.000028	0.000058	-
Tin	mg/L	0.00018	0.00014	0.00011	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00009	0.00022	-	0.00011	-	-	0.00011	0.00013	0.00012	0.00009	< 0.00006	0.00007	< 0.00006	0.00007	0.00008	-
Titanium	mg/L	0.00803	0.00042	0.00045	0.00300	0.00300	0.00600	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00097	0.00648	0.00051	0.00045	0.00076	0.00028	0.00108	0.00037	0.00068	0.0006	0.0003	0.0004	0.0004	0.0006	0.0007	-
Uranium	mg/L	0.00015	0.00020	0.00021	<0.002	<0.002	<0.002	0.00022	0.00070	0.00059	0.00052	0.00046	0.00066	0.00034	0.00049	0.00087	0.000909	0.000951	0.000898	0.0007	0.000872	0.00116	0.00135	0.00215	0.00433	0.00118	0.00176	0.00405	0.02
Vanadium	mg/L	0.00023	0.00008	0.00007	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00009	0.00021	0.00090	0.00011	0.00009	0.0001	0.00012	0.0001	0.00009	0.00009	0.00011	0.00012	0.00007	0.00011	0.00012	-
Zinc	mg/L	0.00600	0.00700	0.00500	<0.005	<0.005	0.00900	<0.005	0.00630	<0.005	<0.005	<0.005	<0.005	0.00400	0.00500	0.00200	0.004	0.003	0.003	0.003	0.003	0.004	0.002	< 0.002	0.002	< 0.002	0.002	0.011	5
Field Measurements																													
Temperature	oC	16.20	16.40	12.20	-	-	-	10.02	15.2	15	12.4	13.2	11.21	6.65	16.5	11.8	9.3	14.4	9.2	9.3	10.6	11.4	11	12.5	15.2	9.5	11.6	12.1	-
pH	pH Units	-	5.63	6.08	-	-	-	5.77	6.69	6.12	6.86	5.84	6.3	6.34	5.79	6.1	6.16	6.74	6.52	5.88	6.77	6.86	6.58	6.6	6.7	6.36	6.95	6.24	-
Conductivity	uS/cm	-	802.00	661.00	-	-	-	281	722	932	108.7	548	772	240	156.1	790	444.6	417.7	433.5	455.4	402.1	497.8	310.7	640	946	210.3	404.2	1174	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	141.4	77.1	109.4	325.3	181	225.5	140	109.2	103	99.7	65.4	69.1	68	155.2	232.1	135.1	70.3	136.9	144.3	64.3	284.9	-
Dissolved Oxygen	mg/L	6.70	-	5.42	-	-	-	10.24	4.1	8.26	1.77	8.02	10.94	4.47	2.5	5.9	7.07	3.11	6.82	7.49	4.06	9.56	10.91	14.82	10.72	7.04	9.98	0.73	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 3
Groundwater Quality Results - MW2
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																											ODWQS
		Sample Collection Date (dd/mm/yyyy)																											
		MW2																											
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	228	286	299	312	259	281	-	-	-	-	-	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	6.83	7.49	6.51	7.32	7.45	6.96	-	-	-	-	-	6.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**135**	**138**	**102**	**150**	**111**	**106**	**120**	**120**	**110**	**130**	**110**	**120**	90	**129**	**107**	**131**	**136**	**131**	**134**	**131**	**139**	**144**	**141**	**146**	**148**	**150**	**132**	80 - 100
Total Dissolved Solids	mg/L	183	-	183	194	172	172	-	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	7.0	7.0	6.0	4.68	4.52	4.62	6.6	6.0	4.5	5.6	6.2	7.2	5	5	5	2	5	3	3	5	7	17	26	23	31	31	37	250
Ammonia (Total)	mg/L	0.6	0.8	1	-	-	-	0.78	0.73	1.2	0.74	0.93	1.1	0.66	0.7	0.63	0.34	0.67	0.66	0.39	0.44	0.58	0.39	0.44	0.6	-	-	0.6	-
Ammonia as N	mg/L	-	-	-	0.77	0.99	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.5	-	-
Ammonium - NH4	mg/L	-	-	-	0.98	1.3	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	**6.0**	**6.0**	**7.0**	**5.4**	**7.0**	**8.1**	-	-	-	-	-	**6.8**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	**0.36**	<0.5	<0.5	**0.22**	**0.33**	**0.25**	-	-	-	-	-	**1.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	0.9	1.1	<0.5	0.99	1.32	1.37	0.91	92.00	1.3	0.95	1.2	1.2	0.83	0.92	0.71	0.7	0.88	0.94	0.66	0.71	0.78	0.65	0.74	0.8	0.6	1	1	-
Phenols	mg/L	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.002	<0.002	<0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	48.5	48.8	35.1	52.9	38.0	36.2	42.0	42.0	38	46.0	37.0	42	49.8	45.5	38	46.7	47.7	46.6	47.6	46.6	49.5	51.3	50.6	51.8	52.8	53.8	45.7	-
Magnesium	mg/L	3.37	3.8	3.36	4.39	3.87	3.79	3.6	3.60	3.8	3.8	3.60	4	3.86	3.72	2.86	3.4	4.03	3.47	3.65	3.43	3.69	3.96	3.68	4.07	3.94	3.91	4.23	-
Sodium	mg/L	2.54	2.89	2.3	2.53	3.00	2.76	2.5	3.00	3	3.0	3.10	3.3	3.25	3.37	3.69	3.35	3.85	3.55	3.18	3.37	4.17	6.37	4.69	5.88	8.76	10.8	5.57	200
Potassium	mg/L	4.83	5.11	4.89	4.83	5.01	5.19	4.20	4.80	4.7	4.20	4.40	4.8	4.72	5.34	3.98	3.41	4.69	4.35	4.59	4.96	4.41	4.24	5.64	5.66	4.49	4.85	4.84	-
Aluminium	mg/L	0.024	0.035	0.028	0.026	0.038	0.029	-	0.026	0.028	0.034	0.027	0.029	0.034	0.083	0.009	0.007	**0.495**	0.009	0.017	0.012	0.016	0.007	0.008	0.007	0.014	0.014	0.019	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.0009	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0009	0.0009	0.001	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.0496	0.0583	0.0487	0.036	0.053	0.052	0.048	0.050	0.054	0.053	0.052	0.056	0.0581	0.0488	0.0458	0.0297	0.081	0.0492	0.0473	0.0485	0.05	0.0455	0.0502	0.0606	0.0568	0.0578	0.0608	1
Beryllium	mg/L	0.00003	0.00002	0.00002	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000014	0.000016	<0.000007	< 0.000007	0.000051	0.00001	0.000023	0.000016	0.000019	0.00001	0.00001	0.000013	0.000009	0.000012	0.000011	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.068	0.08	0.148	0.065	0.069	0.081	0.06	0.067	0.067	0.06	0.059	0.065	0.06	0.078	0.071	0.057	0.119	0.097	0.077	0.078	0.105	0.076	0.106	0.102	0.071	0.08	0.138	5
Cadmium	mg/L	0.00001	0.00003	0.00003	<0.0001	<0.001	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000014	0.000013	0.000036	0.000005	0.00003	0.000009	0.000029	0.000008	0.000008	0.000008	0.000013	0.000021	0.000056	0.00001	0.000011	0.005
Chromium	mg/L	0.00109	0.00125	0.00091	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00099	0.00068	0.00034	0.00021	0.00157	0.00021	0.00039	0.00039	0.00041	0.00021	0.00027	0.00027	0.00035	0.00045	0.00051	0.05
Cobalt	mg/L	0.00154	0.00215	0.00217	0.0018	0.002	0.002	0.0019	0.002	0.0019	0.0018	0.002	0.002	0.00202	0.00166	0.000972	0.00062	0.00249	0.000997	0.00133	0.00131	0.00153	0.00109	0.000885	0.00108	0.00132	0.00149	0.00179	-
Copper	mg/L	0.00047	0.00056	0.00068	<0.002	<0.003	<0.003	<0.001	<0.001	0.0011	<0.0009	<0.0009	<0.0009	0.0004	0.0014	0.0012	0.0019	0.0027	0.0019	0.0006	0.0012	0.0013	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001	1
Iron	mg/L	**4.3**	**7.07**	**5.76**	**5.47**	**6.88**	**7.38**	**7.4**	**7.70**	**8.5**	**7.0**	**10.0**	**9**	**6.63**	**5.18**	**2.89**	**0.616**	**11.3**	**2.91**	**4.56**	**4.74**	**6.35**	**3.36**	**1.11**	**3.39**	**4.43**	**5.92**	**8.07**	0.3
Lead	mg/L	0.00001	0.00005	0.00002	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	0.00011	<0.00009	< 0.00009	0.00045	< 0.00009	< 0.00009	< 0.00009	0.00036	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	<0.0001	0.0001	0.0002	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.0001	0.0002	0.0001	< 0.0001	0.0004	0.0001	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0002	< 0.0001	0.0001	0.0002	-
Manganese	mg/L	**0.637**	**0.9**	**1.09**	**1.06**	**1.29**	**1.24**	**0.900**	**0.99**	**1.2**	**0.910**	**1.10**	**1.3**	**1.04**	**0.938**	**0.49**	**0.349**	**1.07**	**0.525**	**0.883**	**0.662**	**0.912**	**0.537**	**0.744**	**0.92**	**0.734**	**0.654**	**0.931**	0.05
Molybdenum	mg/L	0.00029	0.00029	0.00036	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	0.00031	0.00033	0.00032	0.00036	0.00024	0.00034	0.00038	0.00028	0.00027	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	-
Nickel	mg/L	0.0005	0.0006	0.0005	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	0.0006	0.0042	0.0004	0.0005	0.001	0.0004	0.0004	0.0005	0.0008	0.0004	0.0007	0.0008	0.0005	0.0006	0.0006	-
Total Phosphorus	mg/L	0.006	0.003	0.009	<0.05	<0.05	<0.05	0.11	0.12	<0.1	<0.1	<0.1	<0.020	0.16	2.25	0.48	5.96	0.62	2.78	0.44	4.03	1.12	1.52	3.87	1.43	0.20	0.49	0.44	-
Selenium	mg/L	0.00015	0.0001	0.00012	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00006	0.00008	0.00006	0.00019	0.00015	0.00009	0.00014	0.00012	0.00007	0.00008	0.00016	0.00007	0.00009	0.0001	0.00009	0.05
Silicon	mg/L	4.01	3.74	4.98	2.75	3.65	4.86	3.40	3.60	4	3.20	3.60	4.1	3.31	3.14	2.27	2.12	3.84	-	< 0.00005	3.1	3.24	2.64	2.85	3.23	2.94	2.9	3.37	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	3.06	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.00001	0.00003	0.00003	<0.0003	<0.006	<0.006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000011	0.000021	0.00008	0.000013	0.000032	0.000021	0.000016	0.000016	0.000017	0.000018	0.000014	0.000015	0.000013	0.000019	0.00002	-
Tin	mg/L	0.00025	0.00023	0.00012	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00006	0.00008	-	0.00009	-	-	0.00009	0.00007	0.00007	0.00007	0.00008	< 0.00006	< 0.00006	0.00007	< 0.00006	-
Titanium	mg/L	0.00256	0.00721	0.00386	0.004	0.004	0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00239	0.00936	0.00122	0.00274	0.04088	0.00161	0.00132	0.00154	0.00154	0.0011	0.0018	0.0005	0.0010	0.0008	0.0015	-
Uranium	mg/L	0.00018	0.00179	0.00027	<0.002	<0.002	<0.002	<0.0001	0.00019	0.00012	0.00018	<0.0001	0.00013	0.000182	0.000464	0.000255	0.000455	0.000833	0.000397	0.00031	0.000265	0.000209	0.000323	0.00027	0.000358	0.000238	0.000249	0.000162	0.02
Vanadium	mg/L	0.00158	0.0017	0.00197	<0.002	0.002	0.003	0.0016	0.002	0.002	0.0013	0.002	0.0022	0.00183	0.00104	0.00056	0.00024	0.00297	0.0006	0.00116	0.00077	0.00103	0.00047	0.00031	0.00049	0.00075	0.00089	0.00103	-
Zinc	mg/L	0.008	0.008	0.005	<0.25	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	0.003	0.009	0.007	0.006	0.002	< 0.002	0.004	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.009	5
Field Measurements																													
Temperature	oC	8.8	11.6	9.9	-	-	-	6.88	10.3	10.3	6.7	10.3	8.68	4.92	15	11.5	4.9	9.2	9.2	7.5	16.7	12.2	7.6	9.5	11	7	9.6	11.4	-
pH	pH Units	-	6.8	6.5	-	-	-	5.47	6.97	6.33	6.32	5.93	6.16	6.23	6.53	6.48	6.18	6.61	6.66	6.13	7.1	8.22	6.89	6.33	5.78	8.07	5.99	6.33	-
Conductivity	uS/cm	-	331	381	-	-	-	241	206.6	230.3	326.1	208.4	200	168	239.9	232	190.8	243.7	215.3	209.3	260.8	77.3	217.1	262	0.3601	283.6	265.3	372.5	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	140.2	9.5	10.8	244.4	18.4	157.7	66.2	63	22.8	44.8	19.3	14.0	74.6	15.4	232.7	83.4	68.8	274.9	-218.1	68.7	289.4	-
Dissolved Oxygen	mg/L	5.54	-	0.56	-	-	-	4.66	1.61	1.57	2.39	1.6	5.18	4.82	6.1	2.57	6.75	1.64	5.24	6	3.11	8.85	19.55	5.31	3.24	0.21	2.93	1.09	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 4
Groundwater Quality Results - MW3S
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																										ODWQS
		Sample Collection Date (dd/mm/yyyy)																										
		MW3S																										
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	175	173	180	163	165	181	-	-	-	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.52	8	7.4	7.13	8.04	7.16	-	-	-	-	-	7.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**60.8**	**62.9**	**50.5**	**61.2**	**57.9**	**55.2**	**62**	**62.0**	**61**	**61**	**63**	**64**	**66**	**63.5**	**57.8**	**63.3**	**62.1**	**62.8**	**56.1**	**57.4**	**55.5**	**53.5**	**55.1**	**56.4**	**56.7**	**57.4**	**57.1**	80 - 100
Total Dissolved Solids	mg/L	114	114	114	92	92	94	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	2	3	3	2.93	2.55	2.44	2	3.10	2.5	6.2	2.1	2	3	2	2	2	1	3	1	< 1	2	13	3	1	2	2	1	250
Ammonia (Total)	mg/L	<0.1	0.1	<0.1	-	-	-	<0.050	<0.050	0.054	0.11	<0.050	<0.050	0.04	<0.1	<0.04	< 0.04	< 0.04	0.04	< 0.04	0.04	0.05	< 0.04	< 0.04	< 0.1	-	-	< 0.1	-
Ammonia as N	mg/L	-	-	-	0.08	0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-
Ammonium - NH4	mg/L	-	-	-	0.1	0.024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	2	1	3	1.8	2.6	3.4	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	0.13	<0.5	<0.5	<0.10	**0.33**	**0.36**	-	-	-	-	-	**0.59**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.5	<0.5	<0.5	<0.10	0.35	0.36	0.3	0.28	0.2	0.16	0.24	0.42	< 0.05	0.23	0.06	< 0.05	0.09	0.18	0.06	0.07	< 0.05	0.07	< 0.05	< 0.5	< 0.5	< 0.5	< 0.5	-
Phenols	mg/L	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	0.0014	0.0012	<0.0010	<0.0010	< 0.002	<0.002	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	15.7	15.9	13.2	15.8	15.3	14.3	16.0	16.0	16	16.0	17.0	17	17.8	17.1	8.7615.4	17.2	17.1	16.7	14.7	15.2	14.8	14.2	14.7	14.9	15.2	15.5	15.2	-
Magnesium	mg/L	5.28	5.62	4.29	5.29	4.79	4.74	5.2	5.10	4.9	5.0	5.00	5.3	5.22	5.04	4.7	4.94	4.74	5.13	4.72	4.72	4.5	4.4	4.49	4.68	4.55	4.55	4.66	-
Sodium	mg/L	8.61	9.79	7.75	7.98	8.24	9.19	7.4	8.60	8.6	8.3	8.60	9.6	8.72	8.21	8.76	8.32	7.77	8.5	7.54	7.81	7.4	7.08	6.76	7.81	6.21	7.54	7.2	200
Potassium	mg/L	5.24	5.42	4.92	5.18	5.00	5.24	5.00	5.30	5.1	4.60	5.20	5.4	5.47	5.81	5.3	5.22	5.37	5.66	4.77	5.3	4.97	4.75	5.02	5.41	4.83	5.05	5.2	-
Aluminium	mg/L	0.008	0.02	0.003	0.015	0.011	0.013	-	0.011	0.006	**0.230**	0.017	0.0085	0.057	0.03	0.013	0.015	0.01	0.004	0.017	0.008	0.048	0.009	0.007	0.004	**0.113**	0.007	0.019	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.0009	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0004	0.0003	0.0003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.0013	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.0177	0.0194	0.0225	0.013	0.017	0.021	0.032	0.019	0.018	0.025	0.019	0.022	0.0235	0.0211	0.0231	0.0236	0.0289	0.0247	0.0169	0.018	0.0199	0.0179	0.019	0.0212	0.0208	0.0169	0.0197	1
Beryllium	mg/L	<0.000007	<0.000007	<0.000007	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	< 0.000007	<0.000007	<0.000007	< 0.000007	< 0.000007	< 0.000007	0.000011	< 0.000007	0.000008	< 0.000007	< 0.000007	< 0.000007	0.000009	< 0.000007	< 0.000007	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.063	0.065	0.074	0.048	0.055	0.075	0.05	0.052	0.056	0.04	0.050	0.061	0.058	0.059	0.23	0.036	0.065	0.067	0.045	0.048	0.051	0.043	0.05	0.079	0.060	0.046	0.064	5
Cadmium	mg/L	0.000008	<0.000003	0.000005	<0.0001	<0.001	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000009	0.000003	0.000033	0.000004	0.000003	0.000005	0.000013	0.000004	0.000006	0.000005	0.000008	0.000008	0.000116	0.000011	0.000006	0.005
Chromium	mg/L	0.00061	0.00061	0.00019	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00045	0.0004	0.00035	0.00031	0.00034	0.00038	0.00031	0.00042	0.00041	0.00038	0.00033	0.00027	0.00056	0.00021	0.00041	0.05
Cobalt	mg/L	0.000224	0.00006	0.00004	<0.0005	<0.001	<0.001	0.00062	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	0.00009	0.000064	0.000045	0.000046	0.000028	0.000049	0.000046	0.000053	0.000068	0.000044	0.000044	0.000037	0.000102	0.000064	0.000049	-
Copper	mg/L	0.00114	0.00104	0.0012	<0.002	<0.003	<0.003	0.003	0.0027	0.0013	0.007	0.0013	0.0038	0.0016	0.0023	0.0019	0.0031	0.0013	0.0011	0.0013	0.0032	0.0023	0.001	0.001	0.002	0.001	0.004	0.001	1
Iron	mg/L	0.035	0.033	<0.007	<0.010	<0.010	<0.010	**0.69**	<0.1	<0.1	**0.37**	<0.1	<0.1	0.068	0.058	0.014	0.021	0.022	0.024	0.032	0.025	0.066	0.02	0.015	0.013	0.129	0.02	0.029	0.3
Lead	mg/L	0.00001	0.00002	<0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	<0.00009	<0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	0.0001	0.0001	0.0002	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.0001	0.0002	0.0002	< 0.0001	0.0001	0.0002	0.0001	0.0001	0.0003	0.0002	0.0003	0.0003	0.0002	0.0001	0.0001	-
Manganese	mg/L	**0.176**	0.00307	0.00214	<0.002	<0.002	0.007	0.050	0.004	<0.002	0.017	0.003	0.002	0.0056	0.00323	0.00438	0.0123	0.00205	0.0234	0.00268	0.00181	0.00568	0.00247	0.00176	0.00115	0.00691	0.015	0.0039	0.05
Molybdenum	mg/L	0.00104	0.00107	0.00123	<0.002	<0.002	<0.002	0.0006	0.0013	0.0011	0.00084	0.0012	-	0.00115	0.00116	0.00093	0.00116	0.00104	0.00122	0.00112	0.00116	0.00121	0.001	0.0012	0.0012	0.0008	0.001	0.001	-
Nickel	mg/L	0.0002	0.0001	0.0001	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.0002	0.0035	0.0002	0.0002	0.0002	0.0001	0.0001	0.0003	0.0005	0.0001	0.0002	0.0002	0.0003	0.0003	0.0002	-
Total Phosphorus	mg/L	<0.003	<0.003	0.003	<0.05	<0.05	<0.05	0.22	0.11	<0.1	<0.1	<0.1	<0.020	1.66	2.99	1.43	1.17	0.41	1.06	1.11	2.4	2.38	1.9	1.93	0.54	1.56	1.32	0.93	-
Selenium	mg/L	0.00009	0.00008	0.00012	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00011	0.00015	0.00016	0.00023	0.00022	0.00012	0.00025	0.00015	0.00012	0.00014	0.00017	0.00012	0.00011	0.00015	0.00016	0.05
Silicon	mg/L	2.5	2.53	3.34	1.98	2.37	3.48	2.70	2.30	2.5	2.30	2.50	2.5	2.24	2.42	2.08	1.93	2.42	-	< 0.00005	2.35	2.36	2.07	2.27	2.53	2.30	2.28	2.43	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	2.36	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	<0.000005	<0.000005	<0.000005	<0.0003	<0.006	<0.006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.000005	<0.000005	<0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000006	< 0.000005	< 0.000005	< 0.000005	-
Tin	mg/L	0.00042	0.00021	0.00053	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00007	0.0001	-	0.00009	-	-	0.00014	0.00009	0.0001	< 0.00006	< 0.00006	0.00034	0.00007	0.00022	< 0.00006	-
Titanium	mg/L	0.00177	0.00186	0.00032	<0.002	<0.002	<0.002	0.033	<0.005	<0.005	0.023	<0.005	<0.005	0.00386	0.00406	0.00075	0.00104	0.00092	0.00037	0.00256	0.00097	0.00447	0.0012	0.0008	0.0002	0.0075	0.0009	0.0018	-
Uranium	mg/L	0.000256	0.000202	0.000181	<0.002	<0.002	<0.002	0.00024	0.00018	0.00019	0.00022	0.00022	0.00024	0.0002	0.000211	0.000206	0.000202	0.000212	0.000201	0.000205	0.000154	0.000177	0.000161	0.000177	0.000202	0.000184	0.000196	0.000157	0.02
Vanadium	mg/L	0.00039	0.0002	0.00015	<0.002	<0.002	<0.002	0.0011	<0.0005	<0.0005	0.00066	<0.0005	<0.0005	0.00019	0.00022	0.00016	0.00015	0.00013	0.00015	0.00019	0.00013	0.00026	0.00016	0.00014	0.00012	0.00030	0.00015	0.00015	-
Zinc	mg/L	0.002	<0.002	<0.002	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	<0.002	0.004	0.002	0.002	< 0.002	< 0.002	0.005	0.003	< 0.002	< 0.002	< 0.002	0.002	< 0.002	0.01	5
Field Measurements																													
Temperature	oC	-	-	-	-	-	-	8.91	16.3	11.2	8.9	11.5	9.6	5.05	14	10.8	5.2	11.8	9.7	-	15.7	10.6	9.4	12.3	13.4	7.9	11.9	11.8	-
pH	pH Units	-	7.43	-	-	-	-	6.93	7.6	6.88	6.88	6.85	7.2	4.82	6.87	6.72	6.52	7.41	7.23	6.3	7.65	8.55	6.71	7.3	6.39	7.16	7.29	7.29	-
Conductivity	uS/cm	-	205	-	-	-	-	143	177.1	141.3	171.4	130.4	123	97	138.5	360	99.1	132.0	119.6	93.9	128.7	115.9	104.5	115.9	121.0	124.9	123.3	172.2	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	154.9	33.4	29.9	144.8	254.6	234.3	275.2	61.1	40.1	37.5	81.9	25.0	125.0	144.1	326.7	101.0	97.2	161.8	86.5	37.7	335.1	-
Dissolved Oxygen	mg/L	6.76	-	-	-	-	-	11.3	8.42	7	7.57	9.82	8.82	13.23	8.07	4.32	7.35	4.91	5.14	9.32	6.8	10.03	7.85	13.46	10.6	8.3	10.88	1	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 5
Groundwater Quality Results - MW3D
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																												ODWQS
		Sample Collection Date (dd/mm/yyyy)																												
		MW3D																												
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	428	386	289	334	184	181	-	-	-	-	-	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	6.67	7.55	6.74	7.32	7.41	6.75	-	-	-	-	-	7.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**166**	**140**	**71.4**	**124**	**61.7**	**53.6**	**200**	**170**	**76**	**180**	100	**74**	**193**	**189**	**127**	**212**	**198**	94.4	**228**	**232**	**199**	**213**	**218**	**120**	**163**	**207**	**116**	80 - 100
Total Dissolved Solids	mg/L	240	214	177	192	114	112	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	34	32	27	31.0	22.0	20.3	33	31.0	25	30	27	24	33	38	32	40	36	27	51	49	44	43	48	32	36	42	37	250
Ammonia (Total)	mg/L	1.4	1.8	0.8	-	-	-	2.6	2.2	0.44	2.1	0.71	0.21	2.07	2.4	1.44	2.57	2.31	0.39	3.35	3.86	2.92	2.95	3.7	1.4	-	-	2.6	-
Ammonia as N	mg/L	-	-	-	0.98	0.09	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	4.4	-	-
Ammonium - NH4	mg/L	-	-	-	1.2	0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	3	3	1	2.0	1.4	1.2	-	-	-	-	-	0.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	**0.34**	**0.7**	<0.5	<0.10	0.11	<0.10	-	-	-	-	-	**0.99**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	1.7	2.5	1	1.06	0.20	<0.10	2.9	2.4	0.53	2.4	0.85	0.34	2.2	2.75	1.52	2.76	2.47	0.48	3.78	4.13	3.03	3.3	3.68	1.6	2.3	4.7	3	-
Phenols	mg/L	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.002	<0.002	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.002	< 0.002	0.003	0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	42.7	38.3	19.1	33.5	16.4	14.0	54	45	20	49	28	20	53.7	52	33.8	58.8	55.4	24.9	62.9	63.6	57.2	57.6	59.4	32.3	44.7	57.7	31.4	-
Magnesium	mg/L	11.8	10.8	5.79	9.91	5.04	4.52	15	13	6.1	15	8.4	5.9	14.3	14.3	10.4	15.8	14.4	7.83	17.3	17.7	13.8	16.9	16.9	9.67	12.5	15.4	9.16	-
Sodium	mg/L	19.7	17.1	8.75	14.5	7.75	7.06	23	20	11	20	12	9.6	21	21.1	15.7	25.2	20.5	11.7	26.8	28.7	22.8	26.8	26.8	14.9	22.7	30.2	17.8	200
Potassium	mg/L	4.92	4.74	2.8	3.75	2.05	1.96	6.1	5.2	2.5	5.2	3.1	2.3	6.42	6.17	3.88	6.73	5.97	3.07	7.48	7.78	5.66	6.62	7	3.92	5.62	7.7	4.99	-
Aluminium	mg/L	0.002	0.016	0.001	<0.004	0.020	<0.004	-	0.009	0.0061	<0.0049	<0.0049	<0.0049	0.012	0.003	0.001	0.001	0.002	< 0.001	0.002	0.003	0.004	0.006	0.002	0.001	0.002	0.002	0.002	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.00009	<0.00009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0004	0.0004	<0.0002	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.0653	0.0648	0.0355	0.038	0.022	0.019	0.110	0.084	0.031	0.084	0.045	0.028	0.0818	0.0846	0.0673	0.101	0.11	0.0473	0.123	0.121	0.104	0.11	0.122	0.068	0.0765	0.114	0.0776	1
Beryllium	mg/L	0.00002	0.00002	0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000009	0.000009	<0.000007	0.000012	0.000014	0.00001	0.000028	0.000017	0.000015	0.000018	0.00002	0.000012	0.000012	0.000013	0.000012	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.07	0.072	0.042	0.068	0.068	0.028	0.17	0.150	0.056	0.17	0.083	0.047	0.212	0.207	0.131	0.213	0.215	0.097	0.318	0.333	0.246	0.267	0.3	0.131	0.221	0.297	0.179	5
Cadmium	mg/L	0.000806	0.000388	0.000254	0.0002	<0.001	<0.002	0.00056	0.00035	0.00012	0.00034	0.00012	<0.00009	0.000342	0.000266	0.000146	0.000326	0.000231	0.0001	0.000376	0.000257	0.000223	0.000251	0.000268	0.000133	0.000185	0.000234	0.000126	0.005
Chromium	mg/L	0.00065	0.0006	0.00014	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00035	0.00031	0.00016	0.00031	0.00028	0.00011	0.00037	0.00036	0.00033	0.0003	0.00036	0.00018	0.00026	0.00038	0.00021	0.05
Cobalt	mg/L	0.000618	0.000798	0.000213	<0.0005	<0.001	<0.001	0.0018	0.0015	<0.0005	0.0014	<0.0005	<0.0005	0.00156	0.00197	0.00109	0.00244	0.00233	0.000492	0.0035	0.00374	0.00267	0.00321	0.00321	0.000948	0.00146	0.00314	0.00137	-
Copper	mg/L	0.00421	0.00471	0.00248	0.003	<0.003	<0.003	0.005	0.0042	0.002	0.005	0.002	0.0057	0.0039	0.0035	0.0021	0.005	0.0036	0.0026	0.0058	0.0057	0.0053	0.004	0.004	0.002	0.003	0.004	0.002	1
Iron	mg/L	0.094	0.229	0.011	0.173	<0.010	<0.010	**1.1**	**0.8**	<0.1	**1.2**	<0.1	<0.1	**1.11**	**2.01**	**1.13**	**2.02**	**2.08**	**0.327**	**2.72**	**5.76**	**3.27**	**4.06**	**4.93**	**1.44**	**1.63**	**4.85**	**2.71**	0.3
Lead	mg/L	<0.00001	0.00002	<0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	<0.00009	<0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	0.0032	0.0029	0.002	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0026	0.0028	0.0026	0.0029	0.0033	0.0024	0.0046	0.004	0.0039	0.0039	0.0041	0.0027	0.0032	0.0038	0.0024	-
Manganese	mg/L	**5.12**	**5.23**	**2.36**	**3.10**	**0.749**	**0.695**	**8.30**	**5.90**	**1.1**	**6.40**	**2.50**	**0.78**	**6.06**	**14.3**	**4.55**	**8.85**	**7.27**	**1.71**	**9.89**	**9.43**	**7.64**	**8**	**7.78**	**2.94**	**4.40**	**7.77**	**3.63**	0.05
Molybdenum	mg/L	0.00166	0.0019	0.00133	<0.002	<0.002	<0.002	0.0019	0.0018	0.00087	0.0017	0.0012	-	0.00143	0.00167	0.00085	0.00179	0.00148	0.00074	0.0018	0.00203	0.00179	0.0016	0.0016	0.0011	0.0011	0.0015	0.0013	-
Nickel	mg/L	0.0055	0.0043	0.0025	<0.003	<0.003	<0.003	0.0058	0.0035	0.0018	0.004	0.0021	<0.001	0.0037	0.0073	0.0024	0.0047	0.0038	0.0017	0.0052	0.0048	0.004	0.0042	0.0041	0.0019	0.0029	0.0039	0.002	-
Total Phosphorus	mg/L	<0.003	<0.003	0.003	<0.05	<0.05	<0.05	0.11	0.12	<0.1	<0.1	<0.1	<0.020	< 0.03	<0.03	<0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	-
Selenium	mg/L	0.00006	<0.00004	<0.00004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00005	0.00006	0.00005	0.00007	0.00006	< 0.00004	0.0002	0.00015	0.00007	0.00009	0.00017	< 0.00004	0.00005	0.00008	< 0.00004	0.05
Silicon	mg/L	10.1	8.38	9.18	8.57	6.59	6.63	9.40	8.50	6.8	9.20	8.00	7.3	9.19	9.4	7.22	9.98	9.62	-	< 0.00005	9.66	8.7	9.61	9.03	7.82	9.18	10	7.97	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	10.8	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.00006	0.00007	0.00004	<0.0003	<0.006	<0.006	<0.00005	0.000062	<0.00005	0.000068	<0.00005	<0.00005	0.000057	0.000061	0.000037	0.000068	0.000063	0.000027	0.000078	0.000059	0.000055	0.000059	0.00006	0.000036	0.000045	0.000052	0.000037	-
Tin	mg/L	0.00017	0.0001	0.00005	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0001	0.00012	-	0.00014	-	-	0.0002	0.00016	0.00013	0.0001	0.00011	< 0.00006	0.00008	0.00011	< 0.00006	-
Titanium	mg/L	0.00007	0.00057	0.00013	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00033	0.00016	0.00017	0.00009	0.00016	0.00008	0.00038	0.00033	0.00016	0.0002	0.0002	< 0.0001	0.0001	0.0001	0.0001	-
Uranium	mg/L	0.000561	0.000503	0.000214	<0.002	<0.002	<0.002	0.001	0.00072	0.00015	0.00083	0.00028	0.00019	0.000827	0.000932	0.000578	0.000969	0.000966	0.000217	0.00143	0.00138	0.000996	0.00113	0.00125	0.000363	0.000637	0.00133	0.000538	0.02
Vanadium	mg/L	0.00007	0.00009	0.00003	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00011	0.00012	0.00004	0.00013	0.00012	0.00002	0.00017	0.00025	0.00015	0.00025	0.00018	0.00007	0.00009	0.00019	0.00015	-
Zinc	mg/L	0.016	0.011	0.005	<0.005	<0.005	<0.005	0.010	0.0069	<0.005	0.009	<0.005	0.0054	0.009	0.011	0.01	0.009	0.008	0.004	0.01	0.013	0.009	0.008	0.008	0.004	0.006	0.007	0.012	5
Field Measurements																													
Temperature	oC	9.2	11.3	8.8	-	-	-	10.06	12.8	10	8.5	9.6	8.72	6.47	14	11.2	5.9	10.5	8.2	8.8	15.3	7.9	8.6	6.7	9.6	7.4	8.9	8.7	-
pH	pH Units	-	7	6.55	-	-	-	5.55	6.77	6.48	6.27	5.85	6.31	4.86	6.7	6.38	6.13	7.29	6.56	5.9	6.79	7.98	5.64	6.25	6.53	6.4	6.19	6.4	-
Conductivity	uS/cm	-	430	275	-	-	-	495	392.3	334.1	511.5	217.8	148	287	384.1	328	346.6	379.4	203.1	450.3	557	380.2	412.4	448.8	255.6	381.4	428.5	426	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	207.9	36.4	19.8	157.8	258.6	247.7	212.6	76.4	41.9	43.1	31.0	23.1	110.7	6.79	336.1	107.3	60.3	190.9	58.4	40.5	315.8	-
Dissolved Oxygen	mg/L	4.11	-	6.15	-	-	-	3.5	1.3	1.75	0.45	1.14	5	3.3	5.46	1.67	5.04	2.61	1.37	4.6	4.74	1	2.23	7.32	2.36	2.44	3.78	1.57	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 6
Groundwater Quality Results - MW4
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																												ODWQS
		Sample Collection Date (dd/mm/yyyy)																												
		MW4																												
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	890	824	882	723	698	784	-	-	-	-	-	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	6.53	7.52	6.53	7.27	7.17	6.93	-	-	-	-	-	6.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**338**	**321**	**271**	**291**	**226**	**249**	**320**	**350**	**290**	**300**	**260**	**290**	**292**	**231**	**211**	**209**	**299**	**250**	**314**	**314**	**313**	**257**	**252**	**270**	**233**	**311**	**244**	80 - 100
Total Dissolved Solids	mg/L	**503**	471	**536**	428	374	436	-	-	-	-	-	465	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	33	35	33	32.4	41.8	29.4	35	31.0	34	33	33	34	33	34	16	40	37	26	47	49	45	45	46	51	40	58	45	250
Ammonia (Total)	mg/L	13.5	9.2	7.6	-	-	-	7.8	7.4	5.9	8.5	5.8	5.7	5.53	6.2	3.04	6.56	4.21	2.96	6.47	5.86	5.59	6.57	2.93	6.2	-	-	6.1	-
Ammonia as N	mg/L	-	-	-	6.9	6.85	7.26	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2.2	8.4	-	-
Ammonium - NH4	mg/L	-	-	-	8.8	8.7	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	**11**	**9**	**8**	**9.0**	**8.7**	**7.6**	-	-	-	-	-	**8.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	**0.74**	**0.7**	**0.6**	**0.84**	**1.54**	**0.34**	-	-	-	-	-	**6**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	14.2	9.9	8.2	7.74	8.39	7.60	8.9	10.00	7	8.6	5.9	6	5.79	7.44	3.26	7.13	4.51	3.14	7.14	6.3	6.4	7.26	3.22	6.5	2.5	9	7	-
Phenols	mg/L	<0.002	0.004	0.004	0.003	0.004	0.001	<0.0010	0.001	<0.0010	<0.0010	0.001	<0.0010	< 0.002	<0.002	<0.002	< 0.002	0.003	0.004	< 0.002	0.003	< 0.002	0.004	< 0.002	0.005	0.004	0.003	< 0.002	-
Calcium	mg/L	105	98.2	84.8	93.8	64.6	78.1	97.0	110.0	85	88.0	75.0	89	96	72.5	70.8	67.5	91.9	80.2	96.3	99	102	80.3	80.9	82.3	77.6	95.9	75.6	-
Magnesium	mg/L	18.1	18.4	14.4	13.8	15.8	13.0	19.0	20.0	19	19.0	17.0	16	12.8	12.2	8.28	9.88	17	12.1	17.9	16.2	14.6	13.6	12	15.6	9.42	17.2	13.5	-
Sodium	mg/L	32.9	31.5	22.4	25.3	31.6	26.4	33.0	28.0	32	37.0	32.0	30	24.8	26.3	14.8	18.3	26.3	18.6	34.5	28.9	23.4	31.9	22.2	31.5	20.8	36.9	30	200
Potassium	mg/L	18.7	18.8	13	10.4	12.6	10.3	14.00	18.0	14	12.00	11.0	11	11.6	13.8	7.48	8.37	13.1	10.3	14.2	15.4	13.2	9.65	8.85	13.5	6.24	13.7	16.3	-
Aluminium	mg/L	0.029	0.009	0.01	**0.181**	0.015	0.031	-	0.012	0.0086	0.046	0.008	0.012	0.079	0.011	0.015	0.082	0.01	0.012	0.032	0.013	0.007	0.087	0.038	0.01	**0.153**	0.03	0.01	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.0009	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0027	0.0011	0.0015	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.186	0.24	0.169	0.100	0.181	0.179	0.170	0.240	0.2	0.200	0.160	0.16	0.12	0.158	0.109	0.108	0.167	0.141	0.163	0.144	0.129	0.0792	0.0776	0.159	0.0671	0.119	0.157	1
Beryllium	mg/L	0.00008	0.00004	0.00004	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000092	0.00036	0.000032	0.000095	0.000039	0.000063	0.000103	0.00004	0.000053	0.00023	0.000137	0.000069	0.000325	0.000104	0.000053	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	-
Boron	mg/L	0.281	0.432	0.303	0.298	0.218	0.355	0.33	0.930	0.42	0.33	0.360	0.4	0.305	0.322	0.341	0.235	0.365	0.447	0.487	0.524	0.449	0.388	0.373	0.483	0.335	0.419	0.395	5
Cadmium	mg/L	0.000345	0.000158	0.000384	0.0004	<0.001	<0.002	0.00023	0.00011	<0.0001	0.00015	0.00012	0.00021	0.000398	0.000258	0.000371	0.000317	0.000219	0.00028	0.000361	0.000254	0.000286	0.000438	0.000438	0.000242	0.000385	0.000437	0.000199	0.005
Chromium	mg/L	0.0012	0.0011	0.00055	<0.003	<0.003	0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00092	0.00072	0.0003	0.00068	0.00062	0.00046	0.00084	0.00068	0.00043	0.00061	0.00051	0.00059	0.00049	0.00064	0.00054	0.05
Cobalt	mg/L	0.00363	0.00301	0.00395	0.0045	0.002	0.004	0.0032	0.002	0.0023	0.0022	0.003	0.0025	0.00392	0.00223	0.00237	0.002994	0.00298	0.00309	0.00382	0.00333	0.00282	0.0044	0.00361	0.00286	0.00406	0.00445	0.00291	-
Copper	mg/L	0.001	0.00072	0.00068	<0.002	<0.003	<0.003	0.001	0.0012	0.0014	<0.0009	<0.0009	<0.0009	0.0013	0.0027	0.0018	0.002	0.0011	0.0018	0.0025	0.0027	0.0031	0.002	0.002	0.002	0.002	0.003	0.002	1
Iron	mg/L	**25.8**	**34.7**	**18.5**	**20.4**	**25.7**	**22.0**	**26**	**42.0**	**25**	**29**	**26**	**22**	**9.59**	**13.7**	**4.19**	**8.26**	**16.8**	**10.2**	**12**	**19.3**	**15.5**	**3.83**	**2.66**	**12.7**	**1.91**	**4.81**	**12.3**	0.3
Lead	mg/L	<0.00001	<0.00001	<0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	<0.00009	<0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	0.0024	0.0033	0.0024	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.001	0.0014	0.0011	0.0007	0.0027	0.0019	0.0026	0.0027	0.0026	0.0015	0.0014	0.0033	0.0010	0.0026	0.003	-
Manganese	mg/L	**3.62**	**2.89**	**3.45**	**3.34**	**4.99**	**4.24**	**6.60**	**4.90**	**4.8**	**12.0**	**8.1**	**10**	**8.4**	**7.7**	**3.53**	**7.04**	**11.9**	**6.52**	**14.2**	**10.1**	**9.37**	**9.27**	**7.78**	**16.8**	**6.00**	**16.3**	**15.1**	0.05
Molybdenum	mg/L	0.00028	0.0004	0.00024	<0.002	<0.002	<0.002	<0.0005	<0.0005	0.00063	<0.0005	0.00051	-	0.00025	0.00015	0.0004	0.00017	0.0002	0.00017	0.00047	0.00018	0.00012	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	-
Nickel	mg/L	0.0033	0.0021	0.0028	<0.003	<0.003	0.004	0.0028	0.002	0.0018	0.002	0.002	0.0025	0.0035	0.0059	0.0023	0.0027	0.0022	0.002	0.0034	0.0028	0.0027	0.0037	0.0035	0.0029	0.0032	0.0037	0.0023	-
Total Phosphorus	mg/L	<0.003	<0.003	0.007	<0.05	<0.05	<0.05	0.12	0.11	<0.1	<0.1	<0.1	<0.020	0.08	<0.03	0.04	0.04	< 0.03	0.25	0.04	0.19	0.03	< 0.03	0.14	0.03	< 0.03	< 0.03	< 0.03	-
Selenium	mg/L	0.00029	0.00015	0.00018	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0002	0.00013	0.0001	0.00018	0.00015	0.00011	0.00034	0.00028	0.00018	0.00022	0.00072	0.00014	0.00022	0.00034	0.00017	0.05
Silicon	mg/L	11.8	9.31	12.9	8.14	9.08	9.18	9.10	7.80	9.6	9.70	10.00	11	7.86	8.92	4.89	5.43	9.76	-	< 0.00005	8.2	8.77	8.95	7.84	10.8	7.72	9.44	10.2	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	10.3	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.00002	0.00001	0.00002	<0.0003	<0.006	<0.006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000016	0.000012	<0.000005	0.000013	0.000008	0.000014	0.000026	0.000012	0.000007	0.000024	0.000024	0.000011	0.000015	0.000033	0.000008	-
Tin	mg/L	0.00062	0.00068	0.00016	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00012	0.00015	-	0.00011	-	-	0.00033	0.00023	0.00014	0.00012	0.00012	0.00015	0.00010	0.00016	0.00013	-
Titanium	mg/L	0.00043	0.00028	0.00031	0.003	<0.002	0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00104	0.00028	0.00013	0.00024	0.00022	0.00017	0.00047	0.00032	0.0002	0.0003	0.0003	< 0.0001	0.0002	0.0002	0.0002	-
Uranium	mg/L	0.000319	0.000567	0.000307	<0.002	<0.002	<0.002	0.0003	0.00062	0.00041	0.00036	0.00028	0.00023	0.000185	0.000248	0.000156	0.000195	0.000384	0.000204	0.000298	0.000573	0.000479	0.000166	0.000184	0.000331	0.000148	0.000195	0.000404	0.02
Vanadium	mg/L	0.00147	0.00112	0.00073	<0.002	<0.002	<0.002	0.0014	0.0011	0.00062	0.0013	0.00075	0.00083	0.00115	0.00105	0.00034	0.00088	0.00075	0.00037	0.00146	0.00084	0.00059	0.00088	0.00042	0.00069	0.00049	0.00105	0.00068	-
Zinc	mg/L	0.006	0.003	0.006	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.002	0.004	0.007	0.003	< 0.002	0.004	0.002	0.006	0.004	0.003	0.003	0.003	0.003	0.002	0.011	5
Field Measurements																														
Temperature	oC	8.2	?) Listed as 4	10	-	-	-	9.28	11.5	10.9	9.1	10	9.53	5.56	13.2	11.4	5.6	10.3	9.8	-	16.1	9.9	9.2	9.8	11.1	6.5	8.9	10.4	-
