The Corporation of The Township of Bonfield

AGENDA FOR COUNCIL MEETING TO BE HELD
JANUARY 28th, 2025 AT 7:00 P.M.

1. **Call to Order**

2. **Adoption of Agenda**

3. **Disclosure of Pecuniary Interest and General Nature Thereof**

4. **Adoption of previous minutes**
   - **a.** Regular Meeting of Council: January 14th, 2025

5. **Presentations and Delegations**
   - **a.** Steel Rail Committee – Update

6. **Staff Reports**
   - **a.** Report from CAO – Province's Proposed Amendments to the Municipal Act for Integrity Commissioners
   - **b.** Report from CAO – Proposed Zoning Amendment By-laws
   - **c.** Report from CAO – Question Period
   - **d.** Report from CAO – Planning Consultants
   - **e.** Report from CAO – Draft Complaint Policy
   - **f.** Report from Fire Chief – Monthly activity
   - **g.** Report from Administrative Assistant – Celebrating the Arts Event

7. **Adoption of Committee Minutes/ Motions**

   - **a. Corporate Services Committee:** None for this session
   - **b. Emergency Services Committee:** Minutes of January 20, 2025
   - **c. Planning Advisory Committee:** None for this session
   - **d. Recreation Committee:** None for this session
   - **e. Police Services Board:** None for this session

8. **Items for Council Discussion**
   - **a.** Letter from Municipal Housing Infrastructure Program Regarding Development Road
   - **b.** Report from Pinchin Regarding 2024 Landfill Site Inspection

9. **Resolutions to be Considered for Adoption**
   - **a.** 2025-07 By-law – To Appoint a Weed Inspector
   - **b.** Town of Kearney letter to MMAH re Rural Planning Policies
   - **c.** Township of Tarbutt - Objecting to the Increase to the 2024 Levy Imposed by MPAC
   - **d.** FONOM - Financial Sustainability In Child Welfare
   - **e.** Township of Puslinch Council Resolution - TAPMO Letter regarding Preannouncement Budget

10. **Correspondence**
    - **a.** 2025 Crime Stoppers Month
    - **b.** Municipality of Kincardine – Property Tax Implications
    - **c.** Town of Cobalt – Improvements to Catch & Release
    - **d.** Town of Aylmer – Oppose Provincial Legislation on Cycling Lanes
    - **e.** Alzheimer Society - Request for Proclamation and Flag Raising Ceremony for Alzheimer
    - **f.** FONOM - Expanding EPR to the ICI Sector
    - **g.** Town of Hawkesbury - Municipal Code of Conduct
    - **h.** City of Peterborough - Bill 242 Resolution
    - **i.** Royal Canadian Legion 12th Annual Military Book
    - **j.** National Wall of Remembrance
    - **k.** AORS Press Release – Royal Lafleur

11. **Question Period**

12. **Closed Session**
    a. personal matters about an identifiable individual, including municipal or local board employees and potential litigation

13. **Confirmatory By-Law**
    - **a.** Resolution to adopt By-law No. 2025-08

14. **Adjournment**

THE CORPORATION OF THE TOWNSHIP OF BONFIELD
REGULAR MEETING OF COUNCIL
January 14th, 2025

PRESENT:	Narry Paquette, Chair	Jason Corbett
	Donna Clark	Dan MacInnis
	Steve Featherstone	

STAFF PRESENT: Andrée Gagné, Deputy Clerk-Treasurer
Alex Hackenbrook, Public Works Manager
Nicky Kunkel, CAO Clerk-Treasurer
Simon Blakeley, Planning Administrator

1. **Call to Order**

Motion 1
Moved by Councillor Corbett — Seconded by Councillor Clark
THAT this meeting be opened at 7:00 p.m.

Carried

2. **Adoption of Agenda**

Motion 2
Moved by Councillor MacInnis — Seconded by Councillor Corbett
THAT the agenda presented to Council and dated the 14th day of January 2025, be adopted as presented.

Carried

3. **Disclosure of Pecuniary Interest** – None for this session

4. **Adoption of Previous Minutes**

Motion 3
Moved by Councillor Clark — Seconded by Councillor Featherstone
THAT the Minutes of the Regular Council Meeting of December 10th, 2024 be adopted as circulated.

Carried

5. **Presentation & Delegations –** None for this session

6. **Staff Reports**

6.a Report from CAO – eScribe Software Agreement

Motion 4
Moved by Councillor Featherstone — Seconded by Councillor MacInnis
THAT Council authorizes the agreement and agenda services from eScribe in 2025 for the subscription fee of $5,900.

Carried

6.b Report from CAO – Pesce Employee Workplace Training

Motion 5
Moved by Councillor Corbett Seconded by Councillor MacInnis
THAT Council accepts the quote from Pesce and Associates for mandatory workplace training for all staff in the amount of $1,950 plus travel disbursements.
Carried

7. Adoption of Committee Minutes/ Motions

Motion 6
Moved by Councillor Featherstone Seconded by Councillor MacInnis
WHEREAS the Planning Advisory Committee recommended that the proposed by-law amendment to Comprehensive Zoning By-law 2012-49 prepared by staff in consultation with the Planning Advisory Committee be forwarded to Council for further review and consideration at its next scheduled meeting; BE IT HEREBY RESOLVED THAT Council approves of the recommendation.
Carried

Motion 7
Moved by Councillor MacInnis Seconded by Councillor Corbett
WHEREAS the Recreation & Fitness Committee recommended to Council that the Township of Bonfield apply for the TD Friends of the Environment Foundation Grant in the amount of $7,443.66, of which the Township's costs will be $0.00 for new planters, soil and other gardening materials for the Community Garden; BE IT HEREBY RESOLVED THAT Council approves of the recommendation.
Carried

Motion 8
Moved by Councillor Clark Seconded by Councillor Featherstone
THAT Council accepts the proposed 2025 Recreation Committee meeting schedule as stated in the January 7, 2025 Recreation Committee Minutes.
Carried

8. Items for Council Discussion – None for this session

8.a Transfer of Accumulated Surplus Funds

Motion 9
Moved by Councillor Corbett Seconded by Councillor Clark
THAT Council hereby authorizes the transfer of any accumulated surplus, identified in the 2024 audit, as well as any operating surplus identified in the 2024 operating year, to the Working Capital Reserve.
Carried

8.b 2025 Council Meeting Dates

Motion 10
Moved by Councillor Clark Seconded by Councillor MacInnis
THAT Council hereby approves the 2025 Council meeting schedule as attached; AND
THAT meetings may be cancelled and Special meetings scheduled when needed.
Carried

9. Resolutions to be Considered for Adoption

9.a 2025-01 By-law – To Authorize Temporary Borrowing

Motion 11
Moved by Councillor Featherstone Seconded by Councillor Clark
THAT Council for the Township of Bonfield hereby adopts By-Law 2025-01, being a by-law to authorize temporary borrowing from time to time to meet current expenditures during the fiscal year ending December 31st, 2025, as presented and is considered read three times and passed this 14th day of January, 2025.
Carried

9.b 2025-02 By-law – To provide for Interim Tax Levy for 2025

Motion 12
Moved by Councillor MacInnis Seconded by Councillor Corbett
THAT Council for the Township of Bonfield hereby adopts By-Law 2025-02, being a by-law to provide for an Interim Tax Levy for the year 2025, as presented and is considered read three times and passed this 14th day of January, 2025
Carried

9.c 2025-03 By-Law – To Appoint a Committee of Adjustment

Motion 13
Moved by Councillor Corbett Seconded by Councillor Clark
THAT Council for the Township of Bonfield hereby adopts By-Law 2025-03, being a by-law to constitute and appoint a Committee of Adjustment for the Municipality, as presented and is considered read three times and passed this 14th day of January, 2025.
Carried

9.d 2025-05 By-Law – Fire Protection Grant Agreement

Motion 14
Moved by Councillor Featherstone Seconded by Councillor Corbett
THAT Council for the Township of Bonfield hereby adopts By-Law 2025-05, being a by-law to enter into an agreement with the Province of Ontario, as presented and is considered read three times and passed this 14th day of January, 2025.
Carried

9.e 2025-06 By-Law – Livestock Valuer Agreement

Motion 15
Moved by Councillor Featherstone Seconded by Councillor MacInnis
THAT Council for the Township of Bonfield hereby adopts By-Law 2025-06, being a by-law to enter into an agreement with Pauline Carmichael to provide Livestock Valuer services, as presented and is considered read three times and passed this 14th day of January, 2025.
Carried

9.f City of North Bay to Participate in the 2025 Household Hazardous Waste Program

Motion 16
Moved by Councillor Clark Seconded by Councillor MacInnis
THAT the Council of the Township of Bonfield recommends continuing participating in the Household Hazardous Waste Program with the City of North Bay for the year 2025 at the cost of $4,320.
Carried