pH	pH Units	-	6.38	6.35	-	-	-	5.67	6.85	6.36	6.3	5.91	6.57	5.87	6.12	6.09	6.01	6.56	6.30	5.80	6.76	7.80	6.42	6.06	6.00	6.55	8.21	6.2	-
Conductivity	uS/cm	-	1013	766	-	-	-	775	586	678	878	568	552	460	620	510	494.8	598.0	465.4	273.7	785	469.5	522	553	618	523	679	876	-
Oxidation Reduction Potential	mV		-	-	-	-	-	156.3	2.9	10.8	133	32.6	190	75	86.5	73.4	46.6	22.9	27.8	91.6	60.6	6.04	116.9	60.1	157.4	136.6	50	255.2	-
Dissolved Oxygen	mg/L	5.45	-	1.26	-	-	-	4.23	0.94	0.84	1.52	0.72	6.83	3.49	1.03	1.91	6.16	1.89	2.01	10.78	4.74	1.32	5.74	2.54	1.67	2.77	1.82	0.63	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 7
Groundwater Quality Results - MW5
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																										ODWQS
		Sample Collection Date (dd/mm/yyyy)																										
		MW5																										
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	129	141	186	132	205	180	-	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	NO	-	-	-	-	-
pH	pH Units	**6.32**	6.77	**6.35**	6.71	6.97	6.59	-	-	-	-	-	6.64	-	-	-	-	-	-	-	-	-	-	SAMPLE	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**42**	**55.7**	**55.8**	**47.2**	80	**53**	**44**	**44**	**56**	**35**	**78**	**54**	**49.5**	**67.6**	**48.4**	**56.2**	**68.8**	**64**	**32**	**33.7**	**74.9**	**44.5**	**-**	**50.3**	**62.6**	**65.1**	**56.4**	80 - 100
Total Dissolved Solids	mg/L	89	120	131	98	136	94	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	5	5	6	3.31	4.96	9.50	7.4	6.10	8.2	1.6	6.6	11	6	11	14	9	7	13	8	4	10	2	-	4	10	9	2	250
Ammonia (Total)	mg/L	<0.1	<0.1	<0.1	-	-	-	0.13	<0.050	0.15	<0.050	0.11	0.051	0.09	0.1	0.07	0.07	0.09	0.08	< 0.04	0.04	0.09	< 0.04	-	< 0.1	-	-	< 0.1	-
Ammonia as N	mg/L	-	-	-	0.14	0.11	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	0.1	-	-
Ammonium - NH4	mg/L	-	-	-	0.18	0.14	0.039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	3	2	2	2.4	3.0	2.3	-	-	-	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	0.06	**0.2**	<0.5	<0.10	**0.29**	<0.10	-	-	-	-	-	**0.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.5	<0.5	<0.5	0.23	0.40	<0.10	0.24	0.26	0.55	0.21	0.22	0.2	0.08	0.18	0.11	0.26	0.16	0.22	0.19	0.16	0.23	0.23	-	< 0.5	< 0.5	< 0.5	< 0.5	-
Phenols	mg/L	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.0010	0.0014	<0.0010	<0.0010	0.0011	<0.0010	< 0.002	<0.002	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-	< 0.002	< 0.002	0.002	< 0.002	-
Calcium	mg/L	11.9	15.4	15.6	13.9	22.5	14.6	12.0	12.0	16	10.0	22.0	15	14.2	19	13.2	15.7	19.3	17.4	8.68	9.27	20.5	12.4	-	13.8	17.0	18.1	15.3	-
Magnesium	mg/L	3	4.23	4.11	3.03	5.79	4.02	3.2	3.40	4.1	2.1	5.30	4	3.42	4.93	3.72	4.16	5.03	4.98	2.51	2.57	5.77	3.3	-	3.84	4.86	4.86	4.38	-
Sodium	mg/L	4.46	2.77	3.15	5.95	5.42	5.65	4.6	3.30	4.5	3.9	6.40	6.7	5.59	6.46	6.34	6.54	4.88	6.38	4.97	3.49	5.34	5.12	-	4.52	6.73	5.32	3.81	200
Potassium	mg/L	2.66	2.62	2.48	2.75	3.18	3.22	2.60	2.50	3	2.30	3.50	3	3.12	3.2	2.84	3.2	3.23	3.34	2.02	2.02	2.76	2.5	-	2.55	2.66	2.89	2.51	-
Aluminium	mg/L	0.024	0.017	0.005	0.011	0.007	0.009	-	0.011	0.0053	0.008	0.047	0.0087	0.018	0.01	0.038	0.009	0.005	0.007	0.015	0.009	0.005	0.004	-	0.004	0.042	0.007	0.004	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.00004	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	-	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0004	0.0003	0.0004	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.0015	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.0353	0.0394	0.0502	0.026	0.060	0.042	0.032	0.032	0.039	0.026	0.061	0.045	0.0367	0.0471	0.0413	0.0397	0.0528	0.0474	0.0201	0.0197	0.0482	0.0261	-	0.0308	0.0367	0.0408	0.0332	1
Beryllium	mg/L	0.00002	0.00001	0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.00001	0.000014	0.000024	0.000014	0.000016	0.000021	0.000015	0.00001	0.000016	0.000007	-	0.00001	0.000009	0.000013	0.000008	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.031	0.026	0.076	0.041	0.076	0.057	0.04	0.027	0.045	0.03	0.052	0.053	0.046	0.053	0.043	0.04	0.058	0.061	0.03	0.032	0.067	0.051	-	0.037	0.060	0.045	0.037	5
Cadmium	mg/L	0.00002	0.00005	0.00004	<0.0001	<0.001	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000027	0.000039	0.000045	0.000034	0.00003	0.000039	0.000018	0.000018	0.000049	0.000015	-	0.000033	0.000233	0.000045	0.000021	0.005
Chromium	mg/L	0.00062	0.00076	0.00021	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00029	0.00028	0.0003	0.00028	0.00023	0.0002	0.0003	0.0002	0.00015	0.00017	-	0.00021	0.00026	0.00016	0.00013	0.05
Cobalt	mg/L	0.00324	0.00348	0.00396	0.0026	0.005	0.004	0.0027	0.004	0.0036	0.002	0.005	0.0034	0.00352	0.00365	0.00302	0.003757	0.0033	0.003	0.0016	0.000883	0.00275	0.000866	-	0.000886	0.000898	0.00291	0.00141	-
Copper	mg/L	0.0004	0.00067	0.00186	<0.002	<0.003	<0.003	0.002	<0.001	<0.001	0.007	0.0017	0.0024	0.001	0.0013	0.0008	0.0022	0.0007	0.0012	0.0014	0.0029	0.0017	< 0.001	-	0.001	0.001	0.002	< 0.001	1
Iron	mg/L	**6.35**	**6.26**	**4.86**	**3.01**	**6.43**	**5.52**	**3.8**	**3.90**	**5.9**	**2.1**	**6.60**	**4.1**	**3.83**	**4.96**	**4.31**	**4.22**	**5.59**	**4.25**	**1.18**	**1.86**	**5.96**	**0.793**	**-**	**1.95**	**1.60**	**7.53**	**4.97**	0.3
Lead	mg/L	0.00002	0.00005	0.0001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	<0.00009	<0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	-	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	0.0007	0.0006	0.0007	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0007	0.0007	0.0009	0.0008	0.0009	0.0011	0.0006	0.0003	0.0009	0.0005	-	0.0004	0.0005	0.0009	0.0003	-
Manganese	mg/L	**0.62**	**0.745**	**0.969**	**0.421**	**0.893**	**1.05**	**0.680**	**0.70**	**1.4**	**0.460**	**1.20**	**0.75**	**1.25**	**1.25**	**1.05**	**1.78**	**1.49**	**1.16**	**0.546**	**0.355**	**1.15**	**0.385**	**-**	**0.427**	**0.653**	**1.32**	**0.837**	0.05
Molybdenum	mg/L	0.00013	0.00012	0.00025	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	0.00037	0.00015	0.00012	0.0002	0.00016	0.00012	0.00017	0.00011	0.0001	< 0.0004	-	< 0.0004	< 0.0004	< 0.0004	< 0.0004	-
Nickel	mg/L	0.0006	0.0007	0.0008	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.0007	0.0041	0.0007	0.0008	0.0007	0.0008	0.0005	0.0007	0.0011	0.0005	-	0.0006	0.0007	0.0006	0.0009	-
Total Phosphorus	mg/L	<0.003	<0.003	<0.003	<0.05	<0.05	<0.05	0.12	0.1	<0.1	<0.1	<0.1	<0.020	0.72	0.23	0.22	0.55	0.32	0.59	0.62	0.82	0.36	0.78	-	0.63	0.40	0.71	0.63	-
Selenium	mg/L	0.00005	0.00005	0.00005	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	< 0.00004	<0.00004	0.00006	0.00007	0.00006	< 0.00004	0.00012	0.00007	< 0.00004	< 0.00004	-	0.00005	< 0.00004	0.00005	0.00005	0.05
Silicon	mg/L	9.01	7.81	9.62	7.71	7.75	9.45	8.10	7.20	9.3	7.20	9.30	8.8	9.32	8.92	7.84	9.22	8.63	-	< 0.00005	6.37	7.35	7.22	-	7.2	8.56	8.66	7.06	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	8.07	< 0.00005	< 0.00005	< 0.00005	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.00001	0.00001	0.00001	<0.0003	<0.006	<0.006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000009	0.000012	<0.000005	0.000012	0.000013	0.000013	0.000008	0.000006	0.000011	0.000007	-	0.000008	0.000006	0.000013	0.000012	-
Tin	mg/L	0.0001	0.00026	0.00016	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00007	0.00012	-	0.00011	-	-	0.00007	0.00011	< 0.00006	0.00008	-	< 0.00006	0.00007	0.0001	< 0.00006	-
Titanium	mg/L	0.00179	0.00103	0.00052	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00087	0.00054	0.00268	0.00046	0.00027	0.00035	0.00115	0.00068	0.00025	0.0002	-	< 0.0001	0.0028	0.0003	0.0002	-
Uranium	mg/L	0.00008	0.00009	0.00009	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	0.00011	0.00014	0.000077	0.000083	0.000086	0.000068	0.000088	0.000092	0.000062	0.000049	0.000088	0.000054	-	0.000067	0.000096	0.00012	0.000074	0.02
Vanadium	mg/L	0.00018	0.00016	0.00011	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00016	0.00013	0.00017	0.00015	0.00013	0.00012	0.00015	0.00009	0.00011	0.0001	-	0.00009	0.00020	0.00013	0.00009	-
Zinc	mg/L	0.004	0.006	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0055	0.0053	0.004	0.011	0.008	0.004	0.004	0.003	0.002	0.006	0.003	0.002	-	0.002	0.003	0.004	0.012	5
Field Measurements																													
Temperature	oC	11.7	12.6	8.8	-	-	-	8.75	11.2	10.6	8.8	10.3	8.83	5.97	11.9	10.3	6.4	10.5	8.4	-	11.2	9	9.1	-	10.6	7.3	9.9	9.6	-
pH	pH Units	-	6.24	6.51	-	-	-	5.64	6.82	5.96	6.04	5.72	6.05	6.25	5.79	5.81	6.21	6.30	6.27	5.50	6.57	7.57	6.24	-	6.59	7.86	5.88	6.26	-
Conductivity	uS/cm	-	200	302	-	-	-	124	106.5	140.2	85.3	135.8	117	86	156.1	136	101.7	150.3	133.1	64.4	75.1	153.6	90.8	-	126.1	137.3	139.2	225.5	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	124.5	38.8	102.1	353.4	117.6	173.8	95.3	109.2	55.5	31.3	46.7	44.7	125.8	122.4	360.1	117.1	-	174.2	17.3	62.9	276.7	-
Dissolved Oxygen	mg/L	7.2	-	1.7	-	-	-	6.3	2.46	2.14	6.99	3.92	3.96	4.86	2.5	3.89	3.92	1.92	4.24	16.79	3.48	5.09	11.83	-	8.29	3.28	9.66	0.93	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 8
Groundwater Quality Results - MW6
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																											ODWQS
		Sample Collection Date (dd/mm/yyyy)																											
		MW6																											
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	104	101	101	99	102	103	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	**6.39**	6.59	**6.34**	6.63	7.01	6.62	-	-	-	-	-	6.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**36.9**	**39.6**	**30.1**	**38.7**	**38.3**	**35.3**	**41**	**38.0**	**40**	**39**	**38**	**37**	**39.2**	**36.7**	**33.8**	**39.5**	**38**	**39.9**	**38**	**35.7**	**31.9**	**32.1**	**32**	**37.8**	**31.4**	**36.9**	**41**	80 - 100
Total Dissolved Solids	mg/L	103	77	97	90	100	84	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	<1	2	2	1.51	1.25	1.28	1.3	1.60	1.5	1.8	1.6	2.8	2	<1	1	2	< 1	< 1	2	2	2	1	2	< 1	2	2	1	250
Ammonia (Total)	mg/L	<0.1	0.2	<0.1	-	-	-	0.055	<0.050	0.12	<0.050	<0.050	<0.050	0.04	<0.1	<0.04	< 0.04	< 0.04	0.06	< 0.04	0.05	0.05	< 0.04	0.04	< 0.1	-	-	< 0.1	-
Ammonia as N	mg/L	-	-	-	0.09	0.04	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-
Ammonium - NH4	mg/L	-	-	-	0.12	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	4	3	4	2.5	3.0	4.0	-	-	-	-	-	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	0.11	<0.5	<0.5	<0.10	**0.33**	<0.10	-	-	-	-	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.5	<0.5	<0.5	0.13	0.37	<0.10	0.25	0.28	0.19	0.18	0.17	0.14	0.09	0.14	0.08	0.09	0.18	0.14	0.1	0.18	0.17	0.12	0.15	< 0.5	< 0.5	< 0.5	< 0.5	-
Phenols	mg/L	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.002	<0.002	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	8.09	8.96	6.74	8.66	8.64	8.15	9.1	8.50	9.1	9.4	8.80	8.6	9.2	8.42	7.67	8.93	9.07	8.96	8.42	8.02	7.26	7.07	7.18	8.51	7.09	8.43	9.28	-
Magnesium	mg/L	4.06	4.19	3.22	4.15	4.06	3.64	4.4	4.10	4.2	3.7	3.90	3.8	3.96	3.81	3.55	4.18	3.74	4.25	4.11	3.81	3.35	3.5	3.41	4.01	3.32	3.86	4.33	-
Sodium	mg/L	2.8	3.07	2.41	3.07	3.22	2.83	3.0	2.90	2.8	3.3	2.80	2.8	3.12	2.82	2.82	3.15	2.71	3.26	3.41	3.58	3.26	4.12	3.75	3.78	3.85	3	3.41	200
Potassium	mg/L	1.97	2.19	1.86	2.00	2.13	2.18	2.00	2.20	2.2	1.80	2.10	2.1	2.18	2.06	2.02	2.05	2.19	2.4	2.18	2.16	1.86	1.94	2.07	2.23	1.92	2.08	2.38	-
Aluminium	mg/L	0.009	0.034	0.009	0.009	0.010	0.014	-	0.009	0.0085	0.006	0.009	0.01	0.05	0.025	0.03	0.011	0.007	0.007	**0.323**	0.006	0.008	0.009	0.006	0.003	0.004	0.033	0.01	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.00009	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0003	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.0209	0.0212	0.0216	0.017	0.021	0.022	0.024	0.022	0.023	0.020	0.022	0.023	0.0238	0.0217	0.0225	0.0224	0.0273	0.025	0.0298	0.0188	0.0203	0.0196	0.019	0.0208	0.0188	0.024	0.0233	1
Beryllium	mg/L	0.00002	0.00002	0.00003	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000014	0.000016	0.000012	0.000017	0.000021	0.000013	0.000058	0.00001	0.000013	0.000012	0.00001	0.000008	0.000009	0.000018	0.00001	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.009	0.012	0.016	<0.010	0.026	0.016	0.02	0.011	0.017	<0.01	0.011	0.014	0.019	0.014	0.017	0.01	0.02	0.048	0.009	0.013	0.014	0.007	0.014	0.031	0.008	0.011	0.04	5
Cadmium	mg/L	0.00003	0.00005	0.00005	<0.0001	<0.001	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000031	0.00009	0.000035	0.000033	0.00004	0.000039	0.000055	0.000021	0.000021	0.00002	0.000026	0.000022	0.000311	0.000043	0.00003	0.005
Chromium	mg/L	0.00067	0.00083	0.00024	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00058	0.00043	0.00032	0.00048	0.00035	0.00035	0.00096	0.00027	0.00013	0.00017	0.00025	0.00027	0.00024	0.00041	0.00026	0.05
Cobalt	mg/L	0.00209	0.00242	0.0025	0.0015	0.002	0.002	0.0022	0.004	0.0017	0.0014	0.002	0.0019	0.00177	0.00153	0.00147	0.001548	0.00176	0.00178	0.00235	0.000902	0.000824	0.00122	0.000672	0.000521	0.000707	0.00197	0.000969	-
Copper	mg/L	0.00138	0.00179	0.0024	<0.002	<0.003	0.003	0.002	0.004	0.0015	0.008	0.002	0.0031	0.0018	0.0038	0.0025	0.0047	0.0017	0.002	0.0029	0.0022	0.0022	< 0.001	0.001	0.002	< 0.001	0.003	0.002	1
Iron	mg/L	**0.693**	**0.563**	**0.473**	**0.840**	0.271	**0.506**	**1.8**	0.280	**0.36**	**1.6**	**0.450**	**0.61**	**1.17**	**0.627**	**0.436**	**0.663**	**0.389**	**0.412**	**3.78**	**0.481**	**0.312**	**0.772**	**0.473**	0.266	0.297	**1.17**	0.238	0.3
Lead	mg/L	<0.00001	0.00006	0.00002	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00009	0.0001	<0.00009	< 0.00009	< 0.00009	< 0.00009	0.00028	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00012	< 0.00009	0.01
Lithium	mg/L	0.0009	0.001	0.001	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0008	0.0008	0.001	0.0007	0.0009	0.0012	0.0014	0.0009	0.0013	0.0011	0.0009	0.0011	0.0008	0.0009	0.001	-
Manganese	mg/L	**0.152**	**0.148**	**0.141**	**0.121**	**0.180**	**0.145**	**0.150**	**0.150**	**0.15**	**0.120**	**0.160**	**0.14**	**0.145**	**0.129**	**0.124**	**0.138**	**0.151**	**0.155**	**0.184**	**0.0757**	**0.0742**	**0.119**	**0.0724**	**0.0656**	**0.0751**	**0.145**	**0.124**	0.05
Molybdenum	mg/L	0.00002	0.00003	0.00009	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	0.00007	<0.00004	0.00007	0.00029	0.00005	< 0.00004	0.00007	< 0.00004	0.00007	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	-
Nickel	mg/L	0.0017	0.002	0.0018	<0.003	<0.003	<0.003	0.0019	0.0013	0.002	0.0013	0.0018	0.0019	0.0016	0.0049	0.002	0.002	0.0016	0.0019	0.0019	0.0014	0.0015	0.0012	0.0012	0.0017	0.0010	0.0016	0.0018	-
Total Phosphorus	mg/L	<0.003	<0.003	0.004	<0.05	<0.05	<0.05	<0.1	0.12	<0.1	<0.1	<0.1	<0.020	0.22	0.05	0.08	0.1	0.31	0.14	0.1	0.4	0.49	0.32	0.28	0.16	0.25	0.16	0.07	-
Selenium	mg/L	<0.00004	0.00006	0.00004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	< 0.00004	0.00004	<0.00004	0.00009	0.00006	0.00004	0.00014	0.00005	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00005	0.00004	0.05
Silicon	mg/L	9.05	9.78	11.8	9.39	9.07	9.37	9.50	9.20	9.5	9.50	10.00	10	9.7	9.43	8.57	8.46	9.24	-	< 0.00005	9.14	9.58	9.61	9.17	9.72	9.47	9.62	9.92	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	10.4	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.000005	<0.000005	<0.000005	<0.0003	<0.006	<0.006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.000005	<0.000005	<0.000005	< 0.000005	0.000005	< 0.000005	0.000008	< 0.000005	< 0.000005	0.000006	< 0.000005	< 0.000005	< 0.000005	0.000006	0.000006	-
Tin	mg/L	0.00023	0.00019	0.00009	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00006	0.00009	-	0.00012	-	-	0.0001	0.00014	0.00008	0.00006	0.00006	< 0.00006	< 0.00006	0.00012	0.00007	-
Titanium	mg/L	0.0005	0.00227	0.00064	<0.002	<0.002	<0.002	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	0.00395	0.00195	0.00182	0.00054	0.00041	0.00038	0.0227	0.0006	0.0007	0.0009	0.0005	0.0002	0.0004	0.0023	0.0006	-
Uranium	mg/L	0.00005	0.00008	0.00005	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.000042	0.000053	0.000053	0.000054	0.000044	0.000046	0.000124	0.000019	0.00003	0.000021	0.000015	0.00002	0.000009	0.000051	0.000037	0.02
Vanadium	mg/L	0.00011	0.0002	0.00013	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00025	0.00017	0.00018	0.00016	0.00011	0.00014	0.00129	0.00008	0.00009	0.00008	0.00008	0.00005	0.00007	0.00022	0.00011	-
Zinc	mg/L	0.004	0.011	0.006	<0.005	<0.005	0.007	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.003	0.005	0.007	0.008	0.003	0.003	0.005	0.006	0.008	0.003	0.003	0.003	0.003	0.003	0.011	5
Field Measurements																													
Temperature	oC	9.7	13.3	10.7	-	-	-	8.81	13.4	15.5	7.2	13.7	9.84	4.57	13.8	11.5	6.5	10.9	10.1	6.3	14.8	12.2	9.2	10.4	12.6	6.2	9.8	11.3	-
pH	pH Units	-	6.33	6.77	-	-	-	6.04	6.61	5.72	6.17	5.42	5.94	5.61	5.73	5.69	6.13	6.07	6.38	5.82	6.36	8.22	6.19	6.29	5.95	5.7	5.95	6.66	-
Conductivity	uS/cm	-	121	133	-	-	-	86	78.8	98.6	105.5	83	70	55	84.6	81	66.2	78.0	76.4	67.1	81.9	77.3	65.6	70.4	79.8	79.3	70.1	111.1	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	67.5	61	5.72	305.6	93.9	191.9	141.3	119.9	118.5	45.0	106.5	55.6	150.7	185.9	323.7	121.1	74.1	268.1	130.5	30.1	176.3	-
Dissolved Oxygen	mg/L	6.52	-	1.41	-	-	-	11.71	2.55	2.35	6.02	5.42	4.64	5.04	2.27	1.69	2.53	3.90	2.20	6.01	5.97	8.85	11.41	11.23	79.80	6.44	12.83	1.24	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 9
Groundwater Quality Results - MW7S
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																												ODWQS
		Sample Collection Date (dd/mm/yyyy)																												
		MW7S																												
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	25/09/2025	
Electrical Conductivity	uS/cm	345	763	1280	806	762	940	-	-	-	-	-	990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	7.14	6.71	**6.43**	7.16	7.22	7.03	-	-	-	-	-	7.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	85.5	**204**	**259**	**230**	**205**	**226**	**160**	**310**	**300**	**200**	**290**	**370**	**343**	**467**	**427**	**214**	**373**	**565**	**235**	**226**	**540**	**282**	**310**	**409**	**116**	**182**	**261**	80 - 100
Total Dissolved Solids	mg/L	177	**503**	**776**	**542**	448	**530**	-	-	-	-	-	**650**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	24	80	130	51.7	42.8	44.8	28	34.0	33	35	39	43	34	42	46	34	33	43	40	21	52	30	26	33	25	21	29	250
Ammonia (Total)	mg/L	7.4	7.2	9.3	-	-	-	3.9	2.7	3.5	3	5.2	2.5	0.89	1.8	1.08	2.73	2.59	1.14	4.34	0.31	1.18	0.24	2.92	0.3	-	-	3.4	-
Ammonia as N	mg/L	-	-	-	3.30	3.56	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	3.5	-	-
Ammonium - NH4	mg/L	-	-	-	4.2	4.5	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	5	**7**	**18**	**11.4**	**9.7**	**13.1**	-	-	-	-	-	**10**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	**0.26**	<0.5	**1.4**	**2.30**	<0.10	**0.99**	-	-	-	-	-	**4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	7.7	8.4	10.7	5.6	0.22	8.19	4.3	4.10	5	3.3	5.4	3.3	1.51	2.59	1.88	3.3	3.63	2.44	5.63	0.96	2.32	1.32	3.58	1.5	1.5	4.1	4.4	-
Phenols	mg/L	<0.002	0.003	0.014	0.005	0.002	0.004	<0.0010	0.001	0.0011	<0.0010	<0.0010	0.001	< 0.002	<0.002	<0.002	0.004	0.003	0.004	< 0.002	< 0.002	< 0.002	0.005	0.003	0.004	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	26.4	57.2	77.4	66	61.0	67.5	48.0	100.0	96	67.0	98.0	130	118	159	145	73.1	130	194	80.7	78.9	187	97.2	104	138	38.6	59.4	85.1	-
Magnesium	mg/L	4.79	15	16	15.9	12.8	14.0	9.0	12.0	15	8.5	12.0	15	11.7	16.8	15.9	7.58	11.9	19.7	8.13	7.04	18	9.61	12.6	15.7	4.70	8.05	11.8	-
Sodium	mg/L	20.8	43.9	54.2	60.5	50.4	58.2	33.0	41.0	52	44.0	52.0	56	38.7	51.3	61.2	29.9	36.7	53.1	27.1	21.5	70.6	25.1	45.1	45.2	13.1	22.6	31.2	200
Potassium	mg/L	9.27	14.8	23.4	11.4	16.4	18.2	11.00	13.0	23	16.00	28.0	30	18.6	25.5	26.4	13.1	22.8	31.2	13.7	16.8	28.3	14.9	23.1	27.3	7.10	13.7	19	-
Aluminium	mg/L	0.025	0.012	0.016	0.024	0.014	0.021	-	0.039	0.053	0.017	0.023	0.012	0.072	0.007	0.02	0.01	0.014	0.016	0.007	0.004	0.01	0.007	0.011	0.006	0.005	0.008	0.009	0.1
Antimony	mg/L	<0.0002	<0.0002	0.0003	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.00009	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	0.0012	0.0009	0.0012	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.0012	0.0014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.226	0.302	0.132	0.122	0.165	0.125	0.380	0.085	0.14	0.100	0.120	0.12	0.135	0.113	0.126	0.2	0.299	0.274	0.113	0.182	0.316	0.252	0.224	0.262	0.0980	0.238	0.259	1
Beryllium	mg/L	0.00003	0.00002	0.00003	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000025	0.000008	<0.000007	0.000011	0.000022	0.000011	0.000021	0.000007	0.00002	0.000009	0.000021	0.000011	0.000007	0.000013	0.000014	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.131	2.68	3.29	1.41	1.32	1.48	0.77	1.20	1.4	1.10	1.40	1.5	0.815	1.29	1.32	0.502	0.899	2.08	0.769	0.43	3.78	0.844	1.84	2.07	0.367	0.691	1.21	5
Cadmium	mg/L	0.00008	0.000118	0.00006	0.0001	<0.001	<0.002	0.00017	<0.0001	<0.0001	0.000099	0.00011	0.00013	0.000122	0.00009	0.0001	0.000038	0.000036	0.000066	0.000078	0.000055	0.00015	0.00003	0.000073	0.000088	0.000081	0.00003	0.000052	0.005
Chromium	mg/L	0.00085	0.00109	0.00103	0.003	<0.003	0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00109	0.00111	0.00097	0.0006	0.00089	0.00114	0.00059	0.0005	0.00099	0.00052	0.00096	0.00076	0.00036	0.00053	0.00048	0.05
Cobalt	mg/L	0.0153	0.0268	0.0293	0.0094	0.007	0.008	0.012	0.004	0.0065	0.0044	0.005	0.0036	0.00428	0.00533	0.00402	0.00434	0.00575	0.00581	0.00266	0.00213	0.00309	0.00146	0.0026	0.00146	0.000590	0.00262	0.00263	-
Copper	mg/L	0.00029	0.00061	0.00084	0.002	<0.003	<0.003	0.002	<0.001	0.0025	0.002	0.0024	0.0095	0.0063	0.0054	0.0037	0.0024	0.0009	0.0048	0.0032	0.0048	0.0084	0.002	0.004	0.009	0.002	0.002	0.003	1
Iron	mg/L	**23.6**	**24.9**	**33.4**	**38.8**	**22.8**	**34.9**	**24**	**20.0**	**19**	**13**	**13.0**	**1.7**	**12.2**	**1.41**	**1.73**	**8.37**	**13.1**	**3.03**	**3.88**	**0.652**	**1.05**	**0.853**	**5.4**	0.081	0.061	**5.8**	**5.8**	0.3
Lead	mg/L	0.00001	0.00002	<0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00013	<0.00009	<0.00009	< 0.00009	< 0.00009	0.00012	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00028	< 0.00009	0.01
Lithium	mg/L	0.0002	0.0002	0.0003	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	< 0.0001	0.0001	0.0002	< 0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0002	0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	0.0001	-
Manganese	mg/L	**6.57**	**19.9**	**12.1**	**11.1**	**7.36**	**10.0**	**7.0**	**7.1**	**6.3**	**5.1**	**6.2**	**3.9**	**2.52**	**3.13**	**2.83**	**2.79**	**3.82**	**3.62**	**1.66**	**1.13**	**2.24**	**1.01**	**2.3**	**1.44**	**0.335**	**1.67**	**2.46**	0.05
Molybdenum	mg/L	0.00174	0.00074	0.00129	<0.002	<0.002	<0.002	0.00085	0.00055	0.0014	0.00064	0.0014	-	0.00142	0.00105	0.00084	0.0004	0.00073	0.00095	0.00092	0.00034	0.00098	< 0.0004	0.001	0.0012	0.0005	0.0006	0.0009	-
Nickel	mg/L	0.0053	0.0077	0.0067	0.005	<0.003	0.004	0.0032	0.004	0.0035	0.0026	0.003	0.0038	0.0028	0.0067	0.0032	0.0018	0.002	0.0043	0.0016	0.0013	0.0041	0.0015	0.0022	0.0025	0.0006	0.001	0.0012	-
Total Phosphorus	mg/L	0.004	0.006	0.019	<0.05	<0.05	<0.05	<0.1	0.11	<0.1	<0.1	<0.1	<0.020	0.3	0.33	0.6	0.29	0.1	2.17	0.14	0.2	0.16	0.99	0.18	0.59	0.49	0.1	0.3	-
Selenium	mg/L	0.00022	0.0002	0.00041	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00038	0.00023	0.0002	0.00015	0.00032	0.00037	0.00023	0.0002	0.00034	0.00015	0.00033	0.00031	0.00009	0.00015	0.00022	0.05
Silicon	mg/L	9.18	8.14	13.6	7.65	7.19	8.23	7.60	7.20	8	6.20	7.50	6	5.77	6.07	4.59	4.83	7.18	-	< 0.00005	5.71	6.72	4.69	6.59	6.08	4.51	5.89	6.78	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	5.31	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.000172	0.000245	0.000106	<0.0003	<0.006	<0.006	0.00011	0.00014	0.00018	0.00017	0.0002	0.00018	0.000155	0.000147	0.00015	0.000045	0.000091	0.000143	0.000141	0.000094	0.000194	0.000039	0.000146	0.000088	0.000034	0.00006	0.000128	-
Tin	mg/L	0.00014	0.00014	0.00014	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00018	0.00022	-	0.00017	-	-	0.00018	0.00015	0.00025	0.00017	0.00022	0.00015	0.00007	0.00018	0.00018	-
Titanium	mg/L	0.00101	0.00044	0.00047	0.004	0.002	0.004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00214	0.00031	0.00104	0.00018	0.00037	0.00104	0.00038	0.00021	0.00035	0.0002	0.0004	0.0001	0.0001	0.0003	0.0004	-
Uranium	mg/L	0.000253	0.000179	0.000687	<0.002	<0.002	<0.002	0.0003	0.00018	0.0016	0.00029	0.0012	0.0023	0.00258	0.00368	0.00413	0.000787	0.00224	0.00567	0.00164	0.000783	0.0045	0.0011	0.00197	0.00311	0.000515	0.00091	0.00176	0.02
Vanadium	mg/L	0.00118	0.00062	0.00107	<0.002	<0.002	<0.002	0.001	0.00063	0.0015	<0.0005	0.00075	<0.0005	0.00254	0.00028	0.0005	0.00046	0.00068	0.00052	0.00043	0.00025	0.00037	0.00041	0.00074	0.00027	0.00016	0.00058	0.00045	-
Zinc	mg/L	0.007	0.012	0.01	<0.005	<0.005	0.006	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.004	0.005	0.006	0.003	0.003	0.006	0.002	0.007	0.004	< 0.002	0.002	0.002	< 0.002	0.003	0.01	5
Field Measurements																														
Temperature	oC	10.3	12.8	9.2	-	-	-	7.68	11.4	11.4	8.4	10.3	10.03	5.61	15	11.5	8.3	12.4	10.0	7.6	11.0	10.7	11.5	11.0	12.1	8.1	9.8	11.2	-
pH	pH Units	-	6.02	6.27	-	-	-	6.11	6.36	6.58	6.22	5.77	6.71	6.41	6.48	6.44	6.11	8.83	6.75	6.03	6.91	8.06	6.41	6.64	6.41	8.54	6.28	6.43	-
Conductivity	uS/cm	-	917	1107	-	-	-	459	685	766	631.8	697	711	462	978	950	403.0	725.0	944.0	455.4	422.8	1001.0	476.0	660.0	740.0	468.0	387.8	790	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	109.9	68.5	61.5	155.8	157.3	101.8	68.5	91.2	41.1	14.1	-64.3	-3.5	68.0	62.5	340.9	92.4	6.4	57.2	-68.9	69.8	172.9	-
Dissolved Oxygen	mg/L	6.5	-	7.46	-	-	-	9.73	3.24	7.46	11.22	3.64	-	5.96	7.05	5.85	2.56	3.82	8.82	3.80	6.14	5.37	31.15	10.70	4.19	1.49	4.96	1.69	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 10
Groundwater Quality Results - MW7D
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																											ODWQS
		Sample Collection Date (dd/mm/yyyy)																											
		MW7D																											
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025	
Electrical Conductivity	uS/cm	155	196	188	178	166	178	-	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	6.97	6.78	6.52	6.63	6.99	**6.45**	-	-	-	-	-	6.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**43**	**51.8**	**38.2**	**50.4**	**45.8**	**42.5**	**63**	**44.0**	**42**	**47**	**42**	**43**	**44.7**	**53.8**	**41.4**	**56.7**	**41.3**	**42.9**	86.5	**50.8**	**45.2**	**57**	**63.7**	**43.8**	**77.0**	**56.2**	**44.1**	80 - 100
Total Dissolved Solids	mg/L	129	149	117	114	132	102	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500
Chloride	mg/L	27	37	35	27.5	29.7	26.2	17	27.0	26	23	24	24	21	28	27	23	26	27	32	31	32	23	26	24	21	19	20	250
Ammonia (Total)	mg/L	<0.1	0.3	<0.1	-	-	-	0.33	<0.050	0.054	0.16	0.061	0.12	0.05	<0.1	<0.04	0.14	0.04	< 0.04	0.24	0.08	0.19	0.07	< 0.04	< 0.1	-	-	< 0.1	-
Ammonia as N	mg/L	-	-	-	0.22	0.05	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	< 0.1	-	-
Ammonium - NH4	mg/L	-	-	-	0.28	0.064	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	1	<1	1	1.5	1.6	1.9	-	-	-	-	-	0.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	0.09	<0.5	<0.5	**0.22**	**0.22**	<0.10	-	-	-	-	-	**0.68**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.5	<0.5	<0.5	0.44	0.27	<0.10	1.1	0.12	0.18	0.3	<0.10	0.13	0.05	0.14	0.05	0.32	0.09	< 0.05	0.37	0.18	0.19	0.2	< 0.05	< 0.5	< 0.5	< 0.5	< 0.5	-
Phenols	mg/L	<0.002	<0.002	0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.002	<0.002	<0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	-
Calcium	mg/L	12.5	14.8	10.6	14.3	12.8	11.8	18.0	12.0	12	14.0	12.0	12	13.3	15.9	11.9	17	12	12.2	26.2	14.6	12.8	17	19.1	12.4	23.6	16.9	12.9	-
Magnesium	mg/L	2.87	3.58	2.88	3.56	3.36	3.17	4.3	3.40	3.1	3.2	2.90	3	2.8	3.44	2.87	3.45	2.75	3.01	5.12	3.47	3.2	3.56	3.91	3.1	4.41	3.4	2.9	-
Sodium	mg/L	10.4	13.1	9.4	12.0	10.6	10.6	11.0	11.0	11	11.0	10.0	10	9.9	10.3	10.1	12.7	9.73	10.6	16.5	11.4	10.8	12.8	11.8	10.4	13.8	11.2	9.45	200
Potassium	mg/L	1.51	1.66	1.42	1.90	1.70	1.61	2.20	1.70	1.6	1.80	1.60	1.6	1.96	1.94	1.66	2.48	1.74	1.75	3.57	2.04	1.76	2.51	2.22	1.85	3.11	2.11	1.79	-
Aluminium	mg/L	0.003	0.005	0.003	<0.004	<0.004	0.008	-	<0.005	<0.005	<0.0049	0.009	<0.0049	0.035	0.002	0.003	0.004	0.004	0.002	0.009	0.002	0.001	0.01	0.003	< 0.001	0.006	0.001	0.002	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.0009	<0.0009	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.01
Barium	mg/L	0.0126	0.0142	0.0131	0.011	0.012	0.013	0.018	0.010	0.011	0.014	0.011	0.011	0.0123	0.0123	0.0117	0.0146	0.0181	0.0109	0.0215	0.0111	0.00972	0.0129	0.0125	0.00944	0.0170	0.0105	0.00864	1
Beryllium	mg/L	0.00001	0.00001	0.00002	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000012	0.000013	0.000012	0.00001	0.000015	0.000014	0.000019	0.000015	0.000008	0.000014	0.000011	0.000012	0.000015	0.000011	0.000007	-
Bismuth	mg/L	<0.000007	<0.000007	<0.000007	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.024	0.084	0.05	0.066	0.046	0.065	0.16	0.036	0.05	0.09	0.053	0.053	0.072	0.085	0.088	0.097	0.08	0.069	0.29	0.077	0.081	0.169	0.166	0.067	0.265	0.138	0.079	5
Cadmium	mg/L	0.00009	0.00005	0.00008	<0.0001	<0.001	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000029	0.000014	0.000018	0.000033	0.00002	0.000005	0.00009	0.000014	0.000013	0.000025	0.000008	0.000005	0.000029	0.000016	0.000004	0.005
Chromium	mg/L	0.00063	0.00068	0.00016	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00025	0.0003	0.0002	0.00024	0.00036	0.00029	0.0002	0.0006	0.00032	0.00026	0.00026	0.00027	0.00218	0.00021	0.00019	0.05
Cobalt	mg/L	0.0001	0.000122	0.000402	<0.0005	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.000075	0.000046	0.000165	0.000131	0.00003	0.000042	0.000149	0.000102	0.000047	0.000071	0.000045	0.000028	0.000093	0.000075	0.000029	-
Copper	mg/L	0.0003	0.00052	0.00046	<0.002	<0.003	<0.003	<0.001	<0.001	<0.001	0.006	0.0013	<0.0009	0.001	0.0005	0.001	0.0017	0.0008	0.0006	0.0017	0.0021	0.0024	< 0.001	0.001	< 0.001	< 0.001	0.001	< 0.001	1
Iron	mg/L	0.057	0.037	<0.007	<0.010	<0.010	<0.010	<0.1	<0.1	<0.1	<0.1	0.13	<0.1	0.122	0.007	0.008	0.011	0.024	0.078	0.034	**0.78**	0.11	0.043	0.016	0.017	0.033	0.013	0.011	0.3
Lead	mg/L	0.00001	0.00005	<0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00012	<0.00009	<0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.01
Lithium	mg/L	0.0008	0.0009	0.001	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0005	0.0007	0.001	0.0005	0.0007	0.0009	0.0009	0.0007	0.0008	0.0008	0.0007	0.0007	0.0006	0.0007	0.0006	-
Manganese	mg/L	**0.251**	**0.151**	**0.211**	**0.669**	**0.156**	**0.122**	**0.790**	**0.110**	**0.12**	**0.520**	**0.170**	**0.14**	**0.382**	**0.616**	**0.158**	**0.91**	**0.112**	**0.0812**	**0.837**	**0.169**	**0.0841**	**0.256**	**0.103**	0.0351	**0.437**	**0.0841**	0.0112	0.05
Molybdenum	mg/L	0.00053	0.00019	0.00012	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	0.00025	0.00018	0.00101	0.00023	0.00019	0.00024	0.00039	0.00025	0.00023	< 0.0004	< 0.0004	< 0.0004	0.0004	< 0.0004	< 0.0004	-
Nickel	mg/L	0.0004	0.0003	0.0004	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0002	0.0034	0.0003	0.0006	< 0.0001	0.0002	0.0013	0.0007	0.0004	0.0002	0.0002	0.0001	0.0015	0.0002	< 0.0001	-
Total Phosphorus	mg/L	<0.003	<0.003	<0.003	<0.05	<0.05	<0.05	0.11	0.11	<0.1	<0.1	<0.1	<0.020	< 0.03	<0.3	0.05	0.05	< 0.03	< 0.03	< 0.03	< 0.03	0.05	0.03	0.04	< 0.03	0.04	< 0.03	< 0.03	-
Selenium	mg/L	0.00008	<0.00004	0.00004	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	< 0.00004	<0.00004	0.00007	0.0001	0.00007	0.00009	0.00007	0.00007	0.00004	0.00006	0.00008	< 0.00004	0.00005	0.00005	< 0.00004	0.05
Silicon	mg/L	5.69	4.87	7.28	5.38	5.07	7.88	5.10	5.30	5.3	5.30	5.40	5.4	5.88	5.19	3.95	4.64	4.96	-	< 0.00005	5.1	5.84	5.14	5.13	5.16	5.08	5.25	5.15	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	5.57	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	0.00003	0.00003	0.00003	<0.0003	<0.006	<0.006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000019	0.000022	0.000008	0.000025	0.000016	0.000011	0.000038	0.000018	0.000012	0.00002	0.000015	0.000011	0.000015	0.000009	0.000008	-
Tin	mg/L	0.00006	0.00008	0.00004	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00006	0.00007	-	< 0.00006	-	-	0.00007	0.00014	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00009	< 0.00006	< 0.00006	-
Titanium	mg/L	0.00013	0.00008	0.00006	<0.002	<0.002	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00039	0.00011	<0.00005	0.00014	0.00012	< 0.00005	0.00041	0.00014	< 0.00007	0.0004	0.0001	< 0.0001	0.0003	< 0.0001	< 0.0001	-
Uranium	mg/L	0.00007	0.00005	0.00004	<0.002	<0.002	<0.002	0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.000081	0.000072	0.000119	0.000104	0.000083	0.000069	0.000329	0.000147	0.000104	0.000164	0.000143	0.000105	0.000297	0.000167	0.000131	0.02
Vanadium	mg/L	0.00002	0.00002	0.00001	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00002	0.00001	0.00001	0.00002	0.00003	0.00001	0.00003	0.00002	0.00002	0.00003	0.00004	0.00002	0.00005	0.00002	0.00002	-
Zinc	mg/L	0.005	0.006	0.004	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.002	0.003	0.008	0.003	0.002	< 0.002	0.003	0.005	0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.009	5
Field Measurements																													
Temperature	oC	-	13.6	7.9	-	-	-	8.85	10.1	9.8	9.6	10.8	8.88	7.19	14.3	10.1	8.5	13.2	9.6	8.9	17.5	9.3	10.2	10.2	10.8	9.1	9.8	10.6	-
pH	pH Units	-	6.66	6.32	-	-	-	5.29	6.63	6.43	5.91	5.57	6.56	6.27	6.12	6.5	6.35	5.73	6.96	6.13	6.65	8.61	6.3	6.39	6.81	8.26	6.14	6.84	-
Conductivity	uS/cm	-	223	386	-	-	-	184	126.7	125.5	176.6	118.5	109	95	146.5	128	111.4	124.1	168.4	192.2	123.4	114.7	138.7	149.1	113	207.4	129.1	162	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	142.9	112.9	263.5	173.1	123.3	138.5	111.9	71.5	97.3	19.9	131.6	7.8	90.8	89.1	322.9	95	17.1	55.8	2.4	74.8	147.9	-
Dissolved Oxygen	mg/L	8.39	-	8.85	-	-	-	8.32	8.35	7.78	5	5.21	11.7	6.87	6.73	5.73	8.48	6.11	7.13	4.88	3.13	8.4	9.29	8.46	9.08	1.34	9.89	2.06	-

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 "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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 11
Surface Water Quality Results - SWA
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																								PWQO	APV	CWQG
		Sample Collection Date (dd/mm/yyyy)																										
		SW-A																										
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025			
pH	pH Units	**6.28**	**6.06**	**6.10**	**6.08**	6.68	**5.99**	6.92	7.10	7.11	7.02	7.18	6.95	7.03	7.14	7.72	6.91	7.05	6.73	6.86	7.52	6.81	6.68	7.22	6.80	**6.42**	**6.45**	6.54	6.5-8.5	-	6.5-9.0
Alkalinity (as CaCO3)	mg/L	5	5	7	<5	12	7	14	37	23	29	31	21	22	27	18	12	33	13	14	35	28	32	36	40	12	31	32	-	-	-
Electrical Conductivity	uS/cm	32	49	43	30	68	43	65	130	120	100	120	110	82	100	72	56	105	71	65	126	115	106	95	119	51	207	97	-	-	-
Hardness (as CaCO3)	mg/L	16.4	19.3	15.1	7.6	20.0	11.3	23	48	33	34	40	29	22	37.2	26.5	16	37.3	18.3	21.8	47	39.1	33.9	41.5	42.2	16.9	61.6	34.6	-	-	-
Chloride	mg/L	5	9	8.00	3.72	11.0	6.35	6.80	16.0	21.0	13	15	18	9	14	11	8	18	16	10	18	18	11	9	17	7	30	17	-	180	120
Ammonia (Total)	mg/L	<0.1	0.2	<0.1	-	-	-	<0.050	0.20	0.23	<0.050	0.084	<0.050	< 0.04	0.11	<0.04	0.08	0.04	0.05	< 0.04	0.06	0.06	0.04	0.06	< 0.1	-	-	< 0.1	-	-	-
Ammonia as N	mg/L	-	-	-	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	0.50	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols	mg/L	<0.002	<0.002	**0.013**	**0.003**	**0.004**	**0.007**	**0.0011**	**0.0011**	<0.0010	<0.0010	<0.0010	<0.0010	< 0.001	<0.001	<0.001	< 0.001	< 0.001	**0.004**	< 0.001	< 0.001	< 0.001	**0.002**	**0.002**	< 0.001	0.001	< 0.001	< 0.001	0.001	0.961	0.004
Calcium	mg/L	2.58	4.73	3.690	1.99	5.24	2.85	6	13	9.5	9.4	11	7.5	5.99	10.3	7.4	4.32	10.3	5	5.92	13	10.7	9.52	12	11.6	4.62	19.9	9.46	-	-	-
Magnesium	mg/L	0.739	1.82	1.430	0.65	1.68	1.02	1.6	3.4	2.6	2.8	2.9	2.3	1.7	2.82	1.95	1.27	2.78	1.42	1.7	3.51	3.01	2.46	2.82	3.19	1.30	2.92	2.67	-	-	-
Sodium	mg/L	2.38	3.31	2.97	1.86	3.79	2.50	3.5	6.2	6.9	6.4	6.3	5.4	4.52	4.66	3.55	3.45	6.62	3.92	4.46	6.24	6.28	5.3	3.96	6.74	3.21	11.4	6.26	-	180	-
Potassium	mg/L	*0.324*	*0.92*	*1.050*	*0.26*	*0.68*	*1.45*	*1.4*	*0.46*	*1.7*	*1.3*	*1.1*	*2.9*	*1.40*	*0.64*	*1.52*	*1.33*	*0.49*	*1.11*	*1.34*	*0.84*	*1.28*	*1.62*	*0.88*	*2.26*	*1.48*	*1.52*	*1.29*	-	0.039	-
Aluminium	mg/L	**0.169**	**1.55**	**0.835**	0.053	0.056	0.069	0.033	-	0.013	0.033	0.016	0.071	0.022	0.022	0.036	0.034	0.014	0.016	0.035	0.012	0.006	0.03	0.02	0.01	0.023	0.066	0.007	0.075	-	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	1.6	-
Arsenic	mg/L	<0.0002	0.0004	0.0004	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	<0.0002	<0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002	0.0005	< 0.0002	< 0.0002	0.0005	< 0.0002	0.1	0.15	0.005
Barium	mg/L	0.0146	0.0476	0.035	0.012	0.026	0.019	0.015	0.045	0.025	0.023	0.026	0.020	0.014	0.023	0.020	0.011	0.026	0.014	0.013	0.028	0.021	0.021	0.041	0.036	0.0107	0.076	0.0226	-	2.3	-
Beryllium	mg/L	0.00002	0.00009	0.00005	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.000007	0.000011	0.00001	< 0.000007	0.000007	0.000008	0.00001	0.000012	< 0.000007	0.000008	0.000014	0.000013	< 0.000007	0.000018	< 0.000007	0.011	0.0053	-
Bismuth	mg/L	0.00002	0.00001	0.00001	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	0.00002	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-	-	-
Boron	mg/L	0.003	0.004	0.003	<0.010	<0.010	<0.010	0.016	0.037	0.016	0.016	0.018	0.013	0.015	0.012	0.041	0.028	**0.363**	0.014	0.022	0.024	0.016	0.025	0.026	0.023	0.013	0.02	0.022	0.2	3.55	1.5
Cadmium	mg/L	0.00002	0.00005	<0.000003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000007	0.000005	0.000009	< 0.000003	0.000008	0.000003	0.000006	0.000014	0.000003	0.000009	0.000008	0.000007	0.000005	0.000048	< 0.000003	0.0002	0.00021	0.00026
Chromium	mg/L	**0.00113**	**0.00466**	0.00195	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00033	0.00023	0.00045	0.00033	0.00023	0.00031	0.00038	0.00098	0.00027	0.00038	0.00065	0.00038	0.00028	0.00109	0.00012	0.0089	0.064	0.001
Cobalt	mg/L	**0.00168**	**0.00168**	**0.001**	<0.0005	0.0008	0.0005	<0.0005	0.00081	<0.0005	<0.0005	<0.0005	<0.0005	0.000157	0.000293	0.000176	0.000096	0.000258	0.000078	0.000103	0.000411	0.000157	0.00023	0.00103	0.000548	0.000083	**0.00245**	0.000183	0.0009	0.0052	-
Copper	mg/L	0.00047	0.00466	0.00184	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0009	0.00093	<0.0009	0.0004	0.0005	0.0003	0.0019	0.0003	< 0.0002	0.0007	0.0026	0.0005	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.005	0.0069	0.004
Iron	mg/L	**1.76**	**9.34**	**10.6**	**2.59**	**4.95**	**2.28**	**0.470**	**8.10**	**1.80**	**2.60**	**2.50**	**1.40**	**0.69**	**1.69**	**1.20**	**0.52**	**1.23**	**0.31**	**0.41**	**2.43**	**1.07**	**1.13**	**7.54**	**5.97**	**0.424**	**6.36**	**1.02**	0.3	-	0.3
Lead	mg/L	0.00005	0.00124	0.00041	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00033	0.00023	0.00013	< 0.00009	0.00012	-	< 0.00009	0.00033	< 0.00009	0.00011	0.00021	0.00025	< 0.00009	0.00098	< 0.00009	0.005	0.002	0.01
Lithium	mg/L	0.0005	0.0024	0.002	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0007	0.0006	0.0007	0.0004	0.0031	0.0008	0.0005	0.0012	0.001	0.0006	0.0007	0.0008	0.0004	0.0009	0.001	-	-	-
Manganese (Total)	mg/L	0.0645	0.159	0.117	0.052	0.115	0.091	0.036	0.59	0.26	0.24	0.2	0.049	0.0609	0.109	0.074	0.0308	0.123	0.0322	0.0309	0.228	0.126	0.15	0.984	0.514	0.0289	0.555	0.15	-	-	-
Molybdenum	mg/L	0.00004	0.00008	0.00006	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00007	0.00011	0.00005	< 0.00004	0.00014	0.00005	< 0.00004	0.00015	0.00028	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.04	0.73	0.073
Nickel	mg/L	0.0008	0.0035	0.002	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	0.0002	0.001	0.0005	0.0004	0.0004	0.0002	0.0004	0.0126	0.0003	0.0006	0.0007	0.0005	0.0003	0.002	0.0003	0.025	0.039	0.15
Total Phosphorus	mg/L	**0.033**	**0.18**	**0.16**	<0.05	<0.05	<0.05	-	**0.19**	<0.1	<0.1	<0.1	<0.1	0.01	0.02	0.01	0.01	**0.20**	0.01	0.01	0.03	0.01	0.02	0.03	**0.04**	0.005	**0.16**	0.005	0.03	-	-
Selenium	mg/L	0.00006	0.00009	0.00008	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	< 0.00004	0.00006	0.00004	< 0.00004	< 0.00004	0.00005	0.0001	0.00005	< 0.00004	0.00005	0.00007	0.00005	< 0.00004	0.00008	< 0.00004	0.1	0.005	0.001
Silicon	mg/L	0.97	4.3	3.520	0.72	1.63	1.94	1.2	5.2	4.2	3.4	5	3.6	1.86	4.28	3.39	2	3.52	2.86	1.63	4.52	4.76	1.98	4.67	5.21	1.86	3.37	4.02	-	-	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.0001	0.00012	0.00025
Thalium	mg/L	0.000009	0.00003	0.00002	<0.0003	<0.0003	<0.0003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.000005	<0.000005	<0.000005	< 0.000005	0.00001	< 0.000005	0.000005	< 0.000005	< 0.000005	0.000005	< 0.000005	< 0.000005	< 0.000005	0.000008	< 0.000005	0.0003	0.04	0.0008
Tin	mg/L	0.00002	0.00025	0.00018	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00006	0.00017	<0.00006	< 0.00006	0.0001	< 0.00006	0.00012	0.00013	< 0.00006	< 0.00006	0.00007	0.00014	< 0.00006	0.00009	< 0.00006	-	-	-
Titanium	mg/L	0.00588	0.121	0.070	0.006	0.005	0.005	<0.005	0.0073	<0.005	<0.005	0.0052	0.0064	0.00141	0.00384	0.0015	0.00036	0.0016	0.00056	0.00122	0.00713	0.00051	0.0015	0.0023	0.0027	0.0005	0.0157	0.0004	-	-	-
Uranium	mg/L	0.00001	0.00009	0.00004	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.000022	0.000024	0.000014	0.000007	0.000024	0.000008	0.000148	0.000034	0.00002	0.000024	0.000032	0.00004	0.000008	0.000054	0.000013	0.005	0.033	0.02
Vanadium	mg/L	0.00035	0.00372	0.002	<0.002	<0.002	<0.002	<0.0005	0.00052	<0.0005	<0.0005	<0.0005	<0.0005	0.00013	0.00019	0.00014	0.00013	0.00009	0.00006	0.0001	0.0003	0.00007	0.00017	0.00024	0.00026	0.00006	0.00094	0.00007	0.006	0.02	-
Zinc	mg/L	0.007	0.021	0.012	0.007	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	0.004	0.009	0.005	0.004	< 0.002	0.003	0.005	< 0.002	0.003	0.003	0.002	< 0.002	0.014	0.01	0.03	0.089	0.093
Field Measurements																															
Temperature	C	16.9	21.6	9.8	-	-	-	13	20.2	14	14.3	15.8	6.14	6.65	16.4	11.6	9.2	17.1	5.8	-	17.9	8.5	18.6	16.9	14.1	12.7	15.5	14.7	-	-	-
pH	pH Units	-	6.24	5.74	-	-	-	6.22	6.8	6.3	6.49	5.79	6.16	6.02	5.81	5.62	5.83	7.14	7.45	5.45	6.95	6.53	6.42	6.38	6.06	6.49	5.82	6.77	-	-	-
Conductivity	uS/cm	-	60	48	-	-	-	63	123	104.8	108	100.1	65	35	86.3	60	39.3	102.8	59.4	41.4	113.7	80.1	87.7	146.7	70.8	59.2	209.1	113.7	-	-	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	56.9	26	90.2	299.1	47	294.9	142.2	136.5	125.1	56.0	26.1	-12.2	144.4	159.7	175.8	128.6	82.3	270.0	63.1	35.3	157.2	-	-	-
Dissolved Oxygen	mg/L	3.65	-	1.27	-	-	-	8.27	2.51	3.73	-	3.46	13.12	9.44	4.19	4.3	6.64	4.62	8.34	15.39	4.16	7.24	6.95	0.18	6.23	3.6	2.28	0.86	-	-	-