9.g Lake Nosbonsing OPP Board Minutes – Appointment of Community Rep

Motion 17
Moved by Councillor Corbett Seconded by Councillor Clark
WHEREAS the Lake Nosbonsing OPP Detachment Board Community Representative Advisory Committee recommended to Council for the Township of Bonfield, Council for the Township of Chisholm and Council for the Municipality of East Ferris that Brian Linn be appointed to the Lake Nosbonsing OPP Detachment Board as the community member who is neither a member of the council of, nor an employee of, any of the above municipalities, jointly appointed by all of the above municipalities; AND THAT this appointment shall be for the remaining 2022-2026 term of Council; BE IT HEREBY RESOLVED THAT Council of the Township of Bonfield approves of this recommendation.
Carried

9.h Township of Papineau-Cameron - Pre-Approved Affordable Housing Plans

Motion 18
Moved by Councillor Corbett Seconded by Councillor Clark
THAT Council for the Township of Bonfield supports the Township of Papineau-Cameron calling on the Ontario government to amend the Ontario Building Code to include provisions for pre-approved affordable housing plans specifically aimed at supporting low income and homeless individuals, with provisions that zoning by-laws are adhered to; AND THAT a copy of this resolution be forwarded to the Premier of Ontario, the Minister of Municipal Affairs and Housing, and MPP Fedeli.
Carried

9.i 2025 Municipal & Cyber Insurance Quotes

Motion 19
Moved by Councillor Clark Seconded by Councillor Corbett
THAT Council accepts the quotes for Municipal and Cyber Insurance for the year 2025 in the amount of $185,978.68.

Carried

10. Correspondence

Motion 20
Moved by Councillor Clark Seconded by Councillor Featherstone
THAT Council receives the Correspondence circulated with the Agenda of January 14, 2025.

Carried

11. Question Period – There were no questions submitted for this meeting

12. Closed Session – None for this session

13. Confirmatory By-Law

Motion 21
Moved by Councillor MacInnis Seconded by Councillor Corbett
THAT the Council for the Township of Bonfield hereby adopts By-Law 2025-04 to confirm the proceedings of Council from December 10th, 2024 to January 14th, 2025, as presented and is considered read three times and passed this 14th day of January, 2025.

Carried

14. Adjournment

Motion 22
Moved by Councillor Clark Seconded by Councillor Featherstone
THAT this meeting be adjourned at 7:34 p.m.

Carried

_____
MAYOR

_____
CLERK

Business Profile

Business Overview

The Steel Rail Group

Business Legal Structure - Incorporated Nonprofit

Anticipated Start Date - May 2026

Address: Rutherglen, ON P0H2E0

Telephone Number: 705-493-3093

Email: Kiwi1@bell.net

Steel Rails Group will educate guests in a railroad themed museum. Display artifacts relevant to the history of the Railway in Bonfield and area. Promote the culture and historical significance of the Railway in the township and region.

What is your service going to provide for the customers?

SRG will provide:

- a pleasant rest stops for travellers
- an easily accessible stop for commercial tour buses
- an education in the history of the Railway and area
- a modern museum including technology and virtual experiences
- a wall of Honour-10,000 names of local pioneers and railroaders
- a gift shop
- a history story hour and presentation to reflect the area
- a venue to market other local business
- a venue for local social events and meetings
- an event stops for planned steam excursion train from North Bay

Revenue Streams

- Admission fees from commercial bus tours, guided bus excursions, musical entertainment nights, private meetings, summer camp for kids, steam Train excursions
- Sales from gift shop
- Lottery draws
- Donations

BUSINESS HISTORY

Backgrounds of members.

- **Caren Gagne**
- Caren Gagne has been a successful owner of a multi-faceted SME in Rutherglen for the last 40 years. She has volunteered her times over that expanse of years as a director and Chair of NECO, she also sits as treasurer on the Mattawa Hospital Board and was treasurer of the Mattawa Museum. She is a public-school board trustee for this area, been on local council and is President of the Toronto Art Organization.
- **Elmer Rose**
- Elmer Rose has received a certificate of recognition for outstanding volunteer work from the Ontario Government. He sat on the board of directors of the Mattawa Museum for 6 years and the last 3 being President. He has collected much of what will be housed at the museum and has established relevant contacts across North America. He has researched and documented the history of many residents of Bonfield Township including JRBooth, the most famous lumber baron in Canadian history. He is an expert in the history of the CPR as it pertains to the Nipissing Region. He has discovered the location of the First Spike between Bonfield and Rutherglen where the CPR was born on February 16, 1881
- **Steve Philpott**
- He is a retired cabinet and custom furniture maker. He operated small sole proprietorships while doing contract work for larger companies. Steve and his wife Susan have strategically purchased and improved 10 homes. They oversaw the construction of one house which they designed themselves
- Buying, improving then selling real estate has allowed them to be mortgage free since 1990 Steve has been a volunteer for various charities and municipal programs for 35 years
- **Ms. Lise Houle**
- –Ms. Houle is a businesswoman and has been for over 30 years in the area. She is an avid volunteer and has served on many boards and she is President of The Golden Age Club in Bonfield
-
- **How did the museum idea come about?**
- Mr. Rose has been preserving the history of Bonfield /Rutherglen for any years dating from the 1800s to the present. He stores this work at home
- post pandemic the Nipissing Railway Historical Society resumed working on plans to restore a steam locomotive and operate a tourist train between Rutherglen and North Bay
- Mr. Philpott is a member of NRHA and has committed himself to helping the SRG to be ready to receive up to 400 trains passenger per visit
- Steve was introduced to Elmer who was a former CPR Conductor for 25 years

- Elmer mentioned to Steve that he had been collecting Railway history and artifacts for over 50 years
- Steve ,who enjoys history started meeting with Elmer and Steve informed the archives department at Nipissing University who are very interest in Elmers work
- Elmer is determined to have all his work safely preserved for the future of the people of the township
- Caren Gagne joins Elmer and Steve bringing a great deal of business experience, local politics and fundraising. She is a long-term resident, business owner and volunteer. She has always respected Elmers many contributions to the community
- Lise Houle joins the group acting as secretary but also brings her business savvy and year of volunteer experience.
- For months, Caren, Elmer, Lise and Steve met weekly to find a financially viable way to present Elmers's collection to the public in a manner that benefits Bonfield Township
- Thus the idea of a museum began to take shape

Why did you want to start this business?

-We wish to preserve our areas culture and historical ties to the Railway transcontinental construction project from 1881 to 1885, ending in Rutherglen Ontario.

--We wish to draw traffic off Highway 17 and encourage visitor to stay, visit and vacation in the area

-We wish to build a self sustaining, educational destination that provides jobs for people in the area

-We wish to provide economic growth and stability to the area

What have you accomplished so far?

-Ontario Heritage Trust Plaque Application;

-has been well received and although a plaque has not yet been awarded the OHT board of Directors has expressed interest in the history of Bonfield Township. The OHT is now working with SRG to find the best version of text to highlight Ontario Heritage

-SRG is working with the Business Development Centre

-Funding for incorporation was obtained through NECO

-Council has assigned the SRG a Township senior staff member to attend SRG meetings

-SRG has met with local MP Anthony Rota and has an appointment to meet with MPP Vic Fedeli.MP Rota has directed SRG to the Federal Legacy Fund .Monies for museum builds are now available there.

-SRG has requested to lease land in the township for the build

-SRG has taken initial steps to educate themselves on the specifics of revenue streams they plan to develop

Goals and Objectives (Pre-Construction)

-Continue to build on our business operating model

-Obtain an Ontario Heritage Trust Plaque at Rutherglen

-Find a location to build a museum

-Establish a cost for build of museum

-Work to secure funding

-Contact and work with any organization

-Establish a website and other social media to garner public support

-Have Elmer Rose record his stories of community and CPR history

Encourage a younger generation

-to work in conjunction with the Nipissing Railway Historical Society to bring a steam tourist train to Rutherglen/Bonfield-

Business Statements Overview

Vision Statement

-The current vision of the SRG shall be to operate a financially sustainable museum, to preserve our Railway and local Heritage, to interpret and creatively display historically relevant materials for education purposes and by doing so foster pride in the community.

The SRG as a nonprofit organization of volunteers will work in conjunction with Bonfield Township to boost the economy and cultivate a thriving community

-The core values of the SRG shall be integrity, stewardship, innovation, creativity, partnership, collaboration, community, equity.