Notes:

PWQO	Provincial Water Quality Objective
APV	Aquatic Protection Values
CWQG	Canadian Water Quality Guidelines
BOLD	Exceeds PWQO
ITALICS	Exceeds APV
UNDERLINED	Exceeds CWQG
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 12
Surface Water Quality Results - SWB
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																									PWQO	APV	CWQG
		Sample Collection Date (dd/mm/yyyy)																											
		SW-B																											
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025			
pH	pH Units	6.72	6.99	6.81	6.42	7.19	6.23	6.13	5.93	6.33	6.26	6.36	6.37	6.26	6.28	6.05	6.30	6.04	5.27	6.25	6.51	6.01	5.76	6.15	6.42	5.87	5.77	6.03	6.5-8.5	-	6.5-9.0
Alkalinity (as CaCO3)	mg/L	14	24	22	17	35	10	4.5	7.5	7.7	6	9	6.3	7	7	7	6	7	< 2	5	5	6	6	4	9	4	3	22	-	-	-
Electrical Conductivity	uS/cm	66	98	97	65	115	70	48	33	53	64	49	35	43	47	72	41	78	38.00	27	78	76	52	39	68	33	31	89	-	-	-
Hardness (as CaCO3)	mg/L	22.5	35.5	32.1	18.0	40.9	18.6	9.5	11	13	16	15	9	12.5	15.50	14.20	8.70	18.60	8.18	8.37	25.20	17.80	12.60	15.00	19.20	9.6	8.00	28.6	-	-	-
Chloride	mg/L	6	13	14.00	6.77	11.7	11.5	9.00	3.40	8.10	14	7.2	4.7	7	10	7	13	24	6	4	23	21	12	10	15	6	5	18	-	180	120
Ammonia (Total)	mg/L	<0.1	0.2	<0.1	-	-	-	<0.050	0.06	0.16	0.069	0.14	<0.050	< 0.04	0.06	<0.04	0.06	0.10	0.05	0.05	0.19	0.26	< 0.04	0.04	< 0.1	-	-	< 0.1	-	-	-
Ammonia as N	mg/L	-	-	-	<0.02	**0.40**	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	< 0.1	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	0.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols	mg/L	<0.001	<0.001	**0.002**	0.001	**0.002**	0.001	0.001	<0.0010	**0.0013**	<0.0010	<0.0010	<0.0010	< 0.001	<0.001	0.001	< 0.001	< 0.001	**0.007**	< 0.001	**0.003**	< 0.001	**0.003**	**0.002**	**0.003**	**0.002**	0.001	**0.008**	0.001	0.961	0.004
Calcium	mg/L	6.12	9.74	8.730	4.90	11.5	4.92	2.3	3.1	3.6	4.3	4	2.2	3.3	4.24	3.77	2.31	4.91	2.24	2.26	5.62	4.47	3.28	4.23	4.79	2.56	2.12	7.09	-	-	-
Magnesium	mg/L	1.76	2.72	2.500	1.39	2.97	1.54	0.85	0.93	1.1	1.4	1.2	0.86	1.03	1.19	1.16	0.71	1.54	0.63	0.66	2.72	1.62	1.07	1.07	1.77	0.774	0.65	2.64	-	-	-
Sodium	mg/L	3.33	5.13	5.29	2.95	4.71	3.78	4.6	1.9	3.1	5.3	2.6	2.1	3.3	2.62	2.71	2.32	5.56	1.84	2.04	5.64	5.56	3.66	2.33	4.78	2.61	1.79	5.46	-	180	-
Potassium	mg/L	*1.37*	*0.71*	*1.950*	*1.41*	*0.86*	*2.07*	*0.88*	<0.2	*1.3*	*0.88*	*0.95*	*1.3*	*0.586*	*0.675*	*0.989*	*0.412*	*0.5*	*0.57*	*0.399*	*1.48*	*1.18*	*0.458*	*0.651*	*1.84*	*0.511*	*0.245*	*4.74*	-	0.039	-
Aluminium	mg/L	0.073	0.062	0.013	0.015	0.022	0.016	**0.096**	-	**0.11**	**0.089**	0.066	**0.19**	**0.09**	**0.09**	**0.166**	**0.101**	**0.077**	**0.167**	**0.152**	0.038	0.054	**0.101**	**0.139**	**0.083**	**0.138**	**0.206**	**0.112**	0.075	-	0.1
Antimony	mg/L	<0.0002	<0.0002	<0.0002	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	1.6	-
Arsenic	mg/L	<0.0002	<0.0002	0.0002	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	0.0004	0.0003	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0003	< 0.0002	< 0.0002	0.0004	0.0002	< 0.0002	0.0002	0.0007	0.1	0.15	0.005
Barium	mg/L	0.0165	0.0278	0.027	0.013	0.033	0.019	0.019	0.018	0.022	0.025	0.025	0.013	0.019	0.0259	0.0255	0.0145	0.0310	0.0167	0.0139	0.0559	0.0243	0.0162	0.0233	0.0269	0.0144	0.0150	0.0355	-	2.3	-
Beryllium	mg/L	0.000009	0.000008	0.00001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.00002	0.000022	0.000045	0.000010	0.000011	0.000013	0.000024	0.000094	0.000026	0.000021	0.000039	0.000030	0.000021	0.000021	0.000037	0.011	0.0053	-
Bismuth	mg/L	<0.000007	<0.000007	0.00020	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-	-	-
Boron	mg/L	0.012	0.013	0.009	<0.010	0.014	<0.010	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	0.022	0.004	0.060	0.013	0.056	0.003	0.003	0.006	0.004	0.003	0.007	0.004	0.003	0.002	0.009	0.2	3.55	1.5
Cadmium	mg/L	0.00001	0.000003	<0.000003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.000015	0.000017	0.000019	0.000007	0.000006	0.000010	0.000022	0.000034	0.000011	0.000009	0.000007	0.000004	0.000016	0.000015	0.000011	0.0002	0.00021	0.00026
Chromium	mg/L	0.0009	0.00077	0.00034	<0.003	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00086	0.00116	0.001	0.00094	0.00106	0.00085	0.00094	0.00626	0.00082	0.00083	0.0012	0.00108	0.00090	0.00092	0.00127	0.0089	0.064	0.001
Cobalt	mg/L	0.000164	0.000505	0.00039	<0.0005	0.0009	<0.0005	0.0005	0.00083	**0.00094**	**0.0011**	**0.0011**	<0.0005	0.000574	0.000788	**0.00101**	0.00045	**0.00124**	0.00036	0.00033	**0.00170**	**0.00117**	0.00062	0.00066	0.00088	0.000375	0.00056	**0.00173**	0.0009	0.0052	-
Copper	mg/L	0.00067	0.00036	0.00041	<0.002	<0.001	<0.001	0.002	<0.001	<0.001	0.0013	0.00094	<0.0009	0.0007	0.0017	0.0014	0.0020	0.0005	0.0005	0.0008	**0.0057**	0.0021	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	0.005	0.0069	0.004
Iron	mg/L	**0.858**	**3.83**	**5.340**	**0.90**	**7.62**	**0.61**	**1.20**	**4.10**	**5.10**	**5.00**	**5.60**	**1.30**	**2.12**	**4.34**	**4.27**	**1.30**	**5.63**	**1.04**	**1.20**	**9.57**	**3.33**	**2.86**	**3.26**	**5.47**	**1.42**	**2.08**	**11**	0.3	-	0.3
Lead	mg/L	0.0001	0.00014	0.00021	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00035	0.00041	0.00027	< 0.00009	0.00012	-	0.00011	0.00095	0.00021	0.00009	0.00025	0.00017	< 0.00009	0.00013	0.00044	0.005	0.002	0.01
Lithium	mg/L	0.0005	0.0007	0.001	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0008	0.0014	0.0013	0.0005	0.0020	0.0009	0.0004	0.0046	0.0020	0.0007	0.0014	0.0015	0.0005	0.0006	0.0027	-	-	-
Manganese (Total)	mg/L	0.0866	0.339	0.232	0.115	0.625	0.046	0.049	0.12	0.13	0.14	0.14	0.048	0.0684	0.108	0.141	0.066	0.145	0.055	0.040	0.130	0.144	0.083	0.078	0.128	0.0494	0.070	0.289	-	-	-
Molybdenum	mg/L	0.00004	0.00006	0.00005	<0.002	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00004	0.00007	0.00006	< 0.00004	0.00006	0.00004	< 0.00004	0.00011	< 0.00004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.04	0.73	0.073
Nickel	mg/L	0.0006	0.0005	0.00020	<0.003	<0.003	<0.003	0.0012	<0.001	0.0011	0.0014	0.0014	<0.001	0.0008	0.002	0.001	0.001	0.001	0.001	0.001	0.015	0.001	0.001	0.001	0.001	0.0007	0.001	0.003	0.025	0.039	0.15
Total Phosphorus	mg/L	**0.044**	**0.046**	**0.07**	<0.05	<0.05	<0.05	-	**0.12**	<0.1	<0.1	<0.1	<0.1	0.03	**0.168**	**0.115**	0.014	**0.196**	0.016	0.018	**0.512**	0.03	0.024	**0.033**	**0.085**	0.013	0.022	**0.096**	0.03	-	-
Selenium	mg/L	<0.00004	0.00005	0.00006	<0.004	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	< 0.00004	0.0001	0.0001	< 0.00004	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00007	0.0001	0.00011	0.1	0.005	0.001
Silicon	mg/L	1.12	4.76	5.470	1.10	4.41	2.28	2	1.8	1.3	1.8	1.7	0.63	0.85	1.66	1.91	1.14	2.18	1.08	1.29	4.14	2.77	1.33	2.57	2.76	1.20	2.27	2.79	-	-	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.0001	0.00012	0.00025
Thalium	mg/L	0.000005	0.000005	<0.000005	<0.0003	<0.0003	<0.0003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.000005	0.000008	<0.000005	< 0.000005	< 0.000005	0.000005	0.000006	0.000029	0.000005	< 0.000005	0.000007	0.000006	< 0.000005	< 0.000005	0.000009	0.0003	0.04	0.0008
Tin	mg/L	0.00005	0.00028	0.00015	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00006	<0.00006	0.00007	0.00006	0.00009	< 0.00006	0.00014	0.00008	< 0.00006	< 0.00006	0.00007	< 0.00006	< 0.00006	< 0.00006	0.00006	-	-	-
Titanium	mg/L	0.00266	0.00234	0.007	<0.002	<0.002	<0.002	0.024	<0.005	0.0079	0.015	0.018	0.0094	0.00976	0.0262	0.0145	0.0040	0.0078	0.0048	0.0037	0.1320	0.0076	0.0052	0.0172	0.0115	0.0029	0.0056	0.0186	-	-	-
Uranium	mg/L	0.00002	0.00002	0.00002	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.000018	0.000029	0.000025	0.000010	0.000014	0.000009	0.000144	0.000085	0.000025	0.000011	0.000023	0.000021	0.000008	0.000014	0.000064	0.005	0.033	0.02
Vanadium	mg/L	0.00015	0.00017	0.00034	<0.002	<0.002	<0.002	0.001	<0.0005	0.00062	0.00074	0.00076	0.00057	0.00056	0.00107	0.00107	0.00040	0.00053	0.00037	0.00040	0.00420	0.00058	0.00041	0.00077	0.00070	0.00029	0.00044	0.00219	0.006	0.02	-
Zinc	mg/L	0.004	0.003	0.003	<0.005	<0.005	0.006	0.011	<0.005	<0.005	0.011	0.0064	0.0064	0.006	0.010	0.025	0.006	0.005	0.007	0.007	0.021	0.006	0.004	0.007	0.008	0.006	0.006	0.02	0.03	0.089	0.093
Field Measurements																															
Temperature	C	14.1	18.3	9.7	-	-	-	12.45	18.8	13.5	16.3	14.3	6.21	8.42	19	12.6	10.7	20.1	6.0	11.6	16.4	8.0	21.2	17.1	16.4	14.2	17.0	16.7	-	-	-
pH	pH Units	-	6.86	6.51	-	-	-	5.27	5.51	5.47	5.62	4.55	5.44	5.6	5.52	5.81	5.43	5.14	5.73	5.71	6.59	7.64	5.62	5.58	6.08	6.7	5	6.27	-	-	-
Conductivity	uS/cm	-	123	186	-	-	-	59	36.1	51.5	68.7	42.3	22	29	76.1	37	29.7	83.1	30.2	31.8	147.5	58.8	52.3	40.8	58.3	43.1	26.9	102.4	-	-	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	112.8	139.1	183.5	177.6	289.6	324.9	189.9	79.2	147.4	51.0	145.4	153.1	159.0	131.5	343.1	120.6	92.6	127.5	56.3	41.3	119.6	-	-	-
Dissolved Oxygen	mg/L	4.94	-	4.19	-	-	-	3.28	0.38	0.65	1.83	0.87	15.36	4.52	-	1.92	3.93	0.94	4.36	14.53	6.08	2.47	5.63	3.93	1.49	3.06	2.71	0.74	-	-	-

Notes:

PWQO	Provincial Water Quality Objective
APV	Aquatic Protection Values
CWQG	Canadian Water Quality Guidelines
BOLD	Exceeds PWQO
ITALICS	Exceeds APV
UNDERLINED	Exceeds CWQG
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 13
Surface Water Quality Results - SWC
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation																									PWQO	APV	CWQG
		Sample Collection Date (dd/mm/yyyy)																											
		SW-C																											
		17/05/2017	17/08/2017	11/10/2017	23/05/2018	15/08/2018	10/10/2018	24/05/2019	26/07/2019	25/09/2019	08/06/2020	26/08/2020	21/10/2020	11/05/2021	06/08/2021	05/10/2021	02/05/2022	05/08/2022	17/10/2022	10/05/2023	02/08/2023	28/09/2023	16/05/2024	24/07/2024	01/10/2024	05/05/2025	25/07/2025	24/09/2025			
pH	pH Units	7.06	**6.21**	7.21	**6.45**	7.42	**6.26**	7.03	7.31	**6.33**	7.26	7.40	7.07	7.02	7.38	7.03	7.02	7.45	6.97	7.21	7.58	7.34	6.82	7.41	7.11	**6.43**	6.70	6.87	6.5-8.5	-	6.5-9.0
Alkalinity (as CaCO3)	mg/L	17	22	23	16	34	9	13	32	22	25	29	17	15	25	17	12	29	12	14	34	28	28	33	37	16	29	31	-	-	-
Electrical Conductivity	uS/cm	63	67	95	64	110	69	60	120	120	95	110	96	67	93	69	53	94	70	64	116	111	90	79	115	51	82	101	-	-	-
Hardness (as CaCO3)	mg/L	41.5	107	30.4	17.8	37.6	18.9	21	46	34	33	38	28	21.3	33.4	26.2	16.5	35.2	25.8	21	44	38	30.8	36	41.7	17.2	31.8	35.3	-	-	-
Chloride	mg/L	6.0	8	14	6.3	11.3	11.4	6.2	16	20	12	15	15	8	14	12	8	17	16	9	17	17	10	7	16	7	7	16	-	180	120
Ammonia (Total)	mg/L	<0.1	2.00	<0.1	-	-	-	0.05	<0.050	0.09	0.082	0.063	<0.050	< 0.04	0.08	<0.04	0.06	< 0.04	< 0.04	< 0.04	0.06	0.04	< 0.04	0.10	< 0.1	-	-	< 0.1	-	-	-
Ammonia as N	mg/L	-	-	-	<0.02	**0.21**	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.1	0.1	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols	mg/L	<0.002	**0.01**	**0.002**	***4.88***	<0.001	**0.002**	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	< 0.001	<0.001	0.001	< 0.001	< 0.001	**0.005**	< 0.001	< 0.01	< 0.001	**0.004**	0.001	< 0.001	0.001	**0.002**	< 0.001	0.001	0.961	0.004
Calcium	mg/L	6.36	32.00	8.27	1.37	10.40	5.02	5.50	12.00	9.60	8.50	10.00	7.40	5.82	9.20	7.28	4.55	10.10	6.77	5.78	12.00	10.40	8.58	10.50	11.60	4.76	8.98	9.6	-	-	-
Magnesium	mg/L	1.69	6.70	2.36	2.84	2.83	1.55	1.40	3.30	2.60	2.40	2.90	2.20	1.64	2.53	1.95	1.25	2.44	2.16	1.60	3.41	2.93	2.27	2.38	3.11	1.30	2.27	2.74	-	-	-
Sodium	mg/L	3.29	8.00	4.75	1.36	4.54	3.76	3.20	6.00	6.30	5.50	6.30	4.60	4.12	4.18	3.46	3.12	5.39	5.67	4.04	5.73	5.87	4.60	3.30	6.37	3.12	3.43	6	-	180	-
Potassium	mg/L	*1.37*	*3.30*	*1.72*	0.02	*0.80*	*1.82*	*1.30*	*0.33*	*1.50*	*1.20*	*1.10*	*2.30*	*1.29*	*0.628*	*1.46*	*1.27*	*0.44*	*1.59*	*1.28*	*0.79*	*1.33*	*1.47*	*0.83*	*2.10*	*1.41*	*0.74*	*1.5*	-	0.039	-
Aluminium	mg/L	**0.12**	**18.70**	**0.27**	<0.003	0.01	0.03	0.05	-	0.01	0.03	0.02	0.07	0.03	0.018	0.044	0.036	0.013	0.040	0.038	0.010	0.007	0.037	0.075	0.007	0.028	0.038	0.007	0.075	-	0.1
Antimony	mg/L	<0.0002	<0.02	0.00020	<0.003	<0.003	<0.003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	1.6	-
Arsenic	mg/L	<0.0002	<0.02	0.00020	0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.0002	<0.0002	<0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0006	< 0.0002	< 0.0002	0.0002	< 0.0002	0.1	0.15	0.005
Barium	mg/L	0.02	0.36	0.03	0.00	0.03	0.02	0.02	0.04	0.03	0.02	0.02	0.02	0.01	0.018	0.018	0.013	0.020	0.015	0.012	0.020	0.016	0.018	0.038	0.027	0.0117	0.029	0.0183	-	2.3	-
Beryllium	mg/L	0.00002	0.00100	0.00002	<0.002	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0004	<0.0004	<0.0004	0.00001	0.000007	0.000010	< 0.000007	0.000009	0.000009	0.000011	0.000009	< 0.000007	0.000016	0.000033	0.000012	0.000009	0.000009	< 0.000007	0.011	0.0053	-
Bismuth	mg/L	0.00002	0.00090	<0.000007	<0.010	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00001	<0.00001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-	-	-
Boron	mg/L	0.01	**0.30**	0.01	<0.0001	0.01	<0.010	0.01	0.03	0.02	0.01	0.02	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.02	0.02	0.01	0.02	0.02	0.02	0.012	0.03	0.021	0.2	3.55	1.5
Cadmium	mg/L	0.00001	***0.002***	0.00001	<0.003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	0.00001	0.000019	0.000017	0.000013	0.000033	0.000017	0.000013	0.000013	< 0.000003	0.000021	0.000039	0.000010	0.000008	0.000015	0.000013	0.0002	0.00021	0.00026
Chromium	mg/L	0.00093	**0.02**	0.0005	<0.0005	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00034	0.00268	0.00038	0.00036	0.00023	0.00034	0.00038	0.00076	0.00022	0.00045	0.00069	0.00031	0.00027	0.00042	0.0002	0.0089	0.064	0.001
Cobalt	mg/L	0.00020	***0.01***	0.0006	<0.002	0.00	<0.0005	<0.0005	0.00	0.00	<0.0005	<0.0005	<0.0005	0.00017	0.000259	0.000146	0.000194	0.000224	0.000079	0.000095	0.000300	0.000079	0.000247	**0.001190**	0.000250	0.000122	0.000711	0.000113	0.0009	0.0052	-
Copper	mg/L	0.00053	***0.04***	0.0004	***0.83***	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0009	<0.0009	<0.0009	0.00030	0.0017	0.0004	0.0015	0.0004	0.0004	0.0006	0.0016	0.0025	< 0.001	< 0.001	< 0.001	< 0.001	0.0020	< 0.001	0.005	0.0069	0.004
Iron	mg/L	**0.97**	**119.00**	**3.03**	<0.001	**3.47**	**0.69**	**0.57**	**3.40**	**2.00**	**1.40**	**1.50**	**0.63**	**0.70**	**0.972**	**0.980**	**0.674**	**0.949**	**0.306**	**0.393**	**1.290**	**0.328**	**1.12**	**6.91**	**1.25**	**0.554**	**3.40**	**0.616**	0.3	-	0.3
Lead	mg/L	0.00016	***0.06***	0.0005	<0.010	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00031	0.00058	0.00017	0.00025	0.00015	-	0.00010	0.00026	< 0.00009	0.00021	0.00083	0.00016	0.00022	0.00033	0.00009	0.005	0.002	0.01
Lithium	mg/L	0.00050	<0.01	0.0007	0.10	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00050	0.0006	0.0006	0.0005	0.0009	0.0013	0.0005	0.0009	0.0008	0.0006	0.0007	0.0007	0.0004	0.0005	0.0009	-	-	-
Manganese (Total)	mg/L	0.07	1.42	0.36	<0.002	0.56	0.10	0.04	0.45	0.47	0.14	0.17	0.02	0.07	0.102	0.046	0.065	0.107	0.026	0.025	0.181	0.040	0.129	0.902	0.193	0.0602	0.487	0.061	-	-	-
Molybdenum	mg/L	0.00007	0.02	0.0001	<0.003	<0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	< 0.00004	0.0001	0.00004	< 0.00004	0.00008	< 0.00004	< 0.00004	0.00010	< 0.00004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004	0.04	0.73	0.073
Nickel	mg/L	0.00050	**0.03**	0.0004	<0.05	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0001	0.0015	0.0005	0.0005	0.0005	0.0006	0.0004	0.0004	0.0006	0.0005	0.0011	0.0004	0.0004	0.0008	0.0004	0.025	0.039	0.15
Total Phosphorus	mg/L	0.028	**5.80**	**0.05**	<0.004	<0.05	<0.05	-	**0.13**	<0.1	<0.1	<0.1	<0.1	0.01	0.028	0.013	0.014	**0.159**	0.011	0.010	0.026	0.004	0.025	**0.045**	0.022	0.010	0.026	0.014	0.03	-	-
Selenium	mg/L	0.00	<0.004	0.0001	***1.41***	<0.004	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	< 0.00004	0.00004	0.00005	0.00009	0.00004	< 0.00004	0.00008	< 0.00004	< 0.00004	0.00007	0.00009	< 0.00004	< 0.00004	0.00006	< 0.00004	0.1	0.005	0.001
Silicon	mg/L	1.25	20.00	4.66	<0.0001	4.56	2.35	1.40	4.90	4.20	3.40	5.10	4.20	2.08	4.22	3.79	2.23	3.76	4.69	1.86	4.40	4.94	2.22	4.68	5.36	2.19	3.44	4.12	-	-	-
Silver	mg/L	<0.00005	<0.00005	<0.00005	<0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00009	<0.00009	<0.00009	< 0.00005	<0.00005	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.0001	0.00012	0.00025
Thalium	mg/L	0.00001	<0.0005	<0.000005	<0.002	<0.0003	<0.0003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	< 0.000005	<0.000005	<0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000008	0.000007	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.0003	0.04	0.0008
Tin	mg/L	0.00003	0.01	0.00018	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	< 0.00006	0.00052	<0.00006	0.00008	< 0.00006	< 0.00006	0.00009	0.00012	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	0.00006	< 0.00006	-	-	-
Titanium	mg/L	0.01	0.90	0.02	<0.002	<0.002	<0.002	<0.005	<0.005	0.01	0.01	0.01	0.01	0.00212	0.00238	0.00231	0.00280	0.00216	0.00102	0.00194	0.00376	0.00061	0.00440	0.00940	0.00420	0.0017	0.00400	0.0019	-	-	-
Uranium	mg/L	0.00003	0.00190	0.00002	<0.002	<0.002	<0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00002	0.000027	0.000016	0.000019	0.000015	0.000009	0.000091	0.000020	0.000009	0.000034	0.000058	0.000014	0.000017	0.000021	0.000012	0.005	0.033	0.02
Vanadium	mg/L	0.00026	***0.04***	**0.01**	<0.005	<0.002	<0.002	<0.0005	<0.0005	0.00	<0.0005	<0.0005	<0.0005	0.00015	0.00017	0.00017	0.00022	0.00020	0.00008	0.00012	0.00024	0.00005	0.00027	0.00065	0.00015	0.00012	0.00027	0.0001	0.006	0.02	-
Zinc	mg/L	0.01	<0.2	0.01	-	<0.005	0.01	0.01	<0.005	0.01	<0.005	<0.005	<0.005	0.004	0.008	0.009	0.004	< 0.002	0.002	0.003	0.004	0.002	0.004	0.006	0.002	0.002	0.005	0.012	0.03	0.089	0.093
Field Measurements																															
Temperature	C	17.20	13.20	9.90	-	-	-	12.07	21.50	13.30	12.40	14.00	5.64	6.44	15.80	11.10	8.9	16.8	6.0	-	26.1	8.9	16.1	16.5	13.6	11.0	16.6	14.4	-	-	-
pH	pH Units	-	6.61	6.47	-	-	-	6.45	7.08	6.48	6.86	6.19	6.39	6.54	6.20	6.74	6.13	6.92	6.63	-	7.70	6.79	7.20	6.44	6.51	5.95	5.70	6.39	-	-	-
Conductivity	uS/cm	-	117.00	133.00	-	-	-	61.00	116.30	98.50	108.70	91.00	59.00	47.00	322.00	58.00	36.9	92.2	52.1	-	100.7	76.7	77.4	69.6	87.2	58.0	73.2	117	-	-	-
Oxidation Reduction Potential	mV	-	-	-	-	-	-	48.60	39.20	135.60	325.30	240.40	328.90	129.60	107.60	100.30	92.6	55.5	83.5	-	117.1	184.1	117.5	150.9	228.2	106.9	89.2	266.2	-	-	-
Dissolved Oxygen	mg/L	6.93	-	7.30	-	-	-	9.55	5.48	6.88	1.77	7.52	22.89	12.63	6.08	6.92	9.08	7.41	10.66	-	6.52	10.96	16.50	10.51	9.31	9.00	7.96	1.01	-	-	-