Mission Statement

-The SRG is committed to creating a museum which displays a comprehensive fact-based history o f Bonfield Townships Railway History in the district of Nipissing

-The SRG is committed to promoting the fact that Queen Victoria decreed Bonfield Township (Callander Station) at the Eastern Terminus of the TransCanada rail project and therefore the birthplace of the Canadian Pacific Railway on Feb 16 1881

Value Statement

-SRG believes that the unique history of the Nipissing Region is marketable as a roadside tourist attraction

-The museum is intended as the foundation for a new entrepreneurial spirit throughout the Township

Start-Up Costs

The Steel Rail Group

Expense	Amount	Funder	Description
Office Supplies	**4,000**	**NOHFC**	*Furniture,Shelving,Computer,Desk*
Licencses,permits	**1,000**	**NECO**	*Provincial and Municipal*
Professional Fees	**500**	**NECO**	*Legal*
Insurance	**1,500**	**NECO**	*Land and Building*
POS Cash Register	**1,500**	**NOHFC**	*Sales recording and electronic payment acceptance*
Marketing Materials	**3,000**	**NOHFC**	*Signage Interior and Exterior*
Website	**3,000**	**NOHFC**	*Museum linked*
Computer and Printer	**2,000**	**NOHFC**	*Bookeeping and other reporting*
Building	**250,000**	**NOHFC**	
Total Start-Up Costs	**266,500**		*Total costs before opening/starting*

Sample Start Up Items:

beginning inventory

equipment, tools, supplies for manufacturing

office supplies

licenses, permits

insurance

marketing materials

signage

hardware/software

shelving, storage

professional fees

POS system, cash register

security system

first/last rent

office furniture

office equipment

utility deposits

website

renovations

CASHFLOW PROJECTIONS - YEAR 1

The Steel Rail Group

	Projected Revenue	STARTUP	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
	Sales (Income Statement)														
1	Fund Raising	X	-	-	-	10,000	-	-	-	-	15,000	-	-	-	25,000
2	Annual Memberships	X	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-	1,000	1,000	11,000
3	Admission Fees	X	100	100	100	100	100	100	100	100	100	100	100	100	1,200
4		X													-
	Total Revenue Streams (Cash from Sales)	**-**	**1,100**	**1,100**	**1,100**	**11,100**	**1,100**	**1,100**	**1,100**	**1,100**	**16,100**	**100**	**1,100**	**1,100**	**37,200**
	Other Cash Inflows: (Balance Sheet)														
5	Ontario Trillium Foundation		40,000												40,000
6	Owners Investment (credit line)														-
7	NECO	3,000													-
8	NOHFC	263,500													-
	Total Other Cash Inflow	**266,500**	**40,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**40,000**
	TOTAL CASH INFLOWS	**266,500**	**41,100**	**1,100**	**1,100**	**11,100**	**1,100**	**1,100**	**1,100**	**1,100**	**16,100**	**100**	**1,100**	**1,100**	**77,200**
	Projected Expenses		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Totals**
	General & Operating Expenses: (Income Statement)														
9	Administration Supplies (paper, toner, stationery)	X	50			200				200					450
10	Advertising, Promotions	X					1,000				1,000				2,000
11	Bank Fees	X	25	25	25	25	25	25	25	25	25	25	25	25	300
12	Bookkeeping Fees	X	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Business Licenses, Dues, Membership & Subscriptions	X			200						200				400
14	Delivery, Freight and Express re: product movement	X													-
15	Insurance	X			1,500										1,500
16	Internet	X	120	120	120	120	120	120	120	120	120	120	120	120	1,440
17	Legal, Accounting, other Professional Fees	X									1,000				1,000
18	Loan/Line of Credit Interest	X													-
19	Maintenance and Repairs (to office/shop)	X					500				500				1,000
20	Motor Vehicle Expenses (license plates, fuel, insurance, maint)	X													-
21	Online Fees (domain, web fees)	X	400												400
22	Phone	X	50	50	50	50	50	50	50	50	50	50	50	50	600
23	Purchase of Materials	X													-
24	Rent	X													-
25	Salaries & Wages; Benefits	X	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	48,252
26	Small Tools and Equipment	X													-
27	Software Subscriptions	X													-
28	Travel (including transportation, accommodation and meals)	X													-
	Total General & Operating Expenses	**-**	**4,666**	**4,216**	**5,916**	**4,416**	**5,716**	**4,216**	**4,216**	**4,416**	**6,916**	**4,216**	**4,216**	**4,216**	**57,342**
	Other Cash Outflows: (Balance Sheet)														
29	Owner's Draw														-
30	Start up Expenses	266,500													-
31	Loan Payments	X													-
32	Purchase of Equipment over $1,000	X													-
33	Source Deductions	X													-
	Total Other Cash Outflows	**266,500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	TOTAL CASH OUTFLOWS	**266,500**	**4,666**	**4,216**	**5,916**	**4,416**	**5,716**	**4,216**	**4,216**	**4,416**	**6,916**	**4,216**	**4,216**	**4,216**	**57,342**
	Net Cashflow Position	-	36,434	(3,116)	(4,816)	6,684	(4,616)	(3,116)	(3,116)	(3,316)	9,184	(4,116)	(3,116)	(3,116)	**19,858**
	ACCUMULATED CASHFLOW POSITION	**-**	**36,434**	**33,318**	**28,502**	**35,186**	**30,570**	**27,454**	**24,338**	**21,022**	**30,206**	**26,090**	**22,974**	**19,858**	

CASHFLOW PROJECTIONS - YEAR 2

The Steel Rail Group

	Projected Revenue	CFWD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
	Sales														
1	Fund Raising		-	-	-	10,000	-	-	-	-	15,000	-	-	-	25,000
2	Annual Memberships		1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	18,000
3	Admission Fees		200	200	200	200	200	200	200	200	200	200	200	200	2,400
4															-
	Total- Revenue Streams (Cash from Sales)		**1,700**	**1,700**	**1,700**	**11,700**	**1,700**	**1,700**	**1,700**	**1,700**	**16,700**	**1,700**	**1,700**	**1,700**	**45,400**
	Other Cash Inflows:														
5	Ontario Trillium Foundation		40,000												40,000
6	Owners Investment (credit line)														-
7	NECO														-
8	NOHFC														-
	Total Other Cash Inflow		**40,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**40,000**
	TOTAL CASH INFLOWS		**41,700**	**1,700**	**1,700**	**11,700**	**1,700**	**1,700**	**1,700**	**1,700**	**16,700**	**1,700**	**1,700**	**1,700**	**85,400**
	Projected Expenses		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Totals**
	General & Operating Expenses														
9	Administration Supplies (paper, toner, stationery)		300												300
10	Advertising, Promotions						1,500								1,500
11	Bank Fees		10	10	10	10	10	10	10	10	10	10	10	10	120
12	Bookkeeping Fees		-	-	-	-	-	-	-	-	-	-	-	-	-
13	Business Licenses, Dues, Membership & Subscriptions		200				200			200				200	800
14	Delivery, Freight and Express re: product movement														-
15	Insurance				1,500										1,500
16	Internet		120	120	120	120	120	120	120	120	120	120	120	120	1,440
17	Legal, Accounting, other Professional Fees														-
18	Loan/Line of Credit Interest														-
19	Maintenance and Repairs (to office/shop)				500										500
20	Motor Vehicle Expenses (license plates, fuel, insurance, maint)														-
21	Online Fees (domain, web fees)														-
22	Phone		60	60	60	60	60	60	60	60	60	60	60	60	720
23	Purchase of Materials					200					200			60	460
24	Rent														-
25	Salaries & Wages; Benefits		4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	48,252
26	Small Tools and Equipment														-
27	Software Subscriptions														-
28	Travel (including transportation, accommodation and meals)														-
	Total General & Operating Expenses		**4,711**	**4,211**	**6,211**	**4,411**	**5,911**	**4,211**	**4,211**	**4,411**	**4,411**	**4,211**	**4,211**	**4,471**	**55,592**
	Other Cash Outflows														
29	Owner's Draw														-
30	Loan Payments														-
31	Purchase of Equipment over $1,000														-
32	Source Deductions														-
	Total Other Cash Outflows		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	TOTAL CASH OUTFLOWS		**4,711**	**4,211**	**6,211**	**4,411**	**5,911**	**4,211**	**4,211**	**4,411**	**4,411**	**4,211**	**4,211**	**4,471**	**55,592**
	Net Cashflow Position		36,989	(2,511)	(4,511)	7,289	(4,211)	(2,511)	(2,511)	(2,711)	12,289	(2,511)	(2,511)	(2,771)	29,808
	ACCUMULATED CASHFLOW POSITION	**19,858**	**56,847**	**54,336**	**49,825**	**57,114**	**52,903**	**50,392**	**47,881**	**45,170**	**57,459**	**54,948**	**52,437**	**49,666**	**49,666**

CFWD = carry forward accumulated cashflow from previous year

CASHFLOW PROJECTIONS - YEAR 3

The Steel Rail Group

	Projected Revenue	CFWD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
	Sales														
1	Fund Raising		-	-	-	-	10,000	-	-	-	15,000	-	-	-	25,000
2	Annual Memberships		1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	19,200
3	Admission Fees		300	300	300	300	300	300	300	300	300	300	300	300	3,600
4															-
	Subtotal- Revenue Streams (Cash from Sales)		**1,900**	**1,900**	**1,900**	**1,900**	**11,900**	**1,900**	**1,900**	**1,900**	**16,900**	**1,900**	**1,900**	**1,900**	**47,800**
	Other Cash Inflows:														
5	Ontario Trillium Foundation		40,000												40,000
6	Owners Investment (credit line)														-
7	NECO														-
8	NOHFC														-
	Total Other Cash Inflow		**40,000**	-	-	-	-	-	-	-	-	-	-	-	**40,000**
	TOTAL CASH INFLOWS		**41,900**	**1,900**	**1,900**	**1,900**	**11,900**	**1,900**	**1,900**	**1,900**	**16,900**	**1,900**	**1,900**	**1,900**	**87,800**
	Projected Expenses		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Totals**
	General & Operating Expenses														
9	Administration Supplies (paper, toner, stationery)				300					400					700
10	Advertising, Promotions						2,000	2,000							4,000
11	Bank Fees						10	10	10	10	10				50
12	Bookkeeping Fees		-	-	-	-	-	-	-	-	-				-
13	Business Licenses, Dues, Membership & Subscriptions		-	150		150									300
14	Delivery, Freight and Express re: product movement		200			300					300				800
15	Insurance		2,000												2,000
16	Internet		120	120	120	120	120	120	120	120	120	120	120	120	1,440
17	Legal, Accounting, other Professional Fees			-											-
18	Loan/Line of Credit Interest										900				900
19	Maintenance and Repairs (to office/shop)		500							500					1,000
20	Motor Vehicle Expenses (license plates, fuel, insurance, maint)														-
21	Online Fees (domain, web fees)			450											450
22	Phone		60	60	60	60	60	60	60	60	60	60	60	60	720
23	Purchase of Materials														-
24	Rent														-
25	Salaries & Wages; Benefits		4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	4,021	48,252
26	Small Tools and Equipment														-
27	Software Subscriptions														-
28	Travel (including transportation, accommodation and meals)														-
	Total General & Operating Expenses		**6,901**	**4,801**	**4,501**	**4,651**	**6,211**	**6,211**	**4,211**	**5,111**	**5,411**	**4,201**	**4,201**	**4,201**	**60,612**
	Other Cash Outflows														
29	Owner's Draw														-
30	Loan Payments														-
31	Purchase of Equipment over $1,000														-
32	Source Deductions														-
	Total Other Cash Outflows		-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL CASH OUTFLOWS		**6,901**	**4,801**	**4,501**	**4,651**	**6,211**	**6,211**	**4,211**	**5,111**	**5,411**	**4,201**	**4,201**	**4,201**	**60,612**
	Net Cashflow Position		34,999	(2,901)	(2,601)	(2,751)	5,689	(4,311)	(2,311)	(3,211)	11,489	(2,301)	(2,301)	(2,301)	27,188
	ACCUMULATED CASHFLOW POSITION	**49,666**	**84,665**	**81,764**	**79,163**	**76,412**	**82,101**	**77,790**	**75,479**	**72,268**	**83,757**	**81,456**	**79,155**	**76,854**	**76,854**

CFWD = carry forward accumulated cash flow previous year

Income Statement

The Steel Rail Group

		2025	2026	2027
INCOME				
	Fund Raising	25,000	25,000	25,000
	Annual Memberships	11,000	18,000	19,200
	Admission Fees	1,200	2,400	3,600
		-	-	-
	Total Income	**37,200**	**45,400**	**47,800**
PROJECTED EXPENSES				
	Administration Supplies (paper, toner, stationery)	450	300	700
	Advertising, Promotions	2,000	1,500	4,000
	Bank Fees	300	120	50
	Bookkeeping Fees	-	-	-
	Business Licenses, Dues, Membership & Subscriptions	400	800	300
	Delivery, Freight and Express re: product movement	-	-	800
	Insurance	1,500	1,500	2,000
	Internet	1,440	1,440	1,440
	Legal, Accounting, other Professional Fees	1,000	-	-
	Loan/Line of Credit Interest	-	-	900
	Maintenance and Repairs (to office/shop)	1,000	500	1,000
	Motor Vehicle Expenses (license plates, fuel, insurance, maintenance)	-	-	-
	Online Fees (domain, web fees)	400	-	450
	Phone	600	720	720
	Purchase of Materials	-	460	-
	Rent	-	-	-
	Salaries & Wages; Benefits	48,252	48,252	48,252
	Small Tools and Equipment	-	-	-
	Software Subscriptions	-	-	-
	Travel (including transportation, accommodation and meals)	-	-	-
		-	-	-
	Total Expenses	**57,342**	**55,592**	**60,612**
NET PROFIT (LOSS)		**(20,142)**	**(10,192)**	**(12,812)**

REPORT TO COUNCIL

MEETING DATE: January 28, 2025
FROM: Nicky Kunkel, CAO Clerk-Treasurer
SUBJECT: **Proposed amendments to the Municipal Act; Integrity Commissioners**

RECOMMENDATION: That Council for the Township of Bonfield accept the report from the CAO; and further that a letter be sent to the Ministry of Municipal Affairs and Housing and MPP Fedeli prior to February 10, 2025 outlining the comments on the proposed changes to the legislation.

BACKGROUND

The province posted proposed amendments to the Municipal Act, 24-MMAH025, in December of 2024. Comments are being received until February 10, 2025 on the file.

As you are aware municipalities are seeking changes to the parameters regarding Integrity Commissioners and municipal codes of conduct. Council passed resolutions and forwarded them to the province in support of this initiative. Largely, the concerns are regarding oversight of the Integrity Commissioners, consequences of poor behaviour, at times illegal behaviour, of council members and processes.

Municipal Code of Conducts are required under Section 223.2 of the Municipal Act and are further prescribed under O. Reg 55/18. Codes of Conduct must contain direction on receiving gifts, benefits and hospitality, confidential information and respectful conduct, including conduct toward officers and employees of the municipality. The Township of Bonfield's Code of Conduct is Bylaw 2019-04.

Specifically, the Ministry is proposing legislative amendments to:

1. Enable the creation of one standardized code of conduct for all municipalities, along with training requirements
2. Enable the creation of standardized investigation processes for municipal integrity commissioner investigations
3. Create the role of an Integrity Commissioner of Ontario to:
    a. Provide training to the municipal integrity commissioners
    b. Provide advice to municipalities regarding the independence of a person who may be appointed as the integrity commissioner
    c. Conduct inquiries upon the municipal integrity commissioner's recommendation that a member be considered for removal for office
    d. Create a mechanism for municipal councils to remove from office and disqualify for four years members of council for certain serious violations of the code of conduct.

The proposed standard would be that the Integrity Commissioner of Ontario could only consider the Municipal Integrity Commissioners recommendation to remove and disqualify a member if they determine that all four of the following criteria are met:

1. The member has contravened the code of conduct.

2. The contravention is of a serious nature.
3. The member's conduct has resulted in harm to the health, safety or well-being of persons; and the existing penalties are insufficient to address the contravention or ensure that the contravention is not repeated.

The current penalties for proven misconduct are that the Integrity Commissioner can recommend to Council who must then vote to apply the penalties or not. Penalties are:

1. A reprimand
2. Suspension of the renumeration paid to the member as a member of council for a period of up to 90 days.

There have been examples of losing Council pay for 90 days, demanding apologies, barring the member from speaking to staff or attending the office outside certain hours or Councils not applying the recommended penalty. If no penalty the worst is perhaps shame from a newspaper article, if there was a violation. There is no consistency, and that appears to be more prevalent in smaller communities where personalities and connections have a stronger bond.

ANALYSIS

I met with the Integrity Commissioner for Bonfield to review the proposed legislation and to seek further information from his experiences. Our discussions on the proposed legislation included:

1. It's a step in the right direction. Municipal Codes of Conduct are varied, some are simple while others more complicated. Having a standard guide will be helpful in setting expectations and fairness. As this gets developed more consultation will be necessary.
2. There currently is no requirement for Council training. We agree, adding this component will ensure rules are communicated and expectations are discussed and known to all members. Bonfield did receive training at the start of the new term and will have a refresher in the first quarter of 2025. Many municipalities currently do not offer the training.
3. There is a provision for a member to be removed a Council must vote unanimously. We suggest this should be a 2/3 majority vote much like other privileged motions.
4. There is a provision that if the Ontario Integrity Commissioner/ Municipal Council does not agree with the Municipal Integrity Commissioner that removal is warranted, then the decision is final and no other penalty can be imposed. To suggest that a violation is egregious enough to warrant removal but without agreement from peers and external offices it becomes all or nothing is contrary to the intent of the legislation. The Municipal Integrity Commissioner must be able to discuss alternatives.
5. Maximum penalty, without removal, is a 90-day suspension of remuneration. As investigations increase or repeat there should be a scaling penalty to apply. Investigations may end with a positive verdict or a gentle slap on the wrist to say, "you know better". However, if the behaviour does not cease and is not strong enough for removal, the member may still have the rest of the term to negatively affect the business of the municipality. A scale upon repeated offenses such as 90 days, then 120 days, then 150 days may be more of a deterrent.