Notes:

PWQO	Provincial Water Quality Objective
APV	Aquatic Protection Values
CWQG	Canadian Water Quality Guidelines
BOLD	Exceeds PWQO
ITALICS	Exceeds APV
UNDERLINED	Exceeds CWQG
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 14
Residential Well Water Quality Results - 1 GDR
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation							ODWQS
		Sample Collection Date (dd/mm/yyyy)							
		1 GDR							
		26/07/2019	21/10/2020	06/08/2021	05/08/2022	02/08/2023	24/07/2024	25/07/2025	
Electrical Conductivity	uS/cm	-	250	-	NO	-	-	NO	-
pH	pH Units	-	7.57	-	SAMPLE	-	-	SAMPLE	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	97	93	98.3	-	**105**	**103**	-	80 - 100
Total Dissolved Solids	mg/L	-	145	-	-	-	-	-	500
Chloride	mg/L	19	19	24	-	19	20	-	250
Ammonia (Total)	mg/L	<0.050	<0.050	-	-	< 0.04	< 0.04	-	-
Ammonia as N	mg/L	-	-	-	-	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	-	0.69	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	-	**1.7**	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.10	0.11	0.08	-	< 0.05	0.87	-	-
Phenols	mg/L	<0.0010	<0.0010	<0.002	-	< 0.002	0.003	-	-
Calcium	mg/L	29	28	29.7	-	31.1	30.9	-	-
Magnesium	mg/L	6.1	5.8	5.9	-	6.58	6.23	-	-
Sodium	mg/L	9.1	10	9.3	-	9.96	8.88	-	200
Potassium	mg/L	2.1	2.1	2.21	-	2.39	2.28	-	-
Aluminium	mg/L	0.0096	<0.0049	0.002	-	0.002	0.049	-	0.1
Antimony	mg/L	<0.0005	<0.0005	<0.0009	-	< 0.0009	< 0.0009	-	0.006
Arsenic	mg/L	<0.001	<0.001	-	-	-	-	-	0.01
Barium	mg/L	0.039	0.041	0.0394	-	0.0389	0.0423	-	1
Beryllium	mg/L	<0.0005	<0.0004	<0.000007	-	< 0.000007	< 0.000007	-	-
Bismuth	mg/L	<0.001	<0.001	<0.00001	-	< 0.00001	< 0.00001	-	-
Boron	mg/L	0.037	0.033	0.031	-	0.037	0.036	-	5
Cadmium	mg/L	<0.0001	<0.00009	0.000066	-	0.000071	0.000115	-	0.005
Chromium	mg/L	<0.005	<0.005	0.00029	-	0.00023	0.00037	-	0.05
Cobalt	mg/L	0.00057	<0.0005	0.00003	-	0.000025	0.000023	-	-
Copper	mg/L	0.024	0.054	0.0253	-	0.0128	0.088	-	1
Iron	mg/L	<0.1	<0.1	0.02	-	0.049	0.04	-	0.3
Lead	mg/L	0.00069	0.0042	0.00131	-	0.00464	**0.013**	-	0.01
Lithium	mg/L	<0.005	<0.005	0.0018	-	0.0024	0.0021	-	-
Manganese	mg/L	<0.002	<0.002	0.00049	-	0.00049	0.00076	-	0.05
Molybdenum	mg/L	0.0027	0.0023	0.0025	-	0.00237	0.0023	-	-
Nickel	mg/L	<0.001	<0.001	0.0044	-	0.0007	0.0003	-	-
Total Phosphorus	mg/L	<0.1	<0.00002	<0.03	-	< 0.03	< 0.03	-	-
Selenium	mg/L	<0.002	<0.002	0.00004	-	< 0.00004	< 0.00004	-	0.05
Silicon	mg/L	4.6	4	4.14	-	4.43	4.61	-	-
Silver	mg/L	<0.0001	<0.00009	<0.00005	-	< 0.00005	0.00014	-	-
Thallium	mg/L	<0.0005	<0.00005	<0.000005	-	< 0.000005	< 0.000005	-	-
Tin	mg/L	<0.001	<0.001	<0.00006	-	0.00015	0.00085	-	-
Titanium	mg/L	<0.005	<0.005	0.00005	-	< 0.00007	< 0.0001	-	-
Uranium	mg/L	0.0009	0.00099	0.00106	-	0.00116	0.000851	-	0.02
Vanadium	mg/L	0.00072	0.00065	0.00065	-	0.00062	0.00064	-	-
Zinc	mg/L	<0.005	0.073	0.047	-	0.02	0.037	-	5

Notes: No samples on 05/08/2022 and 25/07/2025, since the tenant was not home.

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 “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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 15
Residential Well Water Quality Results - 6 GDR
Bonfield Landfill Site
Township of Bonfield, Ontario

Parameter	Units	Sample Designation							ODWQS
		Sample Collection Date (dd/mm/yyyy)							
		6 GDR							
		26/07/2019	21/10/2020	06/08/2021	05/08/2022	02/08/2023	24/07/2024	25/07/2025	
Electrical Conductivity	uS/cm	-	160	-	-	-	-	-	-
pH	pH Units	-	7.28	-	-	-	-	-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**79**	**72**	**20.2**	**56.8**	**54.1**	**30.6**	**33.3**	80 - 100
Total Dissolved Solids	mg/L	-	100	-	-	-	-	-	500
Chloride	mg/L	<1.0	1.3	2	< 1	< 1	1	< 1	250
Ammonia (Total)	mg/L	<0.050	<0.050	-	< 0.04	< 0.04	< 0.04	< 0.1	-
Ammonia as N	mg/L	-	-	-	-	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	-	2.2	-	-	-	-	-	5
Total Organic Nitrogen	mg/L	-	**0.17**	-	-	-	-	-	0.15
Total Kjeldahl Nitrogen	mg/L	<0.10	<0.10	0.16	0.27	< 0.05	0.13	< 0.5	-
Phenols	mg/L	0.001	<0.0010	<0.002	2.5	< 0.002	< 0.002	0.001	-
Calcium	mg/L	23	21	6.15	16.4	16.1	9.49	9.99	-
Magnesium	mg/L	5.5	4.8	1.16	3.83	3.38	1.66	2.04	-
Sodium	mg/L	1.9	1.7	1.32	1.86	1.57	1.48	1.68	200
Potassium	mg/L	1	1	1.4	0.953	0.912	1.17	1.07	-
Aluminium	mg/L	0.077	**0.11**	**0.147**	0.042	**0.13**	**0.227**	**0.227**	0.1
Antimony	mg/L	<0.0005	<0.0005	<0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.006
Arsenic	mg/L	<0.001	<0.001	-	-	-	-	-	0.01
Barium	mg/L	0.023	0.029	0.0489	0.0205	0.0189	0.0305	0.0263	1
Beryllium	mg/L	<0.0005	<0.0004	0.000093	0.000046	0.000048	0.000097	0.000089	-
Bismuth	mg/L	<0.001	<0.001	<0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.011	0.011	0.016	0.03	0.009	0.01	0.009	5
Cadmium	mg/L	<0.0001	<0.00009	0.000029	0.000007	0.000014	0.000018	0.000015	0.005
Chromium	mg/L	<0.005	<0.005	0.00041	0.00017	0.0002	0.00041	0.00028	0.05
Cobalt	mg/L	<0.0005	<0.0005	0.000711	0.000096	0.000138	0.000417	0.000436	-
Copper	mg/L	0.0035	0.0029	0.0104	0.0039	0.0032	0.01	0.008	1
Iron	mg/L	<0.1	<0.1	0.019	0.018	0.04	0.016	0.022	0.3
Lead	mg/L	<0.0005	<0.0005	0.00075	< 0.00009	0.00015	0.00062	0.00065	0.01
Lithium	mg/L	<0.005	<0.005	0.0005	0.0005	0.0004	0.0005	0.0004	-
Manganese	mg/L	0.015	0.021	**0.0685**	0.0273	0.0185	0.0456	0.0469	0.05
Molybdenum	mg/L	0.00095	0.0009	0.00011	0.00095	0.0006	< 0.0004	0.0011	-
Nickel	mg/L	<0.001	<0.001	0.0039	< 0.0001	0.0003	0.0005	0.0004	-
Total Phosphorus	mg/L	<0.1	<0.00002	<0.03	< 0.03	< 0.03	< 0.03	< 0.03	-
Selenium	mg/L	<0.002	<0.002	0.00006	0.00021	0.00009	0.0001	0.00007	0.05
Silicon	mg/L	4.1	3.9	3.74	3.85	4.03	3.93	3.52	-
Silver	mg/L	<0.0001	<0.00009	<0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	<0.0005	<0.00005	0.000012	0.000006	0.000006	0.000008	0.000013	-
Tin	mg/L	<0.001	<0.001	0.00008	-	< 0.00006	< 0.00006	0.00007	-
Titanium	mg/L	<0.005	<0.005	0.00028	0.00011	0.00081	0.0002	0.0002	-
Uranium	mg/L	0.00036	0.00037	0.000238	0.000108	0.000264	0.000168	0.000189	0.02
Vanadium	mg/L	<0.0005	<0.0005	0.00003	0.00004	0.00007	0.00004	0.00004	-
Zinc	mg/L	0.007	0.0071	0.062	0.005	0.023	0.038	0.017	5

Notes:

ODWQS	Ontario Drinking Water Quality Standards - Ontario Regulation 169/03 “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.
BOLD	Exceeds ODWQS
Units	All Units in mg/L Unless Otherwise Noted.

TABLE 16
Groundwater Duplicate Data
Bonfield Landfill Site
Bonfield, Ontario

Parameter	Units	RDL	PQL	05/05/2025			25/07/2025			24/09/2025		
				MW3D	GW DUP	Relative Percent Difference (%)	MW4	GW DUP	Relative Percent Difference (%)	MW3D	GW DUP	Relative Percent Difference (%)
Electrical Conductivity	uS/cm	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	-	-	-	-	-	-	-	-	-	-	-
Total Hardness (as CaCO3)	mg/L	0.05	0.25	163	160	1.86	311	314	0.96	116	117	0.86
Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chloride	mg/L	1	5	36	35	2.82	58	61	5.04	37	36	2.74
Ammonia (Total)	mg/L	0.1	0.5	-	-	-	-	-	-	2.6	2.6	0.00
Ammonia as N	mg/L	-	-	2.5	2.4	4.08	8.4	8.7	3.51	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total Organic Nitrogen	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.5	2.5	2.3	2.6	NC	9	9.1	1.10	3	3.2	6.45
Phenols	mg/L	0.002	0.01	< 0.002	< 0.002	NC	0.003	0.004	NC	< 0.002	< 0.002	NC
Calcium	mg/L	0.01	0.05	44.7	43.9	1.81	95.9	97	1.14	31.4	31.9	1.58
Magnesium	mg/L	0.001	0.005	12.5	12.3	1.61	17.2	17.3	0.58	9.16	9.14	0.22
Sodium	mg/L	0.01	0.05	22.7	22.4	1.33	36.9	37.8	2.41	17.8	17.7	0.56
Potassium	mg/L	0.009	0.045	5.62	5.51	1.98	13.7	13.9	1.45	4.99	5.02	0.60
Aluminium	mg/L	0.001	0.005	0.002	0.001	NC	0.03	0.03	0.00	0.002	0.003	NC
Antimony	mg/L	0.0009	0.0045	< 0.0009	< 0.0009	NC	< 0.0009	< 0.0009	NC	< 0.0009	< 0.0009	NC
Arsenic	mg/L	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/L	0.00008	0.0004	0.0765	0.0777	1.56	0.119	0.121	1.67	0.0776	0.0789	1.66
Beryllium	mg/L	0.000007	0.000035	0.000012	0.000007	NC	0.000104	0.000104	0.00	0.000012	0.000014	NC
Bismuth	mg/L	0.00001	0.00005	< 0.00001	< 0.00001	NC	0.00001	< 0.00001	NC	< 0.00001	< 0.00001	NC
Boron	mg/L	0.002	0.01	0.221	0.219	0.91	0.419	0.421	0.48	0.179	0.156	13.73
Cadmium	mg/L	0.000003	0.000015	0.000185	0.000177	4.42	0.000437	0.000431	1.38	0.000126	0.000118	6.56
Chromium	mg/L	0.00008	0.0004	0.00026	0.00024	NC	0.00064	0.00063	1.57	0.00021	0.0002	NC
Cobalt	mg/L	0.000004	0.00002	0.00146	0.00147	0.68	0.00445	0.00444	0.22	0.00137	0.00135	1.47
Copper	mg/L	0.001	0.005	0.003	0.003	NC	0.003	0.003	NC	0.002	0.002	NC
Iron	mg/L	0.007	0.035	1.63	1.61	1.23	4.81	5	3.87	2.71	2.67	1.49
Lead	mg/L	0.00009	0.00045	< 0.00009	< 0.00009	NC	< 0.00009	0.00011	NC	< 0.00009	< 0.00009	NC
Lithium	mg/L	0.0001	0.0005	0.0032	0.0031	3.17	0.0026	0.0025	3.92	0.0024	0.0024	0.00
Manganese	mg/L	0.00001	0.00005	4.40	4.37	0.68	16.3	15.3	6.33	3.63	3.63	0.00
Molybdenum	mg/L	0.0004	0.002	0.0011	0.0011	NC	< 0.0004	< 0.0004	NC	0.0013	0.0013	NC
Nickel	mg/L	0.0001	0.0005	0.0029	0.0027	7.14	0.0037	0.0038	2.67	0.002	0.0021	4.88
Total Phosphorus	mg/L	0.03	0.15	< 0.03	< 0.03	NC	< 0.03	< 0.03	NC	< 0.03	< 0.03	NC
Selenium	mg/L	0.00004	0.0002	0.00005	0.00004	NC	0.00034	0.00031	9.23	< 0.00004	0.00004	NC
Silicon	mg/L	0.02	0.1	9.18	9.29	1.19	9.44	9.3	1.49	7.97	8.18	2.60
Silver	mg/L	0.00005	0.00025	< 0.00005	< 0.00005	NC	< 0.00005	< 0.00005	NC	< 0.00005	< 0.00005	NC
Thallium	mg/L	0.000005	0.000025	0.000045	0.000047	4.35	0.000033	0.000034	2.99	0.000037	0.000036	2.74
Tin	mg/L	0.00006	0.0003	0.00008	0.00006	NC	0.00016	0.00017	NC	< 0.00006	< 0.00006	NC
Titanium	mg/L	0.0001	0.0005	0.0001	0.0001	NC	0.0002	0.0002	NC	0.0001	0.0002	NC
Uranium	mg/L	0.000002	0.00001	0.000637	0.000627	1.58	0.000195	0.00021	7.41	0.000538	0.000539	0.19
Vanadium	mg/L	0.00001	0.00005	0.00009	0.00009	0.00	0.00105	0.00107	1.89	0.00015	0.00015	0.00
Zinc	mg/L	0.002	0.01	0.006	0.005	NC	0.002	0.002	NC	0.012	0.014	15.38

Notes:

NC	Not Calculable as one or both concentrations are below the laboratory reasonable detection limit (RDL) or the practical quantification limit (PQL).
BOLD	Exceeds the 50% industry standard.
RDL	Reasonable Detection Limit
PQL	Practical Quantification Limit

TABLE 17
Surface Water Duplicate Data
Bonfield Landfill Site
Bonfield, Ontario

Parameter	Units	RDL	PQL	05/05/2025			25/07/2025			24/09/2025		
				SW-C	SW DUP	Relative Percent Difference (%)	SW-B	SW DUP	Relative Percent Difference (%)	SW-A	SW DUP	Relative Percent Difference (%)
pH	pH Units	0.05	0.25	6.43	6.60	2.61	5.77	5.87	1.72	6.54	6.6	0.91
Alkalinity (as CaCO3)	mg/L	2	10	16	14	13.33	3	7	NC	32	31	3.17
Electrical Conductivity	uS/cm	2	10	51	52	1.94	31	30	3.28	97	96	1.04
Hardness (as CaCO3)	mg/L	0.05	0.25	17.2	17.0	1.17	8	8	0.00	34.6	35	1.15
Chloride	mg/L	1	5	7	6	15.38	5	5	0.00	17	17	0.00
Ammonia (Total)	mg/L	0.04	0.2	-	-	-	-	-	-	< 0.1	< 0.1	NC
Ammonia as N	mg/L	-	-	< 0.1	< 0.1	NC	< 0.1	< 0.1	NC	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phenols	mg/L	0.001	0.005	0.001	0.001	NC	0.001	< 0.001	NC	< 0.001	< 0.001	NC
Calcium	mg/L	0.01	0.05	4.76	4.69	1.48	2.12	2.13	0.47	9.46	9.65	1.99
Magnesium	mg/L	0.001	0.005	1.30	1.29	0.77	0.65	0.641	1.39	2.67	2.66	0.38
Sodium	mg/L	0.01	0.05	3.12	3.10	0.64	1.79	1.8	0.56	6.26	6.21	0.80
Potassium	mg/L	0.009	0.045	1.41	1.37	2.88	0.25	0.234	4.59	1.29	1.28	0.78
Aluminium	mg/L	0.001	0.005	0.028	0.029	3.51	0.21	0.207	0.48	0.007	0.015	**72.73**
Antimony	mg/L	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/L	0.0002	0.001	< 0.0002	< 0.0002	NC	0.0002	< 0.0002	NC	< 0.0002	< 0.0002	NC
Barium	mg/L	0.00002	0.0001	0.0117	0.0112	4.37	0.02	0.0152	1.32	0.023	0.0229	1.32
Beryllium	mg/L	0.000007	0.000035	0.000009	0.000008	NC	0.00002	0.000021	NC	< 0.000007	< 0.000007	NC
Bismuth	mg/L	0.00001	0.00005	< 0.00001	< 0.00001	NC	< 0.00001	< 0.00001	NC	< 0.00001	< 0.00001	NC
Boron	mg/L	0.002	0.01	0.012	0.012	0.00	0.002	0.003	NC	0.022	0.022	0.00
Cadmium	mg/L	0.000003	0.000015	0.000008	0.000006	NC	0.00002	0.000014	NC	< 0.000003	< 0.000003	NC
Chromium	mg/L	0.00008	0.0004	0.00027	0.00028	NC	0.00092	0.00099	7.33	0.00012	0.00015	NC
Cobalt	mg/L	0.000004	0.00002	0.000122	0.000099	20.81	0.00056	0.000566	1.96	0.000183	0.000187	2.16
Copper	mg/L	0.0002	0.001	< 0.001	< 0.001	NC	< 0.001	< 0.001	NC	< 0.001	< 0.001	NC
Iron	mg/L	0.007	0.035	0.554	0.476	15.15	2.08	2.08	0.00	1.02	0.945	7.63
Lead	mg/L	0.00009	0.00045	0.00022	0.00010	NC	0.0001	0.00011	NC	< 0.00009	< 0.00009	NC
Lithium	mg/L	0.0001	0.0005	0.0004	0.0004	NC	0.0006	0.0006	0.00	0.001	0.001	0.00
Dissolved Manganese	mg/L	0.00001	0.00005	0.0602	0.0373	46.97	0.07	0.0699	0.29	0.15	0.149	0.67
Molybdenum	mg/L	0.00004	0.0002	< 0.0004	< 0.0004	NC	< 0.0004	< 0.0004	NC	< 0.0004	< 0.0004	NC
Nickel	mg/L	0.0001	0.0005	0.0004	0.0003	NC	0.001	0.0008	0.00	0.0003	0.0002	NC
Total Phosphorus	mg/L	0.003	0.015	0.010	0.009	NC	0.02	0.022	0.00	0.01	0.008	NC
Selenium	mg/L	0.00004	0.0002	< 0.00004	0.00005	NC	0.0001	0.00005	NC	< 0.00004	< 0.00004	NC
Silicon	mg/L	0.02	0.1	2.19	2.13	2.78	2.27	2.3	1.31	4.02	4.04	0.50
Silver	mg/L	0.00005	0.00025	< 0.00005	< 0.00005	NC	< 0.00005	< 0.00005	NC	< 0.00005	< 0.00005	NC
Thalium	mg/L	0.000005	0.000025	< 0.000005	< 0.000005	NC	< 0.000005	< 0.000005	NC	< 0.000005	< 0.000005	NC
Tin	mg/L	0.00006	0.0003	< 0.00006	< 0.00006	NC	< 0.00006	< 0.00006	NC	< 0.00006	< 0.00006	NC
Titanium	mg/L	0.00005	0.00025	0.0017	0.0012	34.48	0.01	0.0057	1.77	0.0004	0.0002	NC
Uranium	mg/L	0.000002	0.00001	0.000017	0.000015	12.50	0.00001	0.000012	15.38	0.000013	0.000011	16.67
Vanadium	mg/L	0.0001	0.0005	0.00012	0.00008	NC	0.00044	0.00043	NC	0.00007	0.00005	NC
Zinc	mg/L	0.002	0.01	0.002	0.002	NC	0.01	0.006	NC	0.01	0.01	0.00

Notes:

NC	Not Calculable as one or both concentrations are below the laboratory reasonable detection limit (RDL) or the practical quantification limit (PQL).
BOLD	Exceeds the 50% industry standard.
RDL	Reasonable Detection Limit
PQL	Practical Quantification Limit

TABLE 18
Residential Well Water Duplicate Data
Bonfield Landfill Site
Bonfield, Ontario

Parameter	Units	RDL	PQL	25/07/2025		
				6GDR	GDR DUP	Relative Percent Difference (%)
Electrical Conductivity	uS/cm	-	-	-	-	-
pH	pH Units	-	-	-	-	-
Total Hardness (as CaCO3)	mg/L	0.05	0.25	33.3	32.2	3.36
Total Dissolved Solids	mg/L	-	-			-
Chloride	mg/L	1	5	< 1	< 1	NC
Ammonia (Total)	mg/L	0.04	0.2	< 0.1	< 0.1	NC
Ammonia as N	mg/L	-	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	-	-
Dissolved Organic Carbon	mg/L	-	-	-	-	-
Total Organic Nitrogen	mg/L	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.05	0.25	< 0.5	< 0.5	NC
Phenols	mg/L	0.002	0.01	0.001	0.001	NC
Calcium	mg/L	0.01	0.05	9.99	9.58	4.19
Magnesium	mg/L	0.001	0.005	2.04	2.01	1.48
Sodium	mg/L	0.01	0.05	1.68	1.65	1.80
Potassium	mg/L	0.009	0.045	1.07	1.01	5.77
Aluminium	mg/L	0.001	0.005	0.227	0.22	3.13
Antimony	mg/L	0.0009	0.0045	< 0.0009	< 0.0009	NC
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	0.00008	0.0004	0.0263	0.0261	0.76
Beryllium	mg/L	0.000007	0.000035	0.000089	0.00009	1.12
Bismuth	mg/L	0.00001	0.00005	< 0.00001	0.00002	NC
Boron	mg/L	0.002	0.01	0.009	0.009	NC
Cadmium	mg/L	0.000003	0.000015	0.000015	0.000017	12.50
Chromium	mg/L	0.00008	0.0004	0.00028	0.00035	NC
Cobalt	mg/L	0.000004	0.00002	0.000436	0.000417	4.45
Copper	mg/L	0.0002	0.001	0.008	0.007	13.33
Iron	mg/L	0.007	0.035	0.022	0.019	NC
Lead	mg/L	0.00009	0.00045	0.00065	0.00053	20.34
Lithium	mg/L	0.0001	0.0005	0.0004	0.0004	NC
Manganese	mg/L	0.00001	0.00005	0.0469	0.0459	2.16
Molybdenum	mg/L	0.00004	0.0002	0.0011	0.0006	**58.82**
Nickel	mg/L	0.0001	0.0005	0.0004	0.0004	NC
Total Phosphorus	mg/L	0.03	0.15	< 0.03	< 0.03	NC
Selenium	mg/L	0.00004	0.0002	0.00007	0.00007	NC
Silicon	mg/L	0.02	0.1	3.52	3.46	1.72
Silver	mg/L	0.00005	0.00025	< 0.00005	< 0.00005	NC
Thallium	mg/L	0.000005	0.000025	0.000013	0.000012	NC
Tin	mg/L	0.00006	0.0003	0.00007	< 0.00006	NC
Titanium	mg/L	0.00007	0.00035	0.0002	0.0002	NC
Uranium	mg/L	0.000002	0.00001	0.000189	0.000187	1.06
Vanadium	mg/L	0.00001	0.00005	0.00004	0.00004	NC
Zinc	mg/L	0.002	0.01	0.017	0.015	12.50

Notes:

NC	Not Calculable as one or both concentrations are below the laboratory reasonable detection limit (RDL) or the practical quantification limit (PQL).
BOLD	Exceeds the 50% industry standard.
RDL	Reasonable Detection Limit
PQL	Practical Quantification Limit

APPENDIX IV

Laboratory Certificates of Analysis

FINAL REPORT

CA15865-MAY25 R

236957.007, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15865-MAY25 R

First Page

CLIENT DETAILS

Client	Pinchin Ltd
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560 cell: 705-618-0186.
Contact	Greg Way
Telephone	705-521-0560 cell: 705-618-0186
Facsimile	
Email	gway@Pinchin.com
Project	236957.007, Township of Bonfield GW
Order Number	
Samples	Ground Water (10)

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	CA15865-MAY25
Received	05/07/2025
Approved	05/29/2025
Report Number	CA15865-MAY25 R
Date Reported	05/29/2025

COMMENTS

Temperature of Sample upon Receipt: 3 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