Respectfully submitted.

Nicky Kunkel, CAO Clerk-Treasurer

CANTON DE Bonfield TOWNSHIP

REPORT TO COUNCIL

MEETING DATE: January 28, 2025
FROM: Nicky Kunkel, CAO Clerk-Treasurer
SUBJECT: Draft Zoning Bylaw Amendments

RECOMMENDATION: That Council accepts the report on draft zoning bylaw amendments; and Further that the minimum size required for a hunt camp be amended to 10 hectares/25 acres; and further that the permitted use of secondary dwellings in the Residential Limited Services Zone remain in the Comprehensive Zoning Bylaw; and Further that with these amendments the draft zoning amendment bylaws be presented at a public meeting to receive input from the community.

There are two bylaws currently being proposed to amend the Comprehensive Zoning Bylaw.

1. The first is one we are referring to as Housekeeping, to address trends while the Official Plan is being reviewed.
2. The second is required to permit trailers/recreation vehicles in the rural areas of the Township.

1. A bylaw to address trends in the community through an amendment to the Comprehensive Zoning Bylaw 2012-49

At the regular Council meeting of January 14, 2025, Council received the bylaw from the Planning Advisory Committee for review. The Planning Administrator provided a report outlining the background and purpose of the amendments along with the timeline for the project to date and work performed by the Committee. Council agreed to review the bylaw.

a. Hunt Camp

Staff have heard one comment back regarding minimum lot sizes for Hunt Camps. The current proposal is a minimum of 1 hectare / 2.5 acres as the Township has crown land available for hunting purposes. The concern is the proposed bylaw would permit a party to hunt on the same size of lot as the requirement to build a house, and that would not be sufficient to ensure satisfactory considerations in respect to adjoining properties. Therefore, it was suggested 10 hectares / 25 acres should be the minimum size of a lot permitting a hunt camp.

Upon review of the municipal mapping, Figure 1, there are few properties less than 50 acres surrounding crown land. There are also smaller residential lots along the Mattawa River Park that are zoned Residential Limited Services and would not be zoned to permit hunt camps. In addition, one of the trends being addressed through this bylaw is to encourage housing lots to be used for housing. In allowing the minimum lot size to be used for hunting this could detract from the land available for single family dwellings and/or additional dwelling units.

Recommendation: That the minimum lot size for a hunt camp should be 10 hectares/ 25 acres.

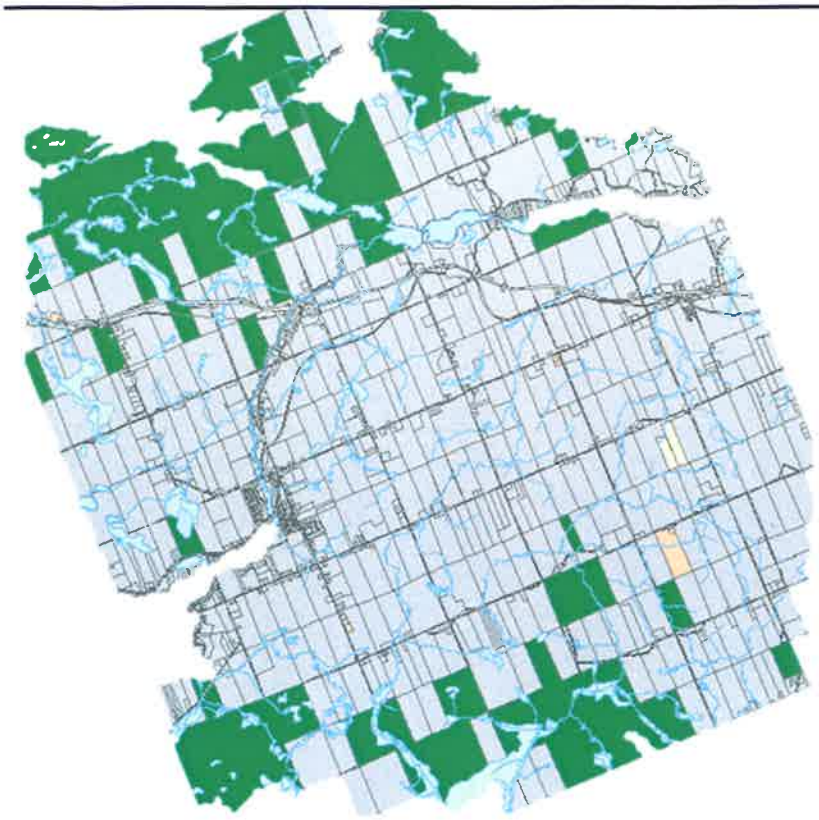

Figure 1 Map of Township of Bonfield (Green is crown)

b. Secondary Dwellings

Staff have continued discussions with North Bay Mattawa Conservation Authority (NBMCA) regarding additional dwelling units (ADU) in the Residential Limited Services zone (RLS). Staff have also reached out to other municipalities for their policies on ADUs.

The NBMCA has directed that ADUs not be permitted on properties adjacent to lakes deemed at capacity. The Township's current Zoning Bylaw allows secondary dwellings in the RLS zone. The Committee discussed this at length and in the end decided to remove secondary dwellings completely.

Discussions continue between staff and the NBMCA, however the staff member at the NBMCA which the Committee was working with has now left that position. With no timeline to replace the person work has stalled on this policy.

Therefore, we propose not to amend the Comprehensive Zoning Bylaw, at this time, in regard to permitting secondary dwellings in the RLS, but rather include this policy in the full comprehensive review once the Official Plan has been approved. In the meantime, applicants seeking to introduce new or expanded secondary dwellings within the RLS zone

will continue to require appropriate permits be issued by the NBMCA as the authority on such matters.

Despite this concession, it is consensus in planning that ADUs are not permitted along waterfront properties in Northern Ontario. Staff continue to support the proposed zoning amendment for no detached ADUs in the RLS Zone.

Recommendation: That the proposed zoning amendment be changed to leave the use of secondary dwellings in the RLS Zone until a review is conducted after the adoption of the new Official Plan.

2. Bylaws to address required zoning Amendments to permit trailers / recreation vehicles in the Rural Zone.

To be clear, the amending bylaw attached to permit trailers is not the actual trailer/ recreational vehicle bylaw. That bylaw is under the final review with the lawyer and should be returned by the end of January. This amending bylaw is necessary as the Comprehensive Zoning and Bylaw 2018-06 prohibits the use and restricts the storage of recreational vehicles within the Township. The proposed Trailer/Recreation Vehicle bylaw will permit the use of trailers in the Rural Zone; therefore, an amendment is required. This amendment is technical only. However, the zoning bylaw requires a public meeting prior to adoption under the Planning Act.

There are two bylaws required:
a. To amend Comprehensive Zoning Bylaw 2012-49
b. To amend Bylaw 2018-06

Recommendation: That these bylaws be accepted as presented and be moved to a public meeting to receive community input.

Respectfully submitted.

Nicky Kunkel, CAO Clerk-Treasurer

S Blakeley
Simon Blakeley, Planning Administrator

THE CORPORATION OF THE TOWNSHIP OF BONFIELD

BY-LAW NO. 2025-09

BEING A BY-LAW TO AMEND COMPREHENSIVE ZONING BYLAW 2012-49 TO PERMIT CERTAIN PROVISIONS FOR TRAVEL TRAILERS AND RECREATION VEHICLES

WHEREAS Section 34 of the Planning Act states zoning bylaws may be passed by the Councils of local municipalities for prohibiting the erecting, locating or using of buildings or structures for or except for such purposes as may be set out in the bylaw within the municipality or within any defined area or areas; and

WHEREAS the current Comprehensive Zoning Bylaw 2012-49 currently prohibits the use of travel trailers and recreation vehicles in all areas; and

WHEREAS the Council for the Corporation of the Township of Bonfield has considered public input since November 2022 and now desires to amend the provisions and has created a Trailer Licence Bylaw; and

Whereas statutory public meetings were held on … February, 2025 for the public to provide comments on the amendments to the Comprehensive Zoning Bylaw, amendments to the RV Bylaw and to review the Travel Trailer and Recreation Vehicle Bylaw.

NOW THEREFORE, the Council of the Corporation of the Township of Bonfield enacts as follows:

1. That section 3.11.4 is hereby amended by removing the words, “including a Recreational Vehicle of any kind” after the first reference in the section to the words “the use of any accessory building or structure”.
2. That Section 3.22 under the “Recreational Vehicle” subsection, last paragraph of Section 3.22 is hereby amended as “no Recreational Vehicle or Travel Trailer shall be used in any Residential or Rural Zone with an existing dwelling for more than a total of 120 days in any calendar year.”
3. That section 3.23 be hereby amended to add subsection iii) unless the Recreational Vehicle or Travel Trailer has a valid License through the Township of Bonfield in accordance with Bylaw Number 2024-42
4. That Section 4.11 – Rural Zone be amended with the addition under the Rural Uses of the use of a “licensed Travel Trailer” under Bylaw 2024-42
5. **THAT** this By-law shall come into force and effect on the date of passing thereof.

READ A FIRST AND SECOND TIME THIS 28TH DAY OF JANUARY 2025.

_____
MAYOR

_____
CLERK

THE CORPORATION OF THE TOWNSHIP OF BONFIELD

BY-LAW NO. 2025-10

BEING A BY-LAW TO AMEND BYLAW 2018-06 (ZONING AMENDMENT BYLAW) TO PERMIT CERTAIN PROVISIONS FOR TRAVEL TRAILERS AND RECREATION VEHICLES

WHEREAS Section 34 of the Planning Act states zoning bylaws may be passed by the Councils of local municipalities for prohibiting the erecting, locating or using of buildings or structures for or except for such purposes as may be set out in the bylaw within the municipality or within any defined area or areas; and

WHEREAS the current Comprehensive Zoning Bylaw 2018-06 currently restricts the use of travel trailers and recreation vehicles in all areas; and

WHEREAS the Council for the Corporation of the Township of Bonfield has considered public input since November 2022 and now desires to amend the provisions and has created a Trailer Licence Bylaw; and

Whereas statutory public meetings were held on …. February, 2025 for the public to provide comments on the amendments to the Comprehensive Zoning Bylaw, amendments to the RV Bylaw and to review the Travel Trailer and Recreation Vehicle Bylaw.

NOW THEREFORE, the Council of the Corporation of the Township of Bonfield enacts as follows:

1. That Section 5 regarding section 3.11.4 of the Comprehensive Zoning Bylaw is hereby repealed.
2. That Section 6 regarding Section 3.22 of the Comprehensive Zoning Bylaw is hereby repealed

READ A FIRST AND SECOND TIME THIS 28TH DAY OF January 2025.

_____
MAYOR

_____
CLERK

THE CORPORATION OF THE TOWNSHIP OF BONFIELD
BY-LAW NO. 2025-11

BEING A BY-LAW TO AMEND COMPREHENSIVE ZONING BY-LAW 2012-49 FOR THE TOWNSHIP OF BONFIELD FOR ADDITIONAL DWELLING UNITS, HUNT CAMPS AND ACCESSORY STRUCTURES

WHEREAS By-law No. 2012-49 as amended is the Zoning By-law of the Corporation of the Township of Bonfield;

AND WHEREAS the Council of the Corporation of the Township of Bonfield deems it necessary to enact a by-law to reflect current practices, procedures, and statutory requirements;

AND WHEREAS certain housekeeping changes are required, and Council deems it appropriate to make these changes related to the provision of Accessory Structures, Hunt Camps, and Additional Dwelling Units (ADUs);

AND WHEREAS authority is granted pursuant to Section 34 of the Planning Act, R.S.O 1990 to enact such amendments;

AND WHEREAS the Province of Ontario has enacted new legislation such as the Build More Homes Faster Act, and a new Provincial Planning Statement to encourage more housing opportunities;

NOW THEREFORE BE IT ENACTED by the Council of the Corporation of the Township of Bonfield the following amendments:

1. Definitions

1.1 The meaning of words included within this Zoning Amendment By-law shall be consistent with the definitions contained with the adopted Comprehensive Zoning By-law 2012-49, with the exception of new terms hereby described in this By-law Amendment:

1.2 Section 2 - Definitions are hereby amended as follows:

1.2.1 Amend for consistency as follows:

Accessory (Building, Structure or Use)

Means a building, structure, or use, that is incidental, subordinate and exclusively devoted to the principal building, structure, or use and located on the same lot.

1.2.2 Add the following:

Additional Dwelling Unit(s) (ADUs)

Means a self-contained residential unit created by either:

i) An interior renovation within an existing dwelling - to a maximum of 2 dwelling units within the primary structure; Or
ii) As an exterior addition, provided that one entire face of the addition is attached to the principal dwelling: Or
iii) As a standalone unit within the same lot boundaries of the primary structure, and subject to other zoning provisions including minimum setbacks, and appropriate site servicing arrangements.
iv) And whereas all dwellings listed above collectively constitute a single real estate entity.

1.2.3 Add the following:

Additional Dwelling Unit (Attached)

Means a self-contained dwelling unit with separate kitchen and bathroom facilities within a single detached or semi-detached dwelling of the same lot, as constructed, renovated or

altered to be considered as attached.

1.2.4 Add the following:

Additional Dwelling Unit (Detached)

Means a self-contained dwelling unit with separate kitchen and bathroom facilities within an accessory building positioned within the rear yard or side yard of the same lot that accommodates the primary single detached dwelling unit but does not include a boathouse;

1.2.4.1 Add the following:

Additional Dwelling Unit Conversion (ADUC) (Detached)

Means a proposed detached additional single family dwelling containing cooking, eating, living, sleeping, sanitary, and laundry facilities on a property that has an existing single family dwelling and that the new additional dwelling is up to 60% greater in gross floor area (GFA) than the existing single family dwelling, but not greater than 2000 Sq Ft., forming a single real estate entity and whereas the existing SFD shall then be reclassified as the Additional Dwelling Unit (ADU) and the new ADUC SFD is then converted to the primary dwelling prior to the occupancy of the new dwelling.

1.2.5 Add the following:

Building, Primary

Means the Principal Dwelling Unit on a lot.

1.2.6 Delete as follows:

Dwelling, Secondary

Means a self-contained dwelling unit created by either an interior renovation within an existing dwelling, or as an exterior addition, provided that one entire face of the addition is attached to the principal dwelling; however, a secondary dwelling unit shall not be considered a second dwelling on the lot for the purposes of this By-law.

1.2.7 Add the following:

Hunt Camp(s)

Means a single storey building or structure with a maximum total floor area of 800 Sq Ft. Or 74.3 Sq m. consisting of one or more rooms and may include facilities for the preparation of food and overnight accommodation on a private, temporary basis for use only during the hunting or fishing seasons but shall not be used as a *dwelling* of any sort, nor commercial accommodation premises; nor any commercial uses, as defined in the Comprehensive Zoning By-Law [As amended].

1.2.8 Delete the following:

Garden Suite

Shall mean a temporary, detached, portable housing unit intended for the use of an elderly member of the immediate family which is located on the same lot with an existing single-detached dwelling where the family is residing and which shares the private water supply and sewage disposal facilities with the single-detached dwelling, but shall not include a mobile home.

1.2.8 Add the following:

Shipping Container

Means a prefabricated structure originally designed for or capable of being mounted or moved by rail, truck, or ship by means of being mounted on a chassis or similar transport device, and now utilized for accessory storage. This definition includes the terms ‘sea

can', 'disused railcar' and 'storage container' having a similar appearance and characteristics to a shipping container.

1.2.9 Add the following:

Tiny Homes

Means a structure consisting of 1 dwelling unit between 188 Sq Ft. / 17.5 Sq. Meters. and not more than 400 Sq Ft. / 37 Sq Meters, as regulated under the Ontario Building Code, Division C, Section 1.11.

1.2.10 Add the following:

Semi-Detached Dwellings

Means two residential homes sharing a common centre wall with separate ownership.

2. Rules and Regulations to be Observed

The following rules and regulations are to be amended in respect of any proposed new buildings and structures as described:

2.1. Accessory (Building, Structure, or Use)

2.1.1 Amend **Section 3.11.1** as follows:

An accessory building shall not be erected prior to the erection of a permitted dwelling on the same lot except where it is necessary for the storage of tools and materials for the use in connection with the construction of such dwelling and no accessory building shall be used prior to the erection of such dwelling for any purpose other than such storage. The applicant shall obtain a building permit for the principal dwelling and the accessory building, and the applicant shall enter into an agreement with the municipality that whereas the accessory building is constructed prior to the principal dwelling and that the principal dwelling is not substantially commenced within 1 year of the issuance of the building permit and/or not having obtained Occupancy approval from the Chief Building Official for the principal dwelling within 3 years of the issuance of the building permit or to the satisfaction of the Chief Building Official that the accessory building shall be removed from the property at the owner's expense.

Except as may be provided herein any accessory building shall comply with the 3-metre yard requirement applicable to all zones and such accessory uses shall not occupy more than 15% of the lot area.

2.1.2 Amend **Section 3.11.7** as follows:

Except as 3.45.9.4, when a lot is proposed to be used for more than one purpose, the lot shall be zoned for its primary purpose and accessory uses shall be permitted where the accessory uses are an integral part of the main use, are intended solely for the convenience of the people using the facility and are in keeping with the character of the main use. Such accessory uses shall conform to all applicable sections of the Comprehensive Zoning By-law, and this Housekeeping By-law and in no case shall occupy more than 20 percent of the total area of any lot.