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FINAL REPORT

CA15865-MAY25 R

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025
						Result	Result	Result	Result	Result	Result	Result	Result
Acid Rock Drainage													
pH Check <2	pH	0.05				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
General Chemistry													
Total Kjeldahl Nitrogen	as N mg/L	0.5				< 0.5	0.6	< 0.5	2.3	2.5	< 0.5	< 0.5	1.5
Ammonia+Ammonium (N)	as N mg/L	0.1				< 0.1	0.4	< 0.1	2.5	2.2	< 0.1	< 0.1	1.1
Metals and Inorganics													
Phosphorus (total)	mg/L	0.03				0.22	0.20	1.56	< 0.03	< 0.03	0.40	0.25	0.49
Hardness (dissolved)	mg/L as CaCO3	0.05	100			153	148	56.7	163	233	62.6	31.4	116
Silver (dissolved)	mg/L	0.00005				< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001				0.022	0.014	0.113	0.002	0.153	0.042	0.004	0.005
Barium (dissolved)	mg/L	0.00008		1		0.0990	0.0568	0.0208	0.0765	0.0671	0.0367	0.0188	0.0980
Beryllium (dissolved)	mg/L	0.000007				0.000015	0.000009	0.000009	0.000012	0.000325	0.000009	0.000009	0.000007
Boron (dissolved)	mg/L	0.002		5		1.40	0.071	0.060	0.221	0.335	0.060	0.008	0.367
Bismuth (dissolved)	mg/L	0.00001				< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (dissolved)	mg/L	0.01				50.8	52.8	15.2	44.7	77.6	17.0	7.09	38.6
Cadmium (dissolved)	mg/L	0.000003		0.005		0.000417	0.000056	0.000116	0.000185	0.000385	0.000233	0.000311	0.000081
Cobalt (dissolved)	mg/L	0.000004				0.000279	0.00132	0.000102	0.00146	0.00406	0.000898	0.000707	0.000590
Chromium (dissolved)	mg/L	0.00008		0.05		0.00051	0.00035	0.00056	0.00026	0.00049	0.00026	0.00024	0.00036
Copper (dissolved)	mg/L	0.001	1			0.006	< 0.001	0.001	0.003	0.002	0.001	< 0.001	0.002
Iron (dissolved)	mg/L	0.007	0.3			0.011	4.43	0.129	1.63	1.91	1.60	0.297	0.061
Potassium (dissolved)	mg/L	0.009				5.30	4.49	4.83	5.62	6.24	2.66	1.92	7.10
Lithium (dissolved)	mg/L	0.0001				< 0.0001	< 0.0001	0.0002	0.0032	0.0010	0.0005	0.0008	< 0.0001

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

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

					Sample Number	7	8	9	10	11	12	13	14
					Sample Name	MW1	MW2	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025
Parameter	**Units**	**RL**	**L1**	**L2**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)													
Magnesium (dissolved)	mg/L	0.001				6.48	3.94	4.55	12.5	9.42	4.86	3.32	4.70
Manganese (dissolved)	mg/L	0.00001	0.05			0.0176	0.734	0.00691	4.40	6.00	0.653	0.0751	0.335
Molybdenum (dissolved)	mg/L	0.0004				0.0005	< 0.0004	0.0008	0.0011	< 0.0004	< 0.0004	< 0.0004	0.0005
Sodium (dissolved)	mg/L	0.01	200	20		24.8	8.76	6.21	22.7	20.8	6.73	3.85	13.1
Nickel (dissolved)	mg/L	0.0001				0.0006	0.0005	0.0003	0.0029	0.0032	0.0007	0.0010	0.0006
Lead (dissolved)	mg/L	0.00009		0.01		< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Antimony (dissolved)	mg/L	0.0009		0.006		< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05		0.00036	0.00009	0.00011	0.00005	0.00022	< 0.00004	< 0.00004	0.00009
Silicon (dissolved)	mg/L	0.02				1.32	2.94	2.30	9.18	7.72	8.56	9.47	4.51
Tin (dissolved)	mg/L	0.00006				< 0.00006	< 0.00006	0.00007	0.00008	0.00010	0.00007	< 0.00006	0.00007
Titanium (dissolved)	mg/L	0.0001				0.0004	0.0010	0.0075	0.0001	0.0002	0.0028	0.0004	0.0001
Thallium (dissolved)	mg/L	0.000005				0.000026	0.000013	< 0.000005	0.000045	0.000015	0.000006	< 0.000005	0.000034
Uranium (dissolved)	mg/L	0.000002		0.02		0.00118	0.000238	0.000184	0.000637	0.000148	0.000096	0.000009	0.000515
Vanadium (dissolved)	mg/L	0.00001				0.00007	0.00075	0.00030	0.00009	0.00049	0.00020	0.00007	0.00016
Zinc (dissolved)	mg/L	0.002	5			< 0.002	< 0.002	0.002	0.006	0.003	0.003	0.003	< 0.002

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date 05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025	05/05/2025
Other (ORP)												
Chloride	mg/L	1	250		4	31	2	36	40	10	2	25
Phenols												
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002	< 0.002	< 0.002	0.004	< 0.002	< 0.002	< 0.002

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 15	16
					Sample Name MW7D	GW DUP
					Sample Matrix Ground Water	Ground Water
					Sample Date 05/05/2025	05/05/2025
Acid Rock Drainage						
pH Check <2	pH	0.05			1.00	1.00
General Chemistry						
Total Kjeldahl Nitrogen	as N mg/L	0.5			< 0.5	2.6
Ammonia+Ammonium (N)	as N mg/L	0.1			0.2	2.4
Metals and Inorganics						
Phosphorus (total)	mg/L	0.03			0.04	< 0.03
Hardness (dissolved)	mg/L as CaCO3	0.05	100		77.0	160
Silver (dissolved)	mg/L	0.00005			< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001			0.006	0.001
Barium (dissolved)	mg/L	0.00008		1	0.0170	0.0777
Beryllium (dissolved)	mg/L	0.000007			0.000015	0.000007
Boron (dissolved)	mg/L	0.002		5	0.265	0.219

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

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

					Sample Number	15	16
					Sample Name	MW7D	GW DUP
					Sample Matrix	Ground Water	Ground Water
					Sample Date	05/05/2025	05/05/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Bismuth (dissolved)	mg/L	0.00001			< 0.00001	< 0.00001
Calcium (dissolved)	mg/L	0.01			23.6	43.9
Cadmium (dissolved)	mg/L	0.000003		0.005	0.000029	0.000177
Cobalt (dissolved)	mg/L	0.000004			0.000093	0.00147
Chromium (dissolved)	mg/L	0.00008		0.05	0.00218	0.00024
Copper (dissolved)	mg/L	0.001	1		< 0.001	0.003
Iron (dissolved)	mg/L	0.007	0.3		0.033	1.61
Potassium (dissolved)	mg/L	0.009			3.11	5.51
Lithium (dissolved)	mg/L	0.0001			0.0006	0.0031
Magnesium (dissolved)	mg/L	0.001			4.41	12.3
Manganese (dissolved)	mg/L	0.00001	0.05		0.437	4.37
Molybdenum (dissolved)	mg/L	0.0004			0.0004	0.0011
Sodium (dissolved)	mg/L	0.01	200	20	13.8	22.4
Nickel (dissolved)	mg/L	0.0001			0.0015	0.0027
Lead (dissolved)	mg/L	0.00009		0.01	< 0.00009	< 0.00009
Antimony (dissolved)	mg/L	0.0009		0.006	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05	0.00005	0.00004
Silicon (dissolved)	mg/L	0.02			5.08	9.29
Tin (dissolved)	mg/L	0.00006			0.00009	0.00006
Titanium (dissolved)	mg/L	0.0001			0.0003	0.0001
Thallium (dissolved)	mg/L	0.000005			0.000015	0.000047
Uranium (dissolved)	mg/L	0.000002		0.02	0.000297	0.000627

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

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

				Sample Number	15	16
				Sample Name	MW7D	GW DUP
				Sample Matrix	Ground Water	Ground Water
				Sample Date	05/05/2025	05/05/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Vanadium (dissolved)	mg/L	0.00001			0.00005	0.00009
Zinc (dissolved)	mg/L	0.002	5		< 0.002	0.005
Other (ORP)						
Chloride	mg/L	1	250		21	35
Phenols						
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03 L1	ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03 L2
MW1					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	153	100	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	24.8		20
MW2					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	148	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.43	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.734	0.05	
MW3D					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	163	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.63	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	4.40	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	22.7		20
MW4					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	233	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.91	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	6.00	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	20.8		20
MW5					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.60	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.653	0.05	
MW6					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.0751	0.05	
MW7S					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	116	100	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.335	0.05	
MW7D					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.437	0.05	
GW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	160	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.61	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	4.37	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	22.4		20

QC SUMMARY

Ammonia by SFA

Method: SM 4500 I Internal ref.: ME-CA-[ENV]SFA-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
Ammonia+Ammonium (N)	SKA0103-MAY25	as N mg/L	0.1	<0.1	0	10	99	90	110	103	75	125

Anions by discrete analyzer

Method: US EPA 325.2 I Internal ref.: ME-CA-[ENV]EWL-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	DIO5011-MAY25	mg/L	1	<1	2	20	104	80	120	104	75	125
Chloride	DIO8049-MAY25	mg/L	1	<1	ND	20	98	80	120	101	75	125
Chloride	DIO8051-MAY25	mg/L	1	<1	8	20	96	80	120	86	75	125

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (dissolved)	EMS0076-MAY25	mg/L	0.00005	<0.00005	ND	20	102	90	110	71	70	130
Aluminum (dissolved)	EMS0076-MAY25	mg/L	0.001	<0.001	ND	20	107	90	110	109	70	130
Barium (dissolved)	EMS0076-MAY25	mg/L	0.00008	<0.00008	0	20	100	90	110	87	70	130
Beryllium (dissolved)	EMS0076-MAY25	mg/L	0.000007	<0.000007	ND	20	103	90	110	98	70	130
Boron (dissolved)	EMS0076-MAY25	mg/L	0.002	<0.002	ND	20	105	90	110	93	70	130
Bismuth (dissolved)	EMS0076-MAY25	mg/L	0.00001	<0.00001	ND	20	107	90	110	99	70	130
Calcium (dissolved)	EMS0076-MAY25	mg/L	0.01	<0.01	0	20	100	90	110	95	70	130
Cadmium (dissolved)	EMS0076-MAY25	mg/L	0.000003	<0.000003	ND	20	104	90	110	98	70	130
Cobalt (dissolved)	EMS0076-MAY25	mg/L	0.000004	<0.000004	5	20	99	90	110	88	70	130
Chromium (dissolved)	EMS0076-MAY25	mg/L	0.00008	<0.00008	ND	20	106	90	110	93	70	130
Copper (dissolved)	EMS0076-MAY25	mg/L	0.001	<0.001	ND	20	103	90	110	86	70	130
Iron (dissolved)	EMS0076-MAY25	mg/L	0.007	<0.007	ND	20	102	90	110	100	70	130
Potassium (dissolved)	EMS0076-MAY25	mg/L	0.009	<0.009	4	20	101	90	110	95	70	130
Lithium (dissolved)	EMS0076-MAY25	mg/L	0.0001	<0.0001	ND	20	102	90	110	101	70	130
Magnesium (dissolved)	EMS0076-MAY25	mg/L	0.001	<0.001	0	20	105	90	110	92	70	130
Manganese (dissolved)	EMS0076-MAY25	mg/L	0.00001	<0.00001	4	20	106	90	110	99	70	130
Molybdenum (dissolved)	EMS0076-MAY25	mg/L	0.0004	<0.0004	ND	20	105	90	110	86	70	130
Sodium (dissolved)	EMS0076-MAY25	mg/L	0.01	<0.01	4	20	103	90	110	89	70	130
Nickel (dissolved)	EMS0076-MAY25	mg/L	0.0001	<0.0001	10	20	104	90	110	89	70	130
Lead (dissolved)	EMS0076-MAY25	mg/L	0.00009	<0.00009	ND	20	107	90	110	93	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

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 (%)	
								Low	High		Low	High
Antimony (dissolved)	EMS0076-MAY25	mg/L	0.0009	<0.0009	ND	20	100	90	110	91	70	130
Selenium (dissolved)	EMS0076-MAY25	mg/L	0.00004	<0.00004	ND	20	105	90	110	110	70	130
Silicon (dissolved)	EMS0076-MAY25	mg/L	0.02	<0.02	1	20	97	90	110	NV	70	130
Tin (dissolved)	EMS0076-MAY25	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Titanium (dissolved)	EMS0076-MAY25	mg/L	0.0001	<0.0001	ND	20	103	90	110	NV	70	130
Thallium (dissolved)	EMS0076-MAY25	mg/L	0.000005	<0.000005	ND	20	106	90	110	91	70	130
Uranium (dissolved)	EMS0076-MAY25	mg/L	0.000002	<0.000002	0	20	107	90	110	90	70	130
Vanadium (dissolved)	EMS0076-MAY25	mg/L	0.00001	<0.00001	ND	20	105	90	110	94	70	130
Zinc (dissolved)	EMS0076-MAY25	mg/L	0.002	<0.002	ND	20	107	90	110	103	70	130

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 (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0084-MAY25	mg/L	0.002	<0.002	ND	10	95	80	120	93	75	125
4AAP-Phenolics	SKA0093-MAY25	mg/L	0.002	<0.002	ND	10	95	80	120	97	75	125

QC SUMMARY

Phosphorus by SFA

Method: SM 4500-P J | Internal ref.: ME-CA-[ENV]SFA-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)	SKA0088-MAY25	mg/L	0.03	<0.03	1	10	100	90	110	93	75	125

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

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 Kjeldahl Nitrogen	SKA0087-MAY25	as N mg/L	0.5	<0.5	0	10	95	90	110	98	75	125
Total Kjeldahl Nitrogen	SKA0102-MAY25	as N mg/L	0.5	<0.5	6	10	100	90	110	105	75	125

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

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.
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.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS

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: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com {4}

Laboratory Information Section

Received Date (mm/dd/yyyy): MAY 07 2025

LAB LIMS #: CA15865-MAY25

Received Time (After Hours Only): __:__

Temperature Upon Receipt (°C): 2, 3, 5

Billing & Reporting Information

Invoice/Receipt to {3}:

Company: Pinchin

Attention: ~~Greg Way~~ Meagan Bradley

Address: 662 Falconbridge Rd, Unit 3, Sudbury, ON P3A 4S4

Email: ~~gway@pinchin.com~~ mbradley@pinchin.com

Project Name/Number: 236957.007-Township of Bonfield GW

P.O. #:

Quote #: 2024 488

Attached Parameter List: ☑ YES ☐ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Client Information/Report To:

Client Lab #:

Company Name:	Pinchin Ltd.	Phone Number:	705-521-0560
Contact Name:	Meagan Bradley	Fax Number:	
Address:	662 Falconbridge Rd, Unit 3	E-mail:	
Copy to:	mbradley@pinchin.com		

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/yy) ✓	Time Sampled	# of Bottles	Field Filtered		GW Package					
MW1	05/05/25	11:30	4	Y		X					
MW2			4	Y		X					
MW3S			4	Y		X					
MW3D			4	Y		X					
MW4			4	Y		X					
MW5			4	Y		X					
MW6			4	Y		X					
MW7S			4	Y		X					
MW7D		↓	4	Y		X					
GW Dup	↓	2:00	4	Y		X					

Sampled By {1}: (Name) Katie Rinaldi + Julia Hayes (Signature) [signature] Date: 05/06/25 (mm/dd/yy)

Relinquished by {2}: (Name) Katie Rinaldi (Signature) [signature] Date: 05/06/25 (mm/dd/yy)

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.

Revision #: 2.3
Date of Issue: 24 Jun. 2014

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FINAL REPORT

CA15858-MAY25 R

236957.007, Township of Bonfield SW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15858-MAY25 R

First Page

CLIENT DETAILS

Client	Pinchin Ltd
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560 cell: 705-618-0186.
Contact	Greg Way
Telephone	705-521-0560 cell: 705-618-0186
Facsimile	
Email	gway@Pinchin.com
Project	236957.007, Township of Bonfield SW
Order Number	
Samples	Surface Water (4)

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	CA15858-MAY25
Received	05/07/2025
Approved	05/08/2025
Report Number	CA15858-MAY25 R
Date Reported	05/21/2025

COMMENTS

Temperature of Sample upon Receipt: 3 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15858-MAY25 R

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				05/05/2025	05/05/2025	05/05/2025	05/05/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
General Chemistry							
Alkalinity	mg/L as CaCO3	2		12	4	16	14
Conductivity	uS/cm	2		51	33	51	52
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Metals and Inorganics							
Hardness	mg/L as CaCO3	0.05		16.9	9.6	17.2	17.0
Silver (total)	mg/L	0.00005	0.0001	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (0.2µm)	mg/L	0.001	0.015 0.075	0.023	0.138	0.028	0.029
Arsenic (total)	mg/L	0.0002	0.005	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Barium (total)	mg/L	0.00008		0.0107	0.0144	0.0117	0.0112
Beryllium (total)	mg/L	0.000007	0.011	< 0.000007	0.000021	0.000009	0.000008
Boron (total)	mg/L	0.002	0.2	0.013	0.003	0.012	0.012
Bismuth (total)	mg/L	0.00001		< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (total)	mg/L	0.01		4.62	2.56	4.76	4.69
Cadmium (total)	mg/L	0.000003	0.0001	0.000005	0.000016	0.000008	0.000006
Cobalt (total)	mg/L	0.000004	0.0009	0.000083	0.000375	0.000122	0.000099
Chromium (total)	mg/L	0.00008		0.00028	0.00090	0.00027	0.00028
Copper (total)	mg/L	0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Iron (total)	mg/L	0.007	0.3	0.424	1.42	0.554	0.476
Potassium (total)	mg/L	0.009		1.48	0.511	1.41	1.37
Lithium (total)	mg/L	0.0001		0.0004	0.0005	0.0004	0.0004
Magnesium (total)	mg/L	0.001		1.30	0.774	1.30	1.29

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				05/05/2025	05/05/2025	05/05/2025	05/05/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Manganese (total)	mg/L	0.00001		0.0289	0.0494	0.0602	0.0373
Molybdenum (total)	mg/L	0.0004	0.04	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (total)	mg/L	0.01		3.21	2.61	3.12	3.10
Nickel (total)	mg/L	0.0001	0.025	0.0003	0.0007	0.0004	0.0003
Phosphorus (total)	mg/L	0.003	0.01	0.005	0.013	0.010	0.009
Lead (total)	mg/L	0.00009	0.005	< 0.00009	< 0.00009	0.00022	0.00010
Selenium (total)	mg/L	0.00004	0.1	< 0.00004	0.00007	< 0.00004	0.00005
Silicon (total)	mg/L	0.02		1.86	1.20	2.19	2.13
Tin (total)	mg/L	0.00006		< 0.00006	< 0.00006	< 0.00006	< 0.00006
Titanium (total)	mg/L	0.0001		0.0005	0.0029	0.0017	0.0012
Thallium (total)	mg/L	0.000005	0.0003	< 0.000005	< 0.000005	< 0.000005	< 0.000005
Uranium (total)	mg/L	0.000002	0.005	0.000008	0.000008	0.000017	0.000015
Vanadium (total)	mg/L	0.00001	0.006	0.00006	0.00029	0.00012	0.00008
Zinc (total)	mg/L	0.002	0.02	< 0.002	0.006	0.002	0.002

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Binaldi & Julia Hayes

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				05/05/2025	05/05/2025	05/05/2025	05/05/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Other (ORP)							
pH	No unit	0.05	0.1 8.6	6.42	5.87	6.43	6.60
Chloride	mg/L	1		7	6	7	6
Phenols							
4AAP-Phenolics	mg/L	0.001	0.001	0.001	0.002	0.001	0.001

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
SW-A				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.023	0.015
Iron	SM 3030/EPA 200.8	mg/L	0.424	0.3
pH	SM 4500	No unit	6.42	0.1
SW-B				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.138	0.015
Iron	SM 3030/EPA 200.8	mg/L	1.42	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.013	0.01
pH	SM 4500	No unit	5.87	0.1
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001
SW-C				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.028	0.015
Iron	SM 3030/EPA 200.8	mg/L	0.554	0.3
pH	SM 4500	No unit	6.43	0.1
SW DUP				
Iron	SM 3030/EPA 200.8	mg/L	0.476	0.3

QC SUMMARY

Alkalinity

Method: SM 2320 I 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 (%)	
								Low	High		Low	High
Alkalinity	EWL0167-MAY25	mg/L as CaCO3	2	< 2	8	20	100	80	120	NA		

Ammonia by SFA

Method: SM 4500 I 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 (%)	
								Low	High		Low	High
Ammonia+Ammonium (N)	SKA0089-MAY25	as N mg/L	0.1	<0.1	1	10	102	90	110	98	75	125

Anions by discrete analyzer

Method: US EPA 325.2 I 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	DIO5011-MAY25	mg/L	1	<1	2	20	104	80	120	104	75	125

QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-[ENV]EWL-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 (%)	
								Low	High		Low	High
Conductivity	EWL0167-MAY25	uS/cm	2	< 2	0	20	99	90	110	NA		

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (total)	EMS0089-MAY25	mg/L	0.00005	<0.00005	ND	20	104	90	110	71	70	130
Aluminum (0.2µm)	EMS0089-MAY25	mg/L	0.001	<0.001	ND	20	104	90	110	90	70	130
Arsenic (total)	EMS0089-MAY25	mg/L	0.0002	<0.0002	3	20	104	90	110	108	70	130
Barium (total)	EMS0089-MAY25	mg/L	0.00008	<0.00008	11	20	100	90	110	100	70	130
Beryllium (total)	EMS0089-MAY25	mg/L	0.000007	<0.000007	ND	20	105	90	110	101	70	130
Boron (total)	EMS0089-MAY25	mg/L	0.002	<0.002	1	20	104	90	110	94	70	130
Bismuth (total)	EMS0089-MAY25	mg/L	0.00001	<0.00001	ND	20	103	90	110	92	70	130
Calcium (total)	EMS0089-MAY25	mg/L	0.01	<0.01	9	20	102	90	110	104	70	130
Cadmium (total)	EMS0089-MAY25	mg/L	0.000003	<0.000003	0	20	106	90	110	104	70	130
Cobalt (total)	EMS0089-MAY25	mg/L	0.000004	<0.000004	11	20	103	90	110	107	70	130
Chromium (total)	EMS0089-MAY25	mg/L	0.00008	<0.00008	7	20	102	90	110	113	70	130
Copper (total)	EMS0089-MAY25	mg/L	0.001	<0.001	5	20	104	90	110	97	70	130
Iron (total)	EMS0089-MAY25	mg/L	0.007	<0.007	ND	20	105	90	110	100	70	130
Potassium (total)	EMS0089-MAY25	mg/L	0.009	<0.009	7	20	108	90	110	86	70	130
Lithium (total)	EMS0089-MAY25	mg/L	0.0001	<0.0001	ND	20	103	90	110	95	70	130
Magnesium (total)	EMS0089-MAY25	mg/L	0.001	<0.001	7	20	105	90	110	99	70	130
Manganese (total)	EMS0089-MAY25	mg/L	0.00001	<0.00001	13	20	104	90	110	107	70	130
Molybdenum (total)	EMS0089-MAY25	mg/L	0.0004	<0.0004	13	20	104	90	110	98	70	130
Sodium (total)	EMS0089-MAY25	mg/L	0.01	<0.01	5	20	102	90	110	95	70	130
Nickel (total)	EMS0089-MAY25	mg/L	0.0001	<0.0001	4	20	106	90	110	107	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

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 (%)	
								Low	High		Low	High
Lead (total)	EMS0089-MAY25	mg/L	0.00009	<0.00009	ND	20	101	90	110	94	70	130
Phosphorus (total)	EMS0089-MAY25	mg/L	0.003	<0.003	ND	20	101	90	110	NV	70	130
Selenium (total)	EMS0089-MAY25	mg/L	0.00004	<0.00004	16	20	102	90	110	117	70	130
Silicon (total)	EMS0089-MAY25	mg/L	0.02	<0.02	3	20	99	90	110	NV	70	130
Tin (total)	EMS0089-MAY25	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Titanium (total)	EMS0089-MAY25	mg/L	0.0001	<0.0001	ND	20	105	90	110	NV	70	130
Thallium (total)	EMS0089-MAY25	mg/L	0.000005	<0.000005	ND	20	104	90	110	94	70	130
Uranium (total)	EMS0089-MAY25	mg/L	0.000002	<0.000002	17	20	104	90	110	99	70	130
Vanadium (total)	EMS0089-MAY25	mg/L	0.00001	<0.00001	13	20	106	90	110	110	70	130
Zinc (total)	EMS0089-MAY25	mg/L	0.002	<0.002	10	20	108	90	110	107	70	130
Manganese (total)	EMS0136-MAY25	mg/L	0.00001	<0.00001	0	20	103	90	110	98	70	130
Lead (total)	EMS0136-MAY25	mg/L	0.00009	<0.00009	18	20	98	90	110	93	70	130
Uranium (total)	EMS0136-MAY25	mg/L	0.000002	<0.000002	1	20	98	90	110	97	70	130

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-[ENVIEWL-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	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
pH	EWL0167-MAY25	No unit	0.05	NA	0		100			NA		

Phenols by SFA

Method: SM 5530B-D I Internal ref.: ME-CA-[ENVISFA-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	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
4AAP-Phenolics	SKA0076-MAY25	mg/L	0.001	<0.001	ND	10	99	80	120	96	75	125

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

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.
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.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS

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: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com {4}

Laboratory Information Section

Received Date (mm/dd/yyyy): MAY 07 2025	LAB LIMS #: CA15858-MAY25
Received Time (After Hours Only): __:__	Temperature Upon Receipt (°C): 3x3

Billing & Reporting Information

Invoice/Receipt to {3}:

Company:	Pinchin
Attention:	~~Greg Way~~ Meagan Bradley
Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4
Email:	[redacted] mbradley@pinchin.com

Quote #: 2024 488

Attached Parameter List: ☑ YES ☐ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Project Name/Number: 236957.007-Township of Bonfield SW

P.O. #:

Client Information/Report To:

Client Lab #:

Company Name:	Pinchin Ltd.	Phone Number:	705-521-0560
Contact Name:	Meagan Bradley	Fax Number:	
Address:	662 Falconbridge Rd, Unit 3	E-mail:	
Copy to:	mbradley@pinchin.com		

Sample Information

Sample Identifier	Date Sampled (mm/dd/yy)	Time Sampled	# of Bottles	Analysis Requested (please enter the analysis required below and check off which analysis applies to each sample)							
				Field Filtered		SW Package					
SW-A	05/05/25	11:30	6	N		x					
SW-B	↓	↓	6	N		x					
SW-C	↓	↓	6	N		x					
SW Dup	↓	2:00	6	N		x					

Sampled By {1}:	(Name) Katie Rinaldi + Julia Hayes	(Signature)		Date:	05/06/25 (mm/dd/yy)
Relinquished by {2}:	(Name) Katie Rinaldi	(Signature)		Date:	05/06/25 (mm/dd/yy)

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.

Revision #: 2.3
Date of Issue: 24 Jun. 2014

335372 814 210
1000 JKTN

FINAL REPORT

CA15089-JUL25 R

236957.007, Township of Bonfield Residential

Prepared for

Pinchin Ltd

FINAL REPORT

CA15089-JUL25 R

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
Project	236957.007, Township of Bonfield Residential
Order Number	
Samples	Surface Water (2)

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	CA15089-JUL25
Received	07/08/2025
Approved	07/17/2025
Report Number	CA15089-JUL25 R
Date Reported	07/17/2025

COMMENTS

Temperature of Sample upon Receipt: 5 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield Residential
Project Manager: Meagan Bradley
Samplers: MJ Vincent & Peter Guerra

MATRIX: WATER

			Sample Number	6	7	
			Sample Name	6GDR	RW Dup	
			Sample Matrix	Surface Water	Surface Water	
			Sample Date	07/07/2025	07/07/2025	
Parameter	**Units**	**RL**		**Result**	**Result**	
General Chemistry						
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1	< 0.1	
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5	< 0.5	
Metals and Inorganics						
Phosphorus (total)	mg/L	0.03		< 0.03	< 0.03	
Hardness	mg/L as CaCO3	0.05		33.3	32.2	
Silver (total)	mg/L	0.00005		< 0.00005	< 0.00005	
Aluminum (total)	mg/L	0.001		0.227	0.220	
Barium (total)	mg/L	0.00008		0.0263	0.0261	
Beryllium (total)	mg/L	0.000007		0.000089	0.000090	
Boron (total)	mg/L	0.002		0.009	0.009	
Bismuth (total)	mg/L	0.00001		< 0.00001	0.00002	
Calcium (total)	mg/L	0.01		9.99	9.58	
Cadmium (total)	mg/L	0.000003		0.000015	0.000017	
Cobalt (total)	mg/L	0.000004		0.000436	0.000417	
Chromium (total)	mg/L	0.00008		0.00028	0.00035	
Copper (total)	mg/L	0.001		0.008	0.007	
Iron (total)	mg/L	0.007		0.022	0.019	
Potassium (total)	mg/L	0.009		1.07	1.01	
Lithium (total)	mg/L	0.0001		0.0004	0.0004	
Magnesium (total)	mg/L	0.001		2.04	2.01	
Manganese (total)	mg/L	0.00001		0.0469	0.0459	
Molybdenum (total)	mg/L	0.0004		0.0011	0.0006	

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield Residential
Project Manager: Meagan Bradley
Samplers: MJ Vincent & Peter Guerra

MATRIX: WATER

Sample Number	6	7
Sample Name	6GDR	RW Dup
Sample Matrix	Surface Water	Surface Water
Sample Date	07/07/2025	07/07/2025

Parameter	Units	RL		Result	Result
Metals and Inorganics (continued)					
Sodium (total)	mg/L	0.01		1.68	1.65
Nickel (total)	mg/L	0.0001		0.0004	0.0004
Lead (total)	mg/L	0.00009		0.00065	0.00053
Phosphorus (total)	mg/L	0.003		0.011	0.007
Antimony (total)	mg/L	0.0009		< 0.0009	< 0.0009
Selenium (total)	mg/L	0.00004		0.00007	0.00007
Silicon (total)	mg/L	0.02		3.52	3.46
Tin (total)	mg/L	0.00006		0.00007	< 0.00006
Titanium (total)	mg/L	0.0001		0.0002	0.0002
Thallium (total)	mg/L	0.000005		0.000013	0.000012
Uranium (total)	mg/L	0.000002		0.000189	0.000187
Vanadium (total)	mg/L	0.00001		0.00004	0.00004
Zinc (total)	mg/L	0.002		0.017	0.015

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield Residential
Project Manager: Meagan Bradley
Samplers: MJ Vincent & Peter Guerra

MATRIX: WATER

			Sample Number	6	7	
			Sample Name	6GDR	RW Dup	
			Sample Matrix	Surface Water	Surface Water	
			Sample Date	07/07/2025	07/07/2025	
Parameter	**Units**	**RL**		**Result**	**Result**	
Other (ORP)						
Chloride	mg/L	1		< 1	< 1	
Phenols						
4AAP-Phenolics	mg/L	0.001		0.001	0.001	

QC SUMMARY

Ammonia by SFA

Method: SM 4500 I Internal ref.: ME-CA-[ENV]SFA-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
Ammonia+Ammonium (N)	SKA0091-JUL25	as N mg/L	0.1	<0.1	ND	10	100	90	110	98	75	125

Anions by discrete analyzer

Method: US EPA 325.2 I Internal ref.: ME-CA-[ENV]EWL-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	DIO5008-JUL25	mg/L	1	<1	ND	20	103	70	130	96	70	130

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (total)	EMS0064-JUL25	mg/L	0.00005	<0.00005	ND	20	98	90	110	71	70	130
Aluminum (total)	EMS0064-JUL25	mg/L	0.001	<0.001	9	20	94	90	110	100	70	130
Barium (total)	EMS0064-JUL25	mg/L	0.00008	<0.00008	2	20	101	90	110	105	70	130
Beryllium (total)	EMS0064-JUL25	mg/L	0.000007	<0.000007	ND	20	102	90	110	96	70	130
Boron (total)	EMS0064-JUL25	mg/L	0.002	<0.002	0	20	98	90	110	100	70	130
Bismuth (total)	EMS0064-JUL25	mg/L	0.00001	<0.00001	ND	20	96	90	110	109	70	130
Calcium (total)	EMS0064-JUL25	mg/L	0.01	<0.01	2	20	100	90	110	94	70	130
Cadmium (total)	EMS0064-JUL25	mg/L	0.000003	<0.000003	13	20	101	90	110	94	70	130
Cobalt (total)	EMS0064-JUL25	mg/L	0.000004	<0.000004	7	20	98	90	110	97	70	130
Chromium (total)	EMS0064-JUL25	mg/L	0.00008	<0.00008	ND	20	99	90	110	99	70	130
Copper (total)	EMS0064-JUL25	mg/L	0.001	<0.001	ND	20	96	90	110	101	70	130
Iron (total)	EMS0064-JUL25	mg/L	0.007	<0.007	13	20	103	90	110	100	70	130
Potassium (total)	EMS0064-JUL25	mg/L	0.009	<0.009	2	20	103	90	110	93	70	130
Lithium (total)	EMS0064-JUL25	mg/L	0.0001	<0.0001	1	20	105	90	110	87	70	130
Magnesium (total)	EMS0064-JUL25	mg/L	0.001	<0.001	2	20	99	90	110	85	70	130
Manganese (total)	EMS0064-JUL25	mg/L	0.00001	<0.00001	8	20	99	90	110	115	70	130
Molybdenum (total)	EMS0064-JUL25	mg/L	0.0004	<0.0004	6	20	99	90	110	115	70	130
Sodium (total)	EMS0064-JUL25	mg/L	0.01	<0.01	2	20	99	90	110	79	70	130
Nickel (total)	EMS0064-JUL25	mg/L	0.0001	<0.0001	ND	20	96	90	110	97	70	130
Lead (total)	EMS0064-JUL25	mg/L	0.00009	<0.00009	3	20	98	90	110	93	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

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 (%)	
								Low	High		Low	High
Phosphorus (total)	EMS0064-JUL25	mg/L	0.003	<0.003	2	20	103	90	110	NV	70	130
Antimony (total)	EMS0064-JUL25	mg/L	0.0009	<0.0009	ND	20	102	90	110	111	70	130
Selenium (total)	EMS0064-JUL25	mg/L	0.00004	<0.00004	1	20	100	90	110	102	70	130
Silicon (total)	EMS0064-JUL25	mg/L	0.02	<0.02	2	20	101	90	110	NV	70	130
Tin (total)	EMS0064-JUL25	mg/L	0.00006	<0.00006	ND	20	98	90	110	NV	70	130
Titanium (total)	EMS0064-JUL25	mg/L	0.0001	<0.0001	4	20	99	90	110	NV	70	130
Thallium (total)	EMS0064-JUL25	mg/L	0.000005	<0.000005	19	20	94	90	110	86	70	130
Uranium (total)	EMS0064-JUL25	mg/L	0.000002	<0.000002	4	20	102	90	110	109	70	130
Vanadium (total)	EMS0064-JUL25	mg/L	0.00001	<0.00001	2	20	99	90	110	95	70	130
Zinc (total)	EMS0064-JUL25	mg/L	0.002	<0.002	2	20	96	90	110	94	70	130

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 (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0081-JUL25	mg/L	0.001	<0.001	ND	10	99	80	120	99	75	125

QC SUMMARY

Phosphorus by SFA

Method: SM 4500-P J | Internal ref.: ME-CA-[ENV]SFA-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)	SKA0151-JUL25	mg/L	0.03	<0.03	4	10	96	90	110	81	75	125

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

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 Kjeldahl Nitrogen	SKA0086-JUL25	as N mg/L	0.5	<0.5	8	10	100	90	110	102	75	125

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

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.
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.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS

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: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com {4}

Laboratory Information Section

Received Date (mm/dd/yyyy): 07/08/2025	LAB LIMS #: JolCA150891-Jul25
Received Time (After Hours Only): __:__	Temperature Upon Receipt (°C): 5X3

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 #: 2024 488

Attached Parameter List: ☐ YES ☒ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Project Name/Number:	236957.007-Township of Bonefield Residential	P.O. #:	

Client Information/Report To:

Company Name:	Same as above	Phone Number:	705-521-0560
Contact Name:	Meagan Bradley	Fax Number:	
Address:	662 Falconbridge Rd, Unit 3	E-mail:	
Copy to:	mbradley@Pinchin.com		

Client Lab #:

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/yy)	Time Sampled	# of Bottles	Field Filtered		GW Package					
1GDR						X					
6GDR	July 07 2025	2:30pm	5	N		X					
RW Dup	July 07 2025	2:30pm	5	N		X					

Sampled By {1}:	(Name) MJ Vincent + Peter-Lawrence	(Signature)		Date:	07/07/25 (mm/dd/yy)
Relinquished by {2}:	(Name) MJ Vincent	(Signature)		Date:	07/07/25 (mm/dd/yy)

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.

Revision #: 2.3
Date of Issue: 24 Jun. 2014

10:30AM

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FINAL REPORT

CA15080-JUL25 R

236957.007, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15080-JUL25 R

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
Project	236957.007, Township of Bonfield GW
Order Number	
Samples	Ground Water (10)

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	CA15080-JUL25
Received	07/08/2025
Approved	07/15/2025
Report Number	CA15080-JUL25 R
Date Reported	07/15/2025

COMMENTS

Temperature of Sample upon Receipt: 5 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15080-JUL25 R

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Mg Vincent & Peter Guerra

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025
						Result	Result	Result	Result	Result	Result	Result	Result
Acid Rock Drainage													
pH Check <2	pH	0.05				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
General Chemistry													
Total Kjeldahl Nitrogen	as N mg/L	0.5				0.5	1.0	< 0.5	4.7	9.0	< 0.5	< 0.5	4.1
Ammonia+Ammonium (N)	as N mg/L	0.1				< 0.1	0.5	< 0.1	4.4	8.4	0.1	< 0.1	3.5
Metals and Inorganics													
Phosphorus (total)	mg/L	0.03				0.28	0.49	1.32	< 0.03	< 0.03	0.71	0.16	0.10
Hardness (dissolved)	mg/L as CaCO3	0.05	100			232	150	57.4	207	311	65.1	36.9	182
Silver (dissolved)	mg/L	0.00005				< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001				0.025	0.014	0.007	0.002	0.030	0.007	0.033	0.008
Barium (dissolved)	mg/L	0.00008		1		0.132	0.0578	0.0169	0.114	0.119	0.0408	0.0240	0.238
Beryllium (dissolved)	mg/L	0.000007				0.000017	0.000012	< 0.000007	0.000013	0.000104	0.000013	0.000018	0.000013
Boron (dissolved)	mg/L	0.002		5		1.06	0.080	0.046	0.297	0.419	0.045	0.011	0.691
Bismuth (dissolved)	mg/L	0.00001				< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (dissolved)	mg/L	0.01				75.8	53.8	15.5	57.7	95.9	18.1	8.43	59.4
Cadmium (dissolved)	mg/L	0.000003		0.005		0.000046	0.000010	0.000011	0.000234	0.000437	0.000045	0.000043	0.000030
Cobalt (dissolved)	mg/L	0.000004				0.000256	0.00149	0.000064	0.00314	0.00445	0.00291	0.00197	0.00262
Chromium (dissolved)	mg/L	0.00008		0.05		0.00049	0.00045	0.00021	0.00038	0.00064	0.00016	0.00041	0.00053
Copper (dissolved)	mg/L	0.001	1			0.005	< 0.001	0.004	0.004	0.003	0.002	0.003	0.002
Iron (dissolved)	mg/L	0.007	0.3			0.041	5.92	0.020	4.85	4.81	7.53	1.17	5.80
Potassium (dissolved)	mg/L	0.009				5.88	4.85	5.05	7.70	13.7	2.89	2.08	13.7
Lithium (dissolved)	mg/L	0.0001				< 0.0001	0.0001	0.0001	0.0038	0.0026	0.0009	0.0009	< 0.0001

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Mg Vincent & Peter Guerra

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025
						Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics (continued)													
Magnesium (dissolved)	mg/L	0.001				10.4	3.91	4.55	15.4	17.2	4.86	3.86	8.05
Manganese (dissolved)	mg/L	0.00001	0.05			0.0350	0.654	0.0150	7.77	16.3	1.32	0.145	1.67
Molybdenum (dissolved)	mg/L	0.0004				< 0.0004	< 0.0004	0.0010	0.0015	< 0.0004	< 0.0004	< 0.0004	0.0006
Sodium (dissolved)	mg/L	0.01	200	20		14.4	10.8	7.54	30.2	36.9	5.32	3.00	22.6
Nickel (dissolved)	mg/L	0.0001				0.0006	0.0006	0.0003	0.0039	0.0037	0.0006	0.0016	0.0010
Lead (dissolved)	mg/L	0.00009		0.01		< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00012	0.00028
Antimony (dissolved)	mg/L	0.0009		0.006		< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05		0.00033	0.00010	0.00015	0.00008	0.00034	0.00005	0.00005	0.00015
Silicon (dissolved)	mg/L	0.02				1.61	2.90	2.28	10.0	9.44	8.66	9.62	5.89
Tin (dissolved)	mg/L	0.00006				0.00007	0.00007	0.00022	0.00011	0.00016	0.00010	0.00012	0.00018
Titanium (dissolved)	mg/L	0.0001				0.0006	0.0008	0.0009	0.0001	0.0002	0.0003	0.0023	0.0003
Thallium (dissolved)	mg/L	0.000005				0.000028	0.000019	< 0.000005	0.000052	0.000033	0.000013	0.000006	0.000060
Uranium (dissolved)	mg/L	0.000002		0.02		0.00176	0.000249	0.000196	0.00133	0.000195	0.000120	0.000051	0.000910
Vanadium (dissolved)	mg/L	0.00001				0.00011	0.00089	0.00015	0.00019	0.00105	0.00013	0.00022	0.00058
Zinc (dissolved)	mg/L	0.002	5			0.002	< 0.002	< 0.002	0.007	0.002	0.004	0.003	0.003

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Mg Vincent & Peter Guerra

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date 07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025
Other (ORP)												
Chloride	mg/L	1	250		6	31	2	42	58	9	2	21
Phenols												
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002	< 0.002	< 0.002	0.003	0.002	< 0.002	< 0.002

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 15	16
					Sample Name MW7D	GW DUP
					Sample Matrix Ground Water	Ground Water
					Sample Date 07/07/2025	07/07/2025
Acid Rock Drainage						
pH Check <2	pH	0.05			1.00	1.00
General Chemistry						
Total Kjeldahl Nitrogen	as N mg/L	0.5			< 0.5	9.1
Ammonia+Ammonium (N)	as N mg/L	0.1			< 0.1	8.7
Metals and Inorganics						
Phosphorus (total)	mg/L	0.03			< 0.03	< 0.03
Hardness (dissolved)	mg/L as CaCO3	0.05	100		56.2	314
Silver (dissolved)	mg/L	0.00005			< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001			0.001	0.030
Barium (dissolved)	mg/L	0.00008		1	0.0105	0.121
Beryllium (dissolved)	mg/L	0.000007			0.000011	0.000104
Boron (dissolved)	mg/L	0.002		5	0.138	0.421

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Mg Vincent & Peter Guerra

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

				Sample Number	15	16
				Sample Name	MW7D	GW DUP
				Sample Matrix	Ground Water	Ground Water
				Sample Date	07/07/2025	07/07/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Bismuth (dissolved)	mg/L	0.00001			< 0.00001	< 0.00001
Calcium (dissolved)	mg/L	0.01			16.9	97.0
Cadmium (dissolved)	mg/L	0.000003		0.005	0.000016	0.000431
Cobalt (dissolved)	mg/L	0.000004			0.000075	0.00444
Chromium (dissolved)	mg/L	0.00008		0.05	0.00021	0.00063
Copper (dissolved)	mg/L	0.001	1		0.001	0.003
Iron (dissolved)	mg/L	0.007	0.3		0.013	5.00
Potassium (dissolved)	mg/L	0.009			2.11	13.9
Lithium (dissolved)	mg/L	0.0001			0.0007	0.0025
Magnesium (dissolved)	mg/L	0.001			3.40	17.3
Manganese (dissolved)	mg/L	0.00001	0.05		0.0841	15.3
Molybdenum (dissolved)	mg/L	0.0004			< 0.0004	< 0.0004
Sodium (dissolved)	mg/L	0.01	200	20	11.2	37.8
Nickel (dissolved)	mg/L	0.0001			0.0002	0.0038
Lead (dissolved)	mg/L	0.00009		0.01	< 0.00009	0.00011
Antimony (dissolved)	mg/L	0.0009		0.006	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05	0.00005	0.00031
Silicon (dissolved)	mg/L	0.02			5.25	9.30
Tin (dissolved)	mg/L	0.00006			< 0.00006	0.00017
Titanium (dissolved)	mg/L	0.0001			< 0.0001	0.0002
Thallium (dissolved)	mg/L	0.000005			0.000009	0.000034
Uranium (dissolved)	mg/L	0.000002		0.02	0.000167	0.000210

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Mg Vincent & Peter Guerra

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

				Sample Number	15	16
				Sample Name	MW7D	GW DUP
				Sample Matrix	Ground Water	Ground Water
				Sample Date	07/07/2025	07/07/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Vanadium (dissolved)	mg/L	0.00001			0.00002	0.00107
Zinc (dissolved)	mg/L	0.002	5		< 0.002	0.002
Other (ORP)						
Chloride	mg/L	1	250		19	61
Phenols						
4AAP-Phenolics	mg/L	0.002			< 0.002	0.004

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03 L1	ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03 L2
MW1					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	232	100	
MW2					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	150	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	5.92	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.654	0.05	
MW3D					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	207	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.85	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	7.77	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	30.2		20
MW4					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	311	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.81	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	16.3	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	36.9		20
MW5					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	7.53	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	1.32	0.05	
MW6					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.17	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.145	0.05	
MW7S					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	182	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	5.80	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	1.67	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	22.6		20
MW7D					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.0841	0.05	
GW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	314	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	5.00	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	15.3	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	37.8		20

EXCEEDANCE SUMMARY

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

GW DUP (continued)

QC SUMMARY

Ammonia by SFA

Method: SM 4500 I Internal ref.: ME-CA-[ENV]SFA-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
Ammonia+Ammonium (N)	SKA0091-JUL25	as N mg/L	0.1	<0.1	ND	10	100	90	110	98	75	125

Anions by discrete analyzer

Method: US EPA 325.2 I Internal ref.: ME-CA-[ENV]EWL-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	DIO5009-JUL25	mg/L	1	<1	ND	20	105	70	130	101	70	130

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (dissolved)	EMS0069-JUL25	mg/L	0.00005	<0.00005	ND	20	98	90	110	71	70	130
Aluminum (dissolved)	EMS0069-JUL25	mg/L	0.001	<0.001	ND	20	94	90	110	99	70	130
Barium (dissolved)	EMS0069-JUL25	mg/L	0.00008	<0.00008	ND	20	101	90	110	96	70	130
Beryllium (dissolved)	EMS0069-JUL25	mg/L	0.000007	<0.000007	ND	20	102	90	110	98	70	130
Boron (dissolved)	EMS0069-JUL25	mg/L	0.002	<0.002	ND	20	98	90	110	100	70	130
Bismuth (dissolved)	EMS0069-JUL25	mg/L	0.00001	<0.00001	ND	20	96	90	110	96	70	130
Calcium (dissolved)	EMS0069-JUL25	mg/L	0.01	<0.01	ND	20	100	90	110	103	70	130
Cadmium (dissolved)	EMS0069-JUL25	mg/L	0.000003	<0.000003	ND	20	101	90	110	100	70	130
Cobalt (dissolved)	EMS0069-JUL25	mg/L	0.000004	<0.000004	ND	20	98	90	110	98	70	130
Chromium (dissolved)	EMS0069-JUL25	mg/L	0.00008	<0.00008	ND	20	99	90	110	101	70	130
Copper (dissolved)	EMS0069-JUL25	mg/L	0.001	<0.001	ND	20	96	90	110	95	70	130
Iron (dissolved)	EMS0069-JUL25	mg/L	0.007	<0.007	ND	20	103	90	110	100	70	130
Potassium (dissolved)	EMS0069-JUL25	mg/L	0.009	<0.009	ND	20	103	90	110	107	70	130
Lithium (dissolved)	EMS0069-JUL25	mg/L	0.0001	<0.0001	ND	20	105	90	110	101	70	130
Magnesium (dissolved)	EMS0069-JUL25	mg/L	0.001	<0.001	ND	20	99	90	110	102	70	130
Manganese (dissolved)	EMS0069-JUL25	mg/L	0.00001	<0.00001	ND	20	99	90	110	96	70	130
Molybdenum (dissolved)	EMS0069-JUL25	mg/L	0.0004	<0.0004	ND	20	99	90	110	89	70	130
Sodium (dissolved)	EMS0069-JUL25	mg/L	0.01	<0.01	ND	20	99	90	110	104	70	130
Nickel (dissolved)	EMS0069-JUL25	mg/L	0.0001	<0.0001	ND	20	96	90	110	96	70	130
Lead (dissolved)	EMS0069-JUL25	mg/L	0.00009	<0.00009	ND	20	98	90	110	94	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

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 (%)	
								Low	High		Low	High
Antimony (dissolved)	EMS0069-JUL25	mg/L	0.0009	<0.0009	ND	20	102	90	110	83	70	130
Selenium (dissolved)	EMS0069-JUL25	mg/L	0.00004	<0.00004	ND	20	100	90	110	90	70	130
Silicon (dissolved)	EMS0069-JUL25	mg/L	0.02	<0.02	ND	20	96	90	110	NV	70	130
Tin (dissolved)	EMS0069-JUL25	mg/L	0.00006	<0.00006	ND	20	98	90	110	NV	70	130
Titanium (dissolved)	EMS0069-JUL25	mg/L	0.0001	<0.0001	ND	20	99	90	110	NV	70	130
Thallium (dissolved)	EMS0069-JUL25	mg/L	0.000005	<0.000005	ND	20	94	90	110	76	70	130
Uranium (dissolved)	EMS0069-JUL25	mg/L	0.000002	<0.000002	ND	20	102	90	110	97	70	130
Vanadium (dissolved)	EMS0069-JUL25	mg/L	0.00001	<0.00001	ND	20	99	90	110	98	70	130
Zinc (dissolved)	EMS0069-JUL25	mg/L	0.002	<0.002	ND	20	96	90	110	105	70	130
Manganese (dissolved)	EMS0097-JUL25	mg/L	0.00001	<0.00001	11	20	103	90	110	94	70	130

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 (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0081-JUL25	mg/L	0.002	<0.002	ND	10	99	80	120	99	75	125

QC SUMMARY

Phosphorus by SFA

Method: SM 4500-P J | Internal ref.: ME-CA-[ENV]SFA-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)	SKA0085-JUL25	mg/L	0.03	<0.03	3	10	98	90	110	75	75	125

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

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 Kjeldahl Nitrogen	SKA0089-JUL25	as N mg/L	0.5	<0.5	3	10	98	90	110	92	75	125
Total Kjeldahl Nitrogen	SKA0100-JUL25	as N mg/L	0.5	<0.5	6	10	98	90	110	91	75	125

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

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.
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.

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: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com {4}

Laboratory Information Section

Received Date (mm/dd/yyyy): 07/08/25 | LAB LIMS #: CA 15080-Jul25

Received Time (After Hours Only): __:__ | Temperature Upon Receipt (°C): 4.5, 5

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

Project Name/Number: 236957.007-Township of Bonfield GW | P.O. #:

Quote #: 2024 488

Attached Parameter List: ☐ YES ☒ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Client Information/Report To:

Client Lab #:

Company Name: Same as above | Phone Number:

Contact Name: Meagan Bradley | Fax Number:

Address: 662 Falconbridge Rd, Unit 3 | E-mail:

Copy to: mbradley@pinchin.com

Sample Information

Sample Identifier	Date Sampled (mm/dd/yy)	Time Sampled	# of Bottles	Analysis Requested: Field Filtered		GW Package					
MW1	July 07 2025	12:00pm	4	Y		X					
MW2		10:20am	4	Y		X					
MW3S		1:30pm	4	Y		X					
MW3D		1:35pm	4	Y		X					
MW4		1:00pm	4	Y		X					
MW5		12:00pm	4	Y		X					
MW6		11:00am	4	Y		X					
MW7S		13:00pm	4	Y		X					
MW7D		13:00pm	4	Y		X					
GW Dup	↓	1:00pm	4	Y		X					

Sampled By {1}: (Name) My Vincent & Peder Guerra (Signature) Mia Vincent Date: 07/07/25 (mm/dd/yy)

Relinquished by {2}: (Name) My Vincent (Signature) Mia Vincent Date: 07/07/25 (mm/dd/yy)

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.

335536060999
1030 ↓ RTN

Revision #: 2.3
Date of Issue: 24 Jun. 2014

FINAL REPORT

CA15083-JUL25 R

236957.007, Township of Bonfield SW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15083-JUL25 R

First Page

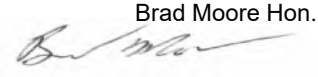
CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560. Fax:	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Meagan Bradley	Telephone	705-652-2143
Telephone	705-521-0560	Facsimile	705-652-6365
Facsimile		Email	brad.moore@sgs.com
Email	mbradley@Pinchin.com	SGS Reference	CA15083-JUL25
Project	236957.007, Township of Bonfield SW	Received	07/08/2025
Order Number		Approved	07/14/2025
Samples	Surface Water (4)	Report Number	CA15083-JUL25 R
		Date Reported	07/14/2025

COMMENTS

Temperature of Sample upon Receipt: 4 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc



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FINAL REPORT

CA15083-JUL25 R

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Meagan Bradley
Samplers: MJ Vincent & Peter Sumea

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				07/07/2025	07/07/2025	07/07/2025	07/07/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
General Chemistry							
Alkalinity	mg/L as CaCO3	2		31	3	29	7
Conductivity	uS/cm	2		207	31	82	30
Ammonia+Ammonium (N)	as N mg/L	0.1		0.5	< 0.1	0.1	< 0.1
Metals and Inorganics							
Hardness	mg/L as CaCO3	0.05		61.6	8.0	31.8	8.0
Silver (total)	mg/L	0.00005	0.0001	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (0.2µm)	mg/L	0.001	0.015 0.075	0.066	0.206	0.038	0.207
Arsenic (total)	mg/L	0.0002	0.005	0.0005	0.0002	0.0002	< 0.0002
Barium (total)	mg/L	0.00008		0.0763	0.0150	0.0292	0.0152
Beryllium (total)	mg/L	0.000007	0.011	0.000018	0.000021	0.000009	0.000021
Boron (total)	mg/L	0.002	0.2	0.020	0.002	0.028	0.003
Bismuth (total)	mg/L	0.00001		< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (total)	mg/L	0.01		19.9	2.12	8.98	2.13
Cadmium (total)	mg/L	0.000003	0.0001	0.000048	0.000015	0.000015	0.000014
Cobalt (total)	mg/L	0.000004	0.0009	0.00245	0.000555	0.000711	0.000566
Chromium (total)	mg/L	0.00008		0.00109	0.00092	0.00042	0.00099
Copper (total)	mg/L	0.001	0.001 0.005	0.002	< 0.001	0.002	< 0.001
Iron (total)	mg/L	0.007	0.3	6.36	2.08	3.40	2.08
Potassium (total)	mg/L	0.009		1.52	0.245	0.742	0.234
Lithium (total)	mg/L	0.0001		0.0009	0.0006	0.0005	0.0006

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Meagan Bradley
Samplers: MJ Vincent & Peter Sumea

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number	6	7	8	9	
Sample Name	SW-A	SW-B	SW-C	SW DUP	
Sample Matrix	Surface Water	Surface Water	Surface Water	Surface Water	
Sample Date	07/07/2025	07/07/2025	07/07/2025	07/07/2025	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Magnesium (total)	mg/L	0.001		2.92	0.650	2.27	0.641
Manganese (total)	mg/L	0.00001		0.555	0.0701	0.487	0.0699
Molybdenum (total)	mg/L	0.0004	0.04	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (total)	mg/L	0.01		11.4	1.79	3.43	1.80
Nickel (total)	mg/L	0.0001	0.025	0.0020	0.0008	0.0008	0.0008
Phosphorus (total)	mg/L	0.003	0.01	0.155	0.022	0.026	0.022
Lead (total)	mg/L	0.00009	0.005 0.01	0.00098	0.00013	0.00033	0.00011
Selenium (total)	mg/L	0.00004	0.1	0.00008	0.00006	0.00006	0.00005
Silicon (total)	mg/L	0.02		3.37	2.27	3.44	2.30
Tin (total)	mg/L	0.00006		0.00009	< 0.00006	0.00006	< 0.00006
Titanium (total)	mg/L	0.0001		0.0157	0.0056	0.0040	0.0057
Thallium (total)	mg/L	0.000005	0.0003	0.000008	< 0.000005	< 0.000005	< 0.000005
Uranium (total)	mg/L	0.000002	0.005	0.000054	0.000014	0.000021	0.000012
Vanadium (total)	mg/L	0.00001	0.006	0.00094	0.00044	0.00027	0.00043
Zinc (total)	mg/L	0.002	0.02	0.014	0.006	0.005	0.006

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Meagan Bradley
Samplers: MJ Vincent & Peter Sumea

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				07/07/2025	07/07/2025	07/07/2025	07/07/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Other (ORP)							
pH	No unit	0.05	0.1 8.6	6.45	5.77	6.70	5.87
Chloride	mg/L	1		30	5	7	5
Phenols							
4AAP-Phenolics	mg/L	0.001	0.001	< 0.001	0.001	0.002	< 0.001

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
SW-A				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.066	0.015
Cobalt	SM 3030/EPA 200.8	mg/L	0.00245	0.0009
Iron	SM 3030/EPA 200.8	mg/L	6.36	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.155	0.01
pH	SM 4500	No unit	6.45	0.1
SW-B				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.206	0.015
Iron	SM 3030/EPA 200.8	mg/L	2.08	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.022	0.01
pH	SM 4500	No unit	5.77	0.1
SW-C				
Iron	SM 3030/EPA 200.8	mg/L	3.40	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.026	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001
SW DUP				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.207	0.015
Iron	SM 3030/EPA 200.8	mg/L	2.08	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.022	0.01
pH	SM 4500	No unit	5.87	0.1

QC SUMMARY

Alkalinity

Method: SM 2320 I 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 (%)	
								Low	High		Low	High
Alkalinity	EWL0145-JUL25	mg/L as CaCO3	2	< 2	1	20	102	80	120	NA		
Alkalinity	EWL0156-JUL25	mg/L as CaCO3	2	< 2	1	20	100	80	120	NA		

Ammonia by SFA

Method: SM 4500 I 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 (%)	
								Low	High		Low	High
Ammonia+Ammonium (N)	SKA0091-JUL25	as N mg/L	0.1	<0.1	ND	10	100	90	110	98	75	125
Ammonia+Ammonium (N)	SKA0102-JUL25	as N mg/L	0.1	<0.1	4	10	106	90	110	98	75	125

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	DIO5008-JUL25	mg/L	1	<1	ND	20	103	70	130	96	70	130

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 (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0145-JUL25	uS/cm	2	< 2	0	10	100	90	110	NA		
Conductivity	EWL0156-JUL25	uS/cm	2	< 2	1	10	100	90	110	NA		

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (total)	EMS0076-JUL25	mg/L	0.00005	<0.00005	ND	20	105	90	110	70	70	130
Aluminum (0.2µm)	EMS0076-JUL25	mg/L	0.001	<0.001	4	20	102	90	110	105	70	130
Arsenic (total)	EMS0076-JUL25	mg/L	0.0002	<0.0002	7	20	105	90	110	102	70	130
Barium (total)	EMS0076-JUL25	mg/L	0.00008	<0.00008	2	20	104	90	110	84	70	130
Beryllium (total)	EMS0076-JUL25	mg/L	0.000007	<0.000007	1	20	102	90	110	91	70	130
Boron (total)	EMS0076-JUL25	mg/L	0.002	<0.002	5	20	104	90	110	99	70	130
Bismuth (total)	EMS0076-JUL25	mg/L	0.00001	<0.00001	18	20	101	90	110	88	70	130
Calcium (total)	EMS0076-JUL25	mg/L	0.01	<0.01	2	20	94	90	110	95	70	130
Cadmium (total)	EMS0076-JUL25	mg/L	0.000003	<0.000003	2	20	102	90	110	102	70	130
Cobalt (total)	EMS0076-JUL25	mg/L	0.000004	<0.000004	4	20	99	90	110	87	70	130
Chromium (total)	EMS0076-JUL25	mg/L	0.00008	<0.00008	8	20	102	90	110	97	70	130
Copper (total)	EMS0076-JUL25	mg/L	0.001	<0.001	5	20	100	90	110	89	70	130
Iron (total)	EMS0076-JUL25	mg/L	0.007	<0.007	6	20	99	90	110	100	70	130
Potassium (total)	EMS0076-JUL25	mg/L	0.009	<0.009	2	20	94	90	110	82	70	130
Lithium (total)	EMS0076-JUL25	mg/L	0.0001	<0.0001	2	20	107	90	110	91	70	130
Magnesium (total)	EMS0076-JUL25	mg/L	0.001	<0.001	9	20	98	90	110	104	70	130
Manganese (total)	EMS0076-JUL25	mg/L	0.00001	<0.00001	3	20	97	90	110	94	70	130
Molybdenum (total)	EMS0076-JUL25	mg/L	0.0004	<0.0004	4	20	102	90	110	104	70	130
Sodium (total)	EMS0076-JUL25	mg/L	0.01	<0.01	3	20	95	90	110	102	70	130
Nickel (total)	EMS0076-JUL25	mg/L	0.0001	<0.0001	2	20	103	90	110	94	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-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 (%)	
								Low	High		Low	High
Lead (total)	EMS0076-JUL25	mg/L	0.00009	<0.00009	2	20	100	90	110	89	70	130
Phosphorus (total)	EMS0076-JUL25	mg/L	0.003	<0.003	ND	20	94	90	110	NV	70	130
Selenium (total)	EMS0076-JUL25	mg/L	0.00004	<0.00004	12	20	98	90	110	108	70	130
Silicon (total)	EMS0076-JUL25	mg/L	0.02	<0.02	4	20	103	90	110	NV	70	130
Tin (total)	EMS0076-JUL25	mg/L	0.00006	<0.00006	ND	20	99	90	110	NV	70	130
Titanium (total)	EMS0076-JUL25	mg/L	0.0001	<0.0001	15	20	99	90	110	NV	70	130
Thallium (total)	EMS0076-JUL25	mg/L	0.000005	<0.000005	2	20	101	90	110	91	70	130
Uranium (total)	EMS0076-JUL25	mg/L	0.000002	<0.000002	2	20	104	90	110	98	70	130
Vanadium (total)	EMS0076-JUL25	mg/L	0.00001	<0.00001	2	20	97	90	110	99	70	130
Zinc (total)	EMS0076-JUL25	mg/L	0.002	<0.002	2	20	100	90	110	76	70	130

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-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 (%)	
								Low	High		Low	High
pH	EWL0145-JUL25	No unit	0.05	NA	0		99			NA		
pH	EWL0156-JUL25	No unit	0.05	NA	1		100			NA		

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENVISFA-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 (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0081-JUL25	mg/L	0.001	<0.001	ND	10	99	80	120	99	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.
"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.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS

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: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com {4}

Laboratory Information Section

Received Date (mm/dd/yyyy):	07/08/25	LAB LIMS #:	CA 15083-Jul25
Received Time (After Hours Only):	__:__	Temperature Upon Receipt (°C):	2, 4, 2

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	
Project Name/Number:	236957.007-Township of Bonfield SW	P.O. #:

Quote #: 2024 488

Attached Parameter List: ☐ YES ☒ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Client Information/Report To:

				Client Lab #:
Company Name:	Same as above		Phone Number:	705-521-0560
Contact Name:	Meagan Bradley		Fax Number:	
Address:	662 Falconbridge Rd, Unit 3		E-mail:	
Copy to:	mbradley@pinchin.com			

Sample Information

Sample Identifier	Date Sampled (mm/dd/yy)	Time Sampled	# of Bottles	Analysis Requested (please enter the analysis required below and check off which analysis applies to each sample)							
				Field Filtered		SW Package			pH	Temp	
SW-A	July 07 2025	10:30am	6	N		x			5.82	15.5	
SW-B		14:00pm	6	N		x			5.0	17.0	
SW-C		10:30am	6	N		x			5.7	16.6	
SW Dup		14:00pm	6	N		x			5.0	17.0	

Sampled By {1}:	(Name) MJ Vincent + Peter Guenette	(Signature) Mia Vincent	Date:	07/07/25	(mm/dd/yy)
Relinquished by {2}:	(Name) MJ Vincent	(Signature) Mia Vincent	Date:	07/07/25	(mm/dd/yy)

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.