2.1.3 Add a new **Section 3.11.8** as follows:

Shipping Containers

For the purposes of this by-law, Shipping Containers shall be considered accessory storage structures for planning purposes. The following provisions apply:

i) Shipping Containers greater than 161.5 Sq Ft. / 15 Sq Meters or of any size containing plumbing, or shipping containers attached to any other structures, or used for purposes other than personal storage sheds ancillary to a principal building, shall not be placed or constructed on a property except under the authority of a Building Permit and shall comply with the Ontario Building Code and all Applicable Laws.

ii) No Shipping Container shall exceed 5 metres in height in any Residential Zone, nor be placed within 2 metres of the main building in all zones, and except under the authority of a building permit containers shall not be stacked upon other containers.

iii) Shipping Containers shall not be permitted within the Shore Road Allowance bordering any water body and shall be positioned beyond the 30-meter setback over which the North Bay Mattawa Conservation Authority has jurisdiction and, for which, a Section 28 permit would be required.

iv) In the Rural Areas, where lot size and dimensions permit, a minimum landscape buffer of 30 metres shall be applied around the perimeter of the property to ensure satisfactory screening of the Shipping Container. Exceptions to this rule can be met where alternative arrangements such as tree lines, fences, siding, or other architectural improvements have been proposed, and approved by the Township that would be considered visually appealing.

v) A shipping container shall be rust protected by applying a uniform colour to blend into its surroundings using neutral and/or natural coloured paint to ensure their satisfactory design quality and visual appearance. All markings shall be removed or masked from the container. The container shall be maintained in such a state.

vi) Shipping Containers, in all zones, shall not be used for advertising or marketing purposes.

2.2 Delete the following section and text:

Section 3.38 - Secondary Dwelling Units

i) A maximum of one (1) secondary dwelling unit shall be permitted in a single-detached dwelling provided that: it does not alter the streetscape character along the street where it is located; it is not stand alone and cannot be severed, and; a building permit is required prior to the establishment of the secondary dwelling unit;

ii) The entrance to the secondary dwelling unit is located on the ground level, except where building and fire codes dictate otherwise;

iii) Parking for the secondary dwelling units shall be provided in accordance with the provisions of the parking requirements of this by-law, and;

iv) The secondary dwelling unit shall not exceed fifty-six (56) square metres in gross floor area.

2.3 Delete the following:

Section 3.39 - Garden Suites: Delete this section in its entirety

2.4 Add the following:

Section 3.44 - Hunt Camps

3.44.1 Hunt Camps shall be seasonal structures which shall not exceed a maximum Gross Floor Area of 800 Sq Ft, or 74.3 Sq m. They are <u>not</u> designed for year-round occupancy and shall not be permitted to be used as such.

3.44.2 Hunt camps shall be permitted in the Rural Zone *where lands exceed 10 hectares*.

3.44.3 Hunt Camps must comply with the Ontario Building Code and all Applicable Laws.

3.44.4 A Building Permit must be obtained from the Chief Building Official prior to the construction of a Hunt Camp, Wood Stove, Decks and/or Plumbing.

2.5 Add the following:

Section 3.45 - Additional Dwelling Unit(s)

3.45.1 For the purposes of this by-law, Additional Dwelling Units (ADUs) are further

categorized as follows:

i) Additional Dwelling Unit (Attached)
ii) Additional Dwelling Unit (Detached)

3.45.2 Additional Dwelling Units, including a combination of attached and/or detached units, will be permitted within the Township of Bonfield to a **maximum of three (3)** Dwelling Units **per eligible Lot** within the prescribed zones as listed in Section 4 of the Comprehensive Zoning By-law 2012-49 [As amended].

3.45.3 A **maximum of two (2) Dwelling Units** will be permitted within the **Primary Structure, to be counted towards the maximum of 3 units per lot**. Any proposal to introduce more that two (2) Dwelling Units within the Primary Structure would require the property to be rezoned as a *'**Residential, Multiple-Attached (RM) Zone'*** to ensure compliance with the Ontario Building Code.

3.45.4 A maximum of two (2) ADUs shall be permitted in the following zones:

i) Residential 1st Density Zone
ii) Residential 2nd Density Zone
iii) The Rural Zone

3.45.5 All lots within in all zones are subject to approval by the NBMCA. As such, ADUs shall not be permitted within:

i) Any property that is deemed unsuitable by the NBMCA;
ii) Within any zone which does not permit a permanent dwelling unit;
iii) Within mobile homes, recreational vehicles, hunt camps, guest cabins, shipping containers, or any other accessory structure that is not designed and permitted for human occupation; Or
iv) Other zones considered incompatible with the proposed residential use.

3.45.6 The minimum size of any habitable ADU is 188 Sq Ft or 17.5 Sq Meters.

3.45.7 The Gross Floor Area (GFA) of the ADU shall not exceed 60% of the total GFA of the primary residence.

3.45.7.1 The Gross Floor Area (GFA) of a Detached ADU shall not exceed 60% of the GFA of a Primary Dwelling except under an ADU Conversion (ADUC) described in the definitions under ADUC [1.2.4.1].

2.5.1 Add the following:

The Residential 1st and 2nd Density Zones

3.45.8 In the Residential 1st and 2nd Density Zones, ADUs shall be located in the rear or side yard of the primary dwelling.

2.5.2 Add the following:

The Rural Zone

3.45.9 In the Rural Zone, the following shall apply:

3.45.9.1 A maximum of one Detached ADU is permitted on a lot where there is one existing primary dwelling. Where two ADUs are proposed, one of the ADUs shall be located within or attached to the primary dwelling.

3.45.9.2 Detached ADUs shall comply with Minimum Distance Separation (MDS) Formulae

3.45.9.3 On lots which contain agricultural uses, ADUs shall be located within the farm building cluster.

3.45.9.4 Detached ADUs shall be considered accessory structures for the purposes of calculating lot coverage. Notwithstanding the policies of this By-law, lot coverage

for all accessory structures including Attached and Detached ADUs, shall not exceed 15% in the rural area.

2.5.3 Add the following:

All Applicable Zones

Access and Parking Requirements

3.45.9.5 Access shall be provided via the existing point of access to the primary dwelling: Or

3.45.9.6 A new secondary access may be permitted to serve the ADU, so long as:

i) The property is served by a municipally maintained road;

ii) The access would not have an adverse impact on local traffic flows, or the character and amenity of neighbouring land uses; and

iii) The access would be subject to MTO approval off a regulated Highway, and/or;

iv) Is approved by the Public Works Manager.

3.45.9.7 The following parking standards are established with respect to ADUs:

i) Each additional dwelling unit shall have one (1) parking space that is provided and maintained for the sole use of the occupant of the additional dwelling unit

ii) A parking space that is provided and maintained for the sole use of the occupant of an additional residential unit may be a tandem parking space.

2.5.4 Add the following:

Building Requirements

3.45.9.8 Proposed ADUs shall comply with the Ontario Building Code and all applicable laws.

3.45.9.9 Where an **Attached ADU** is proposed, the ADU shall be self-contained within the primary building envelope and must be physically separated from the primary dwelling unit through the incorporation of building design standards that are consistent with the Ontario Building Code and approved by the Chief Building Official for the Township of Bonfield.

3.45.9.10 A maximum of One (1) Attached ADU shall be permitted in a single-detached dwelling subject to the following:

i) It does not alter the streetscape character along the street where it is located.

ii) It is not a standalone unit and cannot be severed.

iii) A building permit has been obtained.

iv) The entrance to the ADU shall be located on the ground level (except where building and fire codes dictate otherwise);

v) Parking for the secondary dwelling units shall be provided in accordance with the provisions of the parking requirements of this by-law, and;

vi) The Additional Dwelling Unit shall not exceed 60% of the gross area of the primary dwelling unit.

3.45.9.11 Where a **Detached ADU** is proposed on the same lot as the primary structure, it must have the same ownership. Septic and water services cannot be shared either between, or across, separate lots.

3.45.9.12 In all circumstances, applicants shall;

i) Obtain an On-Site Sewage System Permit from the North Bay Mattawa

Conservation Area (NBMCA) for the alteration of an existing, or construction of a new or secondary septic On-Site Sewage System to accommodate the ADU; Or

ii) Provide a File Review Certificate from the NBMCA where the proposed ADU will be tying into an existing on-site sewage system, to ensure it has the capacity to accommodate the additional loads that may be imposed by the ADU; and

iii) Provide either document listed above which shall reference that the proposed ADU and on-site sewage system meet the minimum clearance distances to all other existing buildings on the property as regulated under Section 8.2 of the Ontario Building Code.

3.45.9.13 In certain locations and circumstances, where lots have less than 0.6 hectares and less than 60 meters of frontage, a Hydrogeological Assessment may be required to demonstrate there is sufficient capacity to accommodate a new and/or upgraded well to service the ADU;

3.45.9.14 Laundry facilities shall be provided for all ADUs.

3.45.9.15 Where an ADU is proposed as part of the primary building; a common or shared laundry facility may be permitted, provided that the fire separations and other requirements comply with the Ontario Building Code.