335536040546

1030 + RTN

FINAL REPORT

CA15634-SEP25 R

236957.007, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15634-SEP25 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560. Fax:	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Meagan Bradley	Telephone	705-652-2143
Telephone	705-521-0560	Facsimile	705-652-6365
Facsimile		Email	brad.moore@sgs.com
Email	mbradley@Pinchin.com	SGS Reference	CA15634-SEP25
Project	236957.007, Township of Bonfield GW	Received	09/25/2025
Order Number		Approved	10/09/2025
Samples	Ground Water (10)	Report Number	CA15634-SEP25 R
		Date Reported	10/09/2025

COMMENTS

Temperature of Sample upon Receipt: 9 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15634-SEP25 R

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Jenny+MJ

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025
						Result	Result	Result	Result	Result	Result	Result	Result
Acid Rock Drainage													
pH Check <2	pH	0.05				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
General Chemistry													
Total Kjeldahl Nitrogen	as N mg/L	0.5				1.1	1.0	< 0.5	3.0	7.0	< 0.5	< 0.5	4.4
Ammonia+Ammonium (N)	as N mg/L	0.1				< 0.1	0.6	< 0.1	2.6	6.1	< 0.1	< 0.1	3.4
Metals and Inorganics													
Phosphorus (total)	mg/L	0.03				0.29	0.44	0.93	< 0.03	< 0.03	0.63	0.07	0.30
Hardness (dissolved)	mg/L as CaCO3	0.05	100			472	132	57.1	116	244	56.4	41.0	261
Silver (dissolved)	mg/L	0.00005				< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001				0.038	0.019	0.019	0.002	0.010	0.004	0.010	0.009
Barium (dissolved)	mg/L	0.00008		1		0.352	0.0608	0.0197	0.0776	0.157	0.0332	0.0233	0.259
Beryllium (dissolved)	mg/L	0.000007				0.000025	0.000011	< 0.000007	0.000012	0.000053	0.000008	0.000010	0.000014
Boron (dissolved)	mg/L	0.002		5		2.83	0.138	0.064	0.179	0.395	0.037	0.040	1.21
Bismuth (dissolved)	mg/L	0.00001				< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (dissolved)	mg/L	0.01				153	45.7	15.2	31.4	75.6	15.3	9.28	85.1
Cadmium (dissolved)	mg/L	0.000003		0.005		0.000066	0.000011	0.000006	0.000126	0.000199	0.000021	0.000030	0.000052
Cobalt (dissolved)	mg/L	0.000004				0.000494	0.00179	0.000049	0.00137	0.00291	0.00141	0.000969	0.00263
Chromium (dissolved)	mg/L	0.00008		0.05		0.00063	0.00051	0.00041	0.00021	0.00054	0.00013	0.00026	0.00048
Copper (dissolved)	mg/L	0.001	1			0.008	< 0.001	0.001	0.002	0.002	< 0.001	0.002	0.003
Iron (dissolved)	mg/L	0.007	0.3			0.091	8.07	0.029	2.71	12.3	4.97	0.238	5.80
Potassium (dissolved)	mg/L	0.009				10.3	4.84	5.20	4.99	16.3	2.51	2.38	19.0
Lithium (dissolved)	mg/L	0.0001				< 0.0001	0.0002	0.0001	0.0024	0.0030	0.0003	0.0010	0.0001

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Jenny+MJ

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

					Sample Number	7	8	9	10	11	12	13	14
					Sample Name	MW1	MW2	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025
Parameter	**Units**	**RL**	**L1**	**L2**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)													
Magnesium (dissolved)	mg/L	0.001				21.6	4.23	4.66	9.16	13.5	4.38	4.33	11.8
Manganese (dissolved)	mg/L	0.00001	0.05			0.100	0.931	0.00390	3.63	15.1	0.837	0.124	2.46
Molybdenum (dissolved)	mg/L	0.0004				0.0004	< 0.0004	0.0010	0.0013	< 0.0004	< 0.0004	< 0.0004	0.0009
Sodium (dissolved)	mg/L	0.01	200	20		40.0	5.57	7.20	17.8	30.0	3.81	3.41	31.2
Nickel (dissolved)	mg/L	0.0001				0.0015	0.0006	0.0002	0.0020	0.0023	0.0009	0.0018	0.0012
Lead (dissolved)	mg/L	0.00009		0.01		< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Antimony (dissolved)	mg/L	0.0009		0.006		< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05		0.00045	0.00009	0.00016	< 0.00004	0.00017	0.00005	0.00004	0.00022
Silicon (dissolved)	mg/L	0.02				1.97	3.37	2.43	7.97	10.2	7.06	9.92	6.78
Tin (dissolved)	mg/L	0.00006				0.00008	< 0.00006	< 0.00006	< 0.00006	0.00013	< 0.00006	0.00007	0.00018
Titanium (dissolved)	mg/L	0.0001				0.0007	0.0015	0.0018	0.0001	0.0002	0.0002	0.0006	0.0004
Thallium (dissolved)	mg/L	0.000005				0.000058	0.000020	< 0.000005	0.000037	0.000008	0.000012	0.000006	0.000128
Uranium (dissolved)	mg/L	0.000002		0.02		0.00405	0.000162	0.000157	0.000538	0.000404	0.000074	0.000037	0.00176
Vanadium (dissolved)	mg/L	0.00001				0.00012	0.00103	0.00015	0.00015	0.00068	0.00009	0.00011	0.00045
Zinc (dissolved)	mg/L	0.002	5			0.011	0.009	0.010	0.012	0.011	0.012	0.011	0.010

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Jenny+MJ

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	MW3S	MW3D	MW4	MW5	MW6	MW7S
					Sample Matrix Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date 24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025
					Result	Result	Result	Result	Result	Result	Result	Result
Other (ORP)												
Chloride	mg/L	1	250		33	37	1	37	45	2	1	29
Phenols												
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

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 15	16
					Sample Name MW7D	GW DUP
					Sample Matrix Ground Water	Ground Water
					Sample Date 24/09/2025	24/09/2025
					Result	Result
Acid Rock Drainage						
pH Check <2	pH	0.05			1.00	1.00
General Chemistry						
Total Kjeldahl Nitrogen	as N mg/L	0.5			< 0.5	3.2
Ammonia+Ammonium (N)	as N mg/L	0.1			< 0.1	2.6
Metals and Inorganics						
Phosphorus (total)	mg/L	0.03			< 0.03	< 0.03
Hardness (dissolved)	mg/L as CaCO3	0.05	100		44.1	117
Silver (dissolved)	mg/L	0.00005			< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001			0.002	0.003
Barium (dissolved)	mg/L	0.00008		1	0.00864	0.0789
Beryllium (dissolved)	mg/L	0.000007			0.000007	0.000014
Boron (dissolved)	mg/L	0.002		5	0.079	0.156

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Jenny+MJ

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

					Sample Number	15	16
					Sample Name	MW7D	GW DUP
					Sample Matrix	Ground Water	Ground Water
					Sample Date	24/09/2025	24/09/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Bismuth (dissolved)	mg/L	0.00001			< 0.00001	< 0.00001
Calcium (dissolved)	mg/L	0.01			12.9	31.9
Cadmium (dissolved)	mg/L	0.000003		0.005	0.000004	0.000118
Cobalt (dissolved)	mg/L	0.000004			0.000029	0.00135
Chromium (dissolved)	mg/L	0.00008		0.05	0.00019	0.00020
Copper (dissolved)	mg/L	0.001	1		< 0.001	0.002
Iron (dissolved)	mg/L	0.007	0.3		0.011	2.67
Potassium (dissolved)	mg/L	0.009			1.79	5.02
Lithium (dissolved)	mg/L	0.0001			0.0006	0.0024
Magnesium (dissolved)	mg/L	0.001			2.90	9.14
Manganese (dissolved)	mg/L	0.00001	0.05		0.0112	3.63
Molybdenum (dissolved)	mg/L	0.0004			< 0.0004	0.0013
Sodium (dissolved)	mg/L	0.01	200	20	9.45	17.7
Nickel (dissolved)	mg/L	0.0001			< 0.0001	0.0021
Lead (dissolved)	mg/L	0.00009		0.01	< 0.00009	< 0.00009
Antimony (dissolved)	mg/L	0.0009		0.006	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05	< 0.00004	0.00004
Silicon (dissolved)	mg/L	0.02			5.15	8.18
Tin (dissolved)	mg/L	0.00006			< 0.00006	< 0.00006
Titanium (dissolved)	mg/L	0.0001			< 0.0001	0.0002
Thallium (dissolved)	mg/L	0.000005			0.000008	0.000036
Uranium (dissolved)	mg/L	0.000002		0.02	0.000131	0.000539

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield GW
Project Manager: Meagan Bradley
Samplers: Jenny+MJ

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

				Sample Number	15	16
				Sample Name	MW7D	GW DUP
				Sample Matrix	Ground Water	Ground Water
				Sample Date	24/09/2025	24/09/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Vanadium (dissolved)	mg/L	0.00001			0.00002	0.00015
Zinc (dissolved)	mg/L	0.002	5		0.009	0.014
Other (ORP)						
Chloride	mg/L	1	250		20	36
Phenols						
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03 L1	ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03 L2
MW1					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	472	100	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.100	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	40.0		20
MW2					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	132	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	8.07	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.931	0.05	
MW3D					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	116	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	2.71	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	3.63	0.05	
MW4					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	244	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	12.3	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	15.1	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	30.0		20
MW5					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.97	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.837	0.05	
MW6					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.124	0.05	
MW7S					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	261	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	5.80	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	2.46	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	31.2		20
GW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	117	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	2.67	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	3.63	0.05	

QC SUMMARY

Ammonia by SFA

Method: SM 4500 I Internal ref.: ME-CA-[ENV]SFA-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
Ammonia+Ammonium (N)	SKA0221-SEP25	as N mg/L	0.1	<0.1	0	10	96	90	110	98	75	125

Anions by discrete analyzer

Method: US EPA 325.2 I Internal ref.: ME-CA-[ENV]EWL-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	DIO5004-OCT25	mg/L	1	<1	ND	20	99	70	130	97	70	130

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (dissolved)	EMS0276-SEP25	mg/L	0.00005	<0.00005	ND	20	99	90	110	73	70	130
Aluminum (dissolved)	EMS0276-SEP25	mg/L	0.001	<0.001	ND	20	103	90	110	103	70	130
Barium (dissolved)	EMS0276-SEP25	mg/L	0.00008	<0.00008	ND	20	103	90	110	95	70	130
Beryllium (dissolved)	EMS0276-SEP25	mg/L	0.000007	<0.000007	ND	20	99	90	110	96	70	130
Boron (dissolved)	EMS0276-SEP25	mg/L	0.002	<0.002	ND	20	97	90	110	NV	70	130
Bismuth (dissolved)	EMS0276-SEP25	mg/L	0.00001	<0.00001	ND	20	99	90	110	92	70	130
Calcium (dissolved)	EMS0276-SEP25	mg/L	0.01	<0.01	ND	20	98	90	110	99	70	130
Cadmium (dissolved)	EMS0276-SEP25	mg/L	0.000003	<0.000003	ND	20	100	90	110	101	70	130
Cobalt (dissolved)	EMS0276-SEP25	mg/L	0.000004	<0.000004	ND	20	100	90	110	96	70	130
Chromium (dissolved)	EMS0276-SEP25	mg/L	0.00008	<0.00008	ND	20	103	90	110	99	70	130
Copper (dissolved)	EMS0276-SEP25	mg/L	0.001	<0.001	ND	20	102	90	110	99	70	130
Iron (dissolved)	EMS0276-SEP25	mg/L	0.007	<0.007	ND	20	102	90	110	75	70	130
Potassium (dissolved)	EMS0276-SEP25	mg/L	0.009	<0.009	ND	20	99	90	110	101	70	130
Lithium (dissolved)	EMS0276-SEP25	mg/L	0.0001	<0.0001	ND	20	102	90	110	94	70	130
Magnesium (dissolved)	EMS0276-SEP25	mg/L	0.001	<0.001	0	20	101	90	110	101	70	130
Manganese (dissolved)	EMS0276-SEP25	mg/L	0.00001	<0.00001	ND	20	99	90	110	98	70	130
Molybdenum (dissolved)	EMS0276-SEP25	mg/L	0.0004	<0.0004	ND	20	97	90	110	98	70	130
Sodium (dissolved)	EMS0276-SEP25	mg/L	0.01	<0.01	ND	20	101	90	110	99	70	130
Nickel (dissolved)	EMS0276-SEP25	mg/L	0.0001	<0.0001	ND	20	99	90	110	92	70	130
Lead (dissolved)	EMS0276-SEP25	mg/L	0.00009	<0.00009	ND	20	99	90	110	97	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

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 (%)	
								Low	High		Low	High
Antimony (dissolved)	EMS0276-SEP25	mg/L	0.0009	<0.0005	ND	20	90	90	110	90	70	130
Selenium (dissolved)	EMS0276-SEP25	mg/L	0.00004	<0.00004	ND	20	99	90	110	94	70	130
Silicon (dissolved)	EMS0276-SEP25	mg/L	0.02	<0.02	ND	20	94	90	110	NV	70	130
Tin (dissolved)	EMS0276-SEP25	mg/L	0.00006	<0.00006	ND	20	98	90	110	NV	70	130
Titanium (dissolved)	EMS0276-SEP25	mg/L	0.0001	<0.0001	ND	20	99	90	110	NV	70	130
Thallium (dissolved)	EMS0276-SEP25	mg/L	0.000005	<0.000005	ND	20	99	90	110	92	70	130
Uranium (dissolved)	EMS0276-SEP25	mg/L	0.000002	<0.000002	ND	20	101	90	110	96	70	130
Vanadium (dissolved)	EMS0276-SEP25	mg/L	0.00001	<0.00001	ND	20	101	90	110	97	70	130
Zinc (dissolved)	EMS0276-SEP25	mg/L	0.002	<0.002	1	20	97	90	110	91	70	130
Manganese (dissolved)	EMS0293-SEP25	mg/L	0.00001	<0.00001	13	20	97	90	110	95	70	130

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 (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0248-SEP25	mg/L	0.002	<0.002	ND	10	99	80	120	100	75	125

QC SUMMARY

Phosphorus by SFA

Method: SM 4500-P J | Internal ref.: ME-CA-[ENV]SFA-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)	SKA0238-SEP25	mg/L	0.03	<0.03	4	10	99	90	110	100	75	125

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

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 Kjeldahl Nitrogen	SKA0222-SEP25	as N mg/L	0.5	<0.5	1	10	101	90	110	101	75	125

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

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.
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.

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: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361 Web: www.ca.sgs.com {4}

Laboratory Information Section

Received Date (mm/dd/yyyy): SEP 25 2025 | LAB LIMS #: Sep 15634 M2

Received Time (After Hours Only): __:__ | Temperature Upon Receipt (°C): 9 x 3

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

Project Name/Number: 236957.007-Township of Bonfield GW | P.O. #:

Quote #: 2024 488

Attached Parameter List: ☑ YES ☐ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☑ NO

Specify:

* Rush TA Requests Require Lab Approval

Client Information/Report To: | Client Lab #:

Company Name:	Same as above	Phone Number:	
Contact Name:		Fax Number:	
Address:		E-mail:	
Copy to:			

Sample Information

Sample Identifier	Date Sampled (mm/dd/yy)	Time Sampled	# of Bottles	Analysis Requested (please enter the analysis required below and check off which analysis applies to each sample)							
				Field Filtered		GW Package					
MW1	09/24/25	10am	4	Y		X					
MW2	09/24/25	"	4	Y		X					
MW3S	09/24/25	"	4	Y		X					
MW3D	09/24/25	"	4	Y		X					
MW4	09/24/25	"	4	Y		X					
MW5	09/24/25	"	4	Y		X					
MW6	09/24/25	"	4	Y		X					
MW7S	09/24/25	V	4	Y		X					
MW7D	09/24/25	1 PM	4	Y		X					
GW Dup	09/24/25	AM	4	Y		X					

Sampled By {1}: (Name) Jenny + M J (Signature) _____ Date: 09 24 25 (mm/dd/yy)

Relinquished by {2}: (Name) Jenny + M J (Signature) _____ Date: 09 24 25 (mm/dd/yy)

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.

Revision #: 2.3
Date of Issue: 24 Jun. 2014

33565844402, ok
10:00 M

FINAL REPORT

CA15627-SEP25 R

236957.007, Township of Bonfield SW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15627-SEP25 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560. Fax:	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Meagan Bradley	Telephone	2165
Telephone	705-521-0560	Facsimile	705-652-6365
Facsimile		Email	jill.campbell@sgs.com
Email	mbradley@Pinchin.com	SGS Reference	CA15627-SEP25
Project	236957.007, Township of Bonfield SW	Received	09/25/2025
Order Number		Approved	10/07/2025
Samples	Surface Water (4)	Report Number	CA15627-SEP25 R
		Date Reported	10/07/2025

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

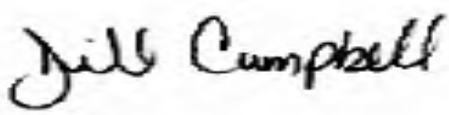

TABLE OF CONTENTS

FINAL REPORT

CA15627-SEP25 R

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Meagan Bradley
Samplers: Jenny + MJ

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				24/09/2025	24/09/2025	24/09/2025	24/09/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
General Chemistry							
Alkalinity	mg/L as CaCO3	2		32	22	31	31
Conductivity	uS/cm	2		97	89	101	96
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1	< 0.1	< 0.1	< 0.1
Metals and Inorganics							
Hardness	mg/L as CaCO3	0.05		34.6	28.6	35.3	35.0
Silver (total)	mg/L	0.00005	0.0001	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (0.2µm)	mg/L	0.001	0.015 0.075	0.007	**0.112**	0.007	0.015
Arsenic (total)	mg/L	0.0002	0.005	< 0.0002	0.0007	< 0.0002	< 0.0002
Barium (total)	mg/L	0.00008		0.0226	0.0355	0.0183	0.0229
Beryllium (total)	mg/L	0.000007	0.011	< 0.000007	0.000037	< 0.000007	< 0.000007
Boron (total)	mg/L	0.002	0.2	0.022	0.009	0.021	0.022
Bismuth (total)	mg/L	0.00001		< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (total)	mg/L	0.01		9.46	7.09	9.60	9.65
Cadmium (total)	mg/L	0.000003	0.0001	< 0.000003	0.000011	0.000013	< 0.000003
Cobalt (total)	mg/L	0.000004	0.0009	0.000183	**0.00173**	0.000113	0.000187
Chromium (total)	mg/L	0.00008		0.00012	0.00127	0.00020	0.00015
Copper (total)	mg/L	0.001	0.005	< 0.001	0.002	< 0.001	< 0.001
Iron (total)	mg/L	0.007	0.3	**1.02**	**11.0**	**0.616**	**0.945**
Potassium (total)	mg/L	0.009		1.29	4.74	1.50	1.28
Lithium (total)	mg/L	0.0001		0.0010	0.0027	0.0009	0.0010
Magnesium (total)	mg/L	0.001		2.67	2.64	2.74	2.66

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Meagan Bradley
Samplers: Jenny + MJ

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Sample Number				6	7	8	9
Sample Name				SW-A	SW-B	SW-C	SW DUP
Sample Matrix				Surface Water	Surface Water	Surface Water	Surface Water
Sample Date				24/09/2025	24/09/2025	24/09/2025	24/09/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Manganese (total)	mg/L	0.00001		0.150	0.289	0.0610	0.149
Molybdenum (total)	mg/L	0.0004	0.04	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (total)	mg/L	0.01		6.26	5.46	6.00	6.21
Nickel (total)	mg/L	0.0001	0.025	0.0003	0.0030	0.0004	0.0002
Phosphorus (total)	mg/L	0.003	0.01	0.005	0.096	0.014	0.008
Lead (total)	mg/L	0.00009	0.01	< 0.00009	0.00044	0.00009	< 0.00009
Selenium (total)	mg/L	0.00004	0.1	< 0.00004	0.00011	< 0.00004	< 0.00004
Silicon (total)	mg/L	0.02		4.02	2.79	4.12	4.04
Tin (total)	mg/L	0.00006		< 0.00006	0.00006	< 0.00006	< 0.00006
Titanium (total)	mg/L	0.0001		0.0004	0.0186	0.0019	0.0002
Thallium (total)	mg/L	0.000005	0.0003	< 0.000005	0.000009	< 0.000005	< 0.000005
Uranium (total)	mg/L	0.000002	0.005	0.000013	0.000064	0.000012	0.000011
Vanadium (total)	mg/L	0.00001	0.006	0.00007	0.00219	0.00010	0.00005
Zinc (total)	mg/L	0.002	0.02	0.010	0.020	0.012	0.010

Client: Pinchin Ltd
Project: 236957.007, Township of Bonfield SW
Project Manager: Meagan Bradley
Samplers: Jenny + MJ

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

			Sample Number	6	7	8	9
			Sample Name	SW-A	SW-B	SW-C	SW DUP
			Sample Matrix	Surface Water	Surface Water	Surface Water	Surface Water
			Sample Date	24/09/2025	24/09/2025	24/09/2025	24/09/2025
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Other (ORP)							
pH	No unit	0.05	0.1 8.6	6.54	6.03	6.87	6.60
Chloride	mg/L	1		17	18	16	17
Phenols							
4AAP-Phenolics	mg/L	0.001	0.001	< 0.001	0.008	< 0.001	< 0.001

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
SW-A				
Iron	SM 3030/EPA 200.8	mg/L	1.02	0.3
SW-B				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.112	0.015
Cobalt	SM 3030/EPA 200.8	mg/L	0.00173	0.0009
Iron	SM 3030/EPA 200.8	mg/L	11.0	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.096	0.01
pH	SM 4500	No unit	6.03	0.1
4AAP-Phenolics	SM 5530B-D	mg/L	0.008	0.001
SW-C				
Iron	SM 3030/EPA 200.8	mg/L	0.616	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.014	0.01
SW DUP				
Iron	SM 3030/EPA 200.8	mg/L	0.945	0.3

QC SUMMARY

Alkalinity

Method: SM 2320 I 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 (%)	
								Low	High		Low	High
Alkalinity	EWL0607-SEP25	mg/L as CaCO3	2	< 2	2	20	109	80	120	NA		

Ammonia by SFA

Method: SM 4500 I 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 (%)	
								Low	High		Low	High
Ammonia+Ammonium (N)	SKA0221-SEP25	as N mg/L	0.1	<0.1	0	10	96	90	110	98	75	125

Anions by discrete analyzer

Method: US EPA 325.2 I 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	DIO5004-OCT25	mg/L	1	<1	ND	20	99	70	130	97	70	130

QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-[ENV]EWL-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 (%)	
								Low	High		Low	High
Conductivity	EWL0607-SEP25	uS/cm	2	< 2	1	10	99	90	110	NA		

QC SUMMARY

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 (%)	
								Low	High		Low	High
Silver (total)	EMS0279-SEP25	mg/L	0.00005	<0.00005	ND	20	98	90	110	NV	70	130
Aluminum (0.2µm)	EMS0279-SEP25	mg/L	0.001	<0.001	ND	20	104	90	110	103	70	130
Arsenic (total)	EMS0279-SEP25	mg/L	0.0002	<0.0002	7	20	100	90	110	98	70	130
Barium (total)	EMS0279-SEP25	mg/L	0.00008	<0.00008	1	20	100	90	110	114	70	130
Beryllium (total)	EMS0279-SEP25	mg/L	0.000007	<0.000007	ND	20	100	90	110	92	70	130
Boron (total)	EMS0279-SEP25	mg/L	0.002	<0.002	1	20	101	90	110	94	70	130
Bismuth (total)	EMS0279-SEP25	mg/L	0.00001	<0.00001	ND	20	100	90	110	90	70	130
Calcium (total)	EMS0279-SEP25	mg/L	0.01	<0.01	0	20	99	90	110	100	70	130
Cadmium (total)	EMS0279-SEP25	mg/L	0.000003	<0.000003	0	20	99	90	110	95	70	130
Cobalt (total)	EMS0279-SEP25	mg/L	0.000004	<0.000004	2	20	100	90	110	90	70	130
Chromium (total)	EMS0279-SEP25	mg/L	0.00008	<0.00008	7	20	101	90	110	84	70	130
Copper (total)	EMS0279-SEP25	mg/L	0.001	<0.001	2	20	101	90	110	82	70	130
Iron (total)	EMS0279-SEP25	mg/L	0.007	<0.007	ND	20	101	90	110	100	70	130
Potassium (total)	EMS0279-SEP25	mg/L	0.009	<0.009	0	20	98	90	110	99	70	130
Lithium (total)	EMS0279-SEP25	mg/L	0.0001	<0.0001	1	20	100	90	110	96	70	130
Magnesium (total)	EMS0279-SEP25	mg/L	0.001	<0.001	1	20	99	90	110	99	70	130
Manganese (total)	EMS0279-SEP25	mg/L	0.00001	<0.00001	3	20	100	90	110	80	70	130
Molybdenum (total)	EMS0279-SEP25	mg/L	0.0004	<0.0004	0	20	101	90	110	93	70	130
Sodium (total)	EMS0279-SEP25	mg/L	0.01	<0.01	1	20	99	90	110	97	70	130
Nickel (total)	EMS0279-SEP25	mg/L	0.0001	<0.0001	1	20	99	90	110	85	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-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 (%)	
								Low	High		Low	High
Lead (total)	EMS0279-SEP25	mg/L	0.00009	<0.00009	ND	20	99	90	110	84	70	130
Phosphorus (total)	EMS0279-SEP25	mg/L	0.003	<0.003	10	20	99	90	110	NV	70	130
Selenium (total)	EMS0279-SEP25	mg/L	0.00004	<0.00004	19	20	100	90	110	94	70	130
Silicon (total)	EMS0279-SEP25	mg/L	0.02	<0.02	5	20	97	90	110	NV	70	130
Tin (total)	EMS0279-SEP25	mg/L	0.00006	<0.00006	ND	20	99	90	110	NV	70	130
Titanium (total)	EMS0279-SEP25	mg/L	0.0001	<0.0001	ND	20	102	90	110	NV	70	130
Thallium (total)	EMS0279-SEP25	mg/L	0.000005	<0.000005	11	20	100	90	110	85	70	130
Uranium (total)	EMS0279-SEP25	mg/L	0.000002	<0.000002	ND	20	100	90	110	95	70	130
Vanadium (total)	EMS0279-SEP25	mg/L	0.00001	<0.00001	12	20	101	90	110	93	70	130
Zinc (total)	EMS0279-SEP25	mg/L	0.002	<0.002	7	20	100	90	110	101	70	130

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-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 (%)	
								Low	High		Low	High
pH	EWL0607-SEP25	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-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 (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0248-SEP25	mg/L	0.001	<0.001	ND	10	99	80	120	100	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.
"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.

This report supersedes all previous versions.

-- End of Analytical Report --

SGS

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.c

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.

Laboratory Information Section

Received Date (mm/dd/yyyy): SEP 25 2025	LAB LIMS #: Sep 15627
Received Time (After Hours Only): --:--	Temperature Upon Receipt (°C): 7 x 3

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	
Project Name/Number:	236957.007-Township of Bonfield SW	P.O. #:

Quote #: 2024 488

Attached Parameter List: ☒ YES ☐ NO

Turnaround Time

Is *Rush Turnaround Time Required? ☐ YES ☒ NO

Specify:

* Rush TA Requests Require Lab Approval

Client Information/Report To:

				Client Lab #:
Company Name:	Same as above		Phone Number:	705-521-0560
Contact Name:			Fax Number:	
Address:			E-mail:	
Copy to:				

Sample Information

Sample Identifier	Date Sampled (mm/dd/yy)	Time Sampled	# of Bottles	Analysis Requested (please enter the analysis required below and check off which analysis applies to each sample)							
				Field Filtered		SW Package					
SW-A	09/24/25	11am	6	N		x					
SW-B	09/24/25	1PM	6	N		x					
SW-C	09/24/25	10AM	6	N		x					
SW Dup	09/24/25	AM	6	N		x					

Sampled By {1}: (Name) denny + MJ (Signature) Date: 09/24/25 (mm/dd/yy)

Relinquished by {2}: (Name) denny + MJ (Signature) Date: 09/24/25 (mm/dd/yy)

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.

10:00M

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