3.45.9.16 ADUs shall not adversely impact the amenity, character, or functional and permitted use of adjoining properties. In all circumstances, other zoning provisions shall apply including but not limited to minimum lot sizes and setbacks between structures, and the properties' boundaries.

2.5.5 Add the following:

ADU Occupancy

3.45.9.17 An ADU may be occupied by any person regardless of whether:

i) The person who occupies the ADU is related to the person who occupies the primary residential unit is related to the person who occupies the primary residential unit; and
ii) The person who occupies either the primary or additional dwelling unit is the owner of the Lot.

3.45.9.18 Where the use of ADUs is authorized, an ADU is permitted regardless of the date of construction of the primary dwelling.

2.5.6 Add the following:

Primary / ADU Exchange

3.45.9.19 Property owners can convert an Additional Dwelling Unit to a Primary Dwelling Unit through written agreement with the Township provided all other provisions can be adhered to.

3. Zones

3.1 Amend the zones described in **Section 4 - Zones**, as follows:

Section 4.1.1 - Residential, First Density (R1) Zone

a) Residential Uses - Permitted

- Add Up to Two (2) Additional Dwelling Units (ADUs)
- Remove Garden Suite
- Remove Secondary Dwelling Unit

Section 4.2.1 - Residential, Second Density (R2) Zone

a) Residential Uses - Permitted

- Add Up to Two (2) Additional Dwelling Units (ADUs)
- Remove Garden Suite
- Remove Secondary Dwelling Unit

Section 4.3 - Residential, Limited Services

- Remove Garden Suite
- ~~*Remove Secondary Dwelling Unit*~~

Section 4.11 - Rural (RU) Zone

a) Residential Uses - Permitted

- Add Up to Two (2) Additional Dwelling Units (ADUs)
- Remove Secondary Dwelling Unit

REPORT TO COUNCIL

MEETING DATE: January 28, 2025
FROM: Nicky Kunkel, CAO Clerk-Treasurer
SUBJECT: Question Period

RECOMMENDATION: That Council for the Township of Bonfield hereby confirms Question Period will become a permanent council agenda item; and Further that the Procedural Bylaw be amended to reflect this addition.

BACKGROUND

In July of 2024 Council adopted the Question Period Policy. This policy allows residents to submit a question in writing regarding municipal governance and business to Council prior to the regular council meeting.

The objective of the policy is to provide residents with the opportunity to appear before Council, outside of a delegation request, to promote good communications and community feedback. The idea was suggested by a resident through a delegation at Council. Council listened and created the policy in response to the request.

The applicable rules governing the municipality still apply. These include the Municipal Act, and Procedural Bylaws, Notice requirements and open and transparent policies. The Ontario Ombudsman has guidelines for open meetings for Councils. Bonfield's policy is written around these guidelines.

Generally, the policy states:
Questions must be received in writing by 12:00 noon the Monday prior to the meeting
Questions must be seeking information and not making a statement
Questions must be within Council's jurisdiction
Each question has a maximum of two minutes for question to be asked and Council to ask as part of the 10-minute session, so up to 5 questions could be asked at a Council meeting
All questions become part of the record for the meeting and information is considered public

At the January 14, 2025 meeting the Mayor asked for a report on Question Period so Council could review the merits of the policy.

ANALYSIS

Question Period has been part of the agenda since July of 2024. To date there have been no questions put to Council using this tool.

The municipal office has not received any feedback since inception. Members have not reported hearing concerns on this topic either. There are no positive or negative comments. I would suspect, since generally the office does receive feedback when improvements are required or desired and haven't to date that the residents are acceptable to the policy.

The intent of the agenda topic is to provide an avenue for residents to simply ask a question to Council. Therefore, though no one has taken advantage of the tool to date, I would suggest it remains on the agenda.

In saying this, I do recommend that advanced submission of the question continue to be required. Since Bonfield started Question Period there are more examples of other Councils being ambushed with questions that are inappropriate and cannot be answered or more the resident making a grand statement. This requirement will support the intent of the policy and promote good community relations.

OPTIONS:

1. Remove Question Period from the council agenda
2. Add Question Period to the council agenda permanently

Respectfully submitted.

_____

Nicky Kunkel, CAO Clerk-Treasurer

REPORT TO COUNCIL

MEETING DATE: January 28, 2025
FROM: Nicky Kunkel, CAO Clerk-Treasurer
SUBJECT: Planner of Record Release

RECOMMENDATION:
Whereas staff issued an RFP for planning consultant services ; and
Whereas Council award the contract/agreement to Tulloch engineering; and
Whereas municipal resources have changed since this proposal commenced; and
Whereas the awarded firm may declare conflicts in certain circumstances where a private-sector project would introduce a real or perceived conflict with the Municipality; and
Whereas Municipal staff have the ability to accept or not accept such conflict, and would accept such conflict in the event staff determine it generally benefits the Municipality in doing so;
Now therefore, Council hereby resolves that staff may seek third party planning consulting services on a as needed basis when such accepted conflict is present, with firms.

The Township of Bonfield issued a Request for Proposal for Planning Consultant Services in 2024 to provide planning and training advice to staff. There were two submissions received and Tulloch (North Bay) was the successful consultant. Over the course of 2024 the Township has recruited a new Planning Administrator with a defined background working in the planning field and in the past 6 months has not utilized Tulloch for specialized planning matters.

Since Tulloch is our Planner of Record as a result of the RFP process, they cannot act for any property owner within the Township. This means that some applications are being delayed while residents obtain alternative qualified planners to submit applications and reports that the Planning Department requires to process a development application.

Since the Township now has grown its internal knowledge and expertise in planning, the dedicated Planner of Record is no longer required. This does not prevent the Planning Administrator from discussing general, local planning matters with Tulloch, but rather also allows the Township to utilize other planning consultants on a as-needed basis.

Respectfully submitted.

Nicky Kunkel, CAO Clerk-Treasurer

REPORT TO COUNCIL

MEETING DATE: January 28, 2025
FROM: Nicky Kunkel, CAO Clerk-Treasurer
SUBJECT: Complaint Policy

RECOMMENDATION: That Council for the Township of Bonfield hereby adopts the Bylaw Enforcement Complaint and Service Request Management Policy as presented to be implemented immediately.

The Township of Bonfield does not have an updated Bylaw Enforcement Policy or Official Complaint Process. This policy being presented to Council is to set out the process and expectations for consistent resolution to complaints received and has been drafted by the Bylaw Enforcement Officer.
It is important to recognise that this is for official complaint processes. This will not eliminate staff responding to concerns or service requests that come in and need to be addressed immediately. However, the policy does provide a resident assurance for action and follow up when they submit a signed form.

This policy, the Bylaw Enforcement Complaint and Service Request Management Policy will apply for matters on bylaw enforcement, such as fire/noise/building, and the service concerns such as roads/landfill.

The Policy outlines that staff will react to potential bylaw infractions based on receiving an official complaint form. It does state that should there be a health and/or safety matter that the officer observes they can proactively investigate.

It is staff's objective to collaborate with residents to reach compliance through education and not strict enforcement. However, should higher enforcement methods become necessary the signed complaint form is critical. The majority of complaints staff receive are resolved quickly through conversation. The personal information on the signed form remains confidential unless they are required to be summoned for court purposes. This is a rare occurrence.

The policy sets out timelines for staff to respond within, lays out the expectations for all parties and addresses vexatious complaints.

OPTIONS:

1. Adopt the policy as presented
2. Amend the policy, refer to the Corporate Services Committee for further review and discussion
3. Do not adopt the policy

Respectfully submitted.

Nicky Kunkel, CAO Clerk-Treasurer

Township of Bonfield

Policy name: **Municipal By- law Enforcement Complaint and Service Request Management Policy**

Purpose:

To provide formal policy and procedure governing the handling of By- law complaints by the municipality and to ensure thorough, prompt and courteous receipt, processing, investigation and resolution of complaints thereof.

Definitions:

Anonymous: means a complaint submitted with no complainant details including name, phone number and address.

CAO: means the Chief Administrative Officer for the Township of Bonfield.

Complaint/Service Request Form: The Township's prescribed form attached hereto as "Appendix A" to this policy.

Formal Complaint: means a complaint received in writing by staff wherein the complainant provides their full name, address, phone number, signature and complaint property information and details that can be verified by the Officer.

Officer: means a person appointed by the Township of Bonfield for the purposes of Municipal By-law Enforcement including, but not limited to, the Chief Building Official, a Building Inspector or Municipal By Law Enforcement Officer.

Service Request: A request from the public for Township staff to attend to a concern on a public property or related to a service the Township provides to the community.

Staff: means any Township of Bonfield staff receiving or documenting the status of a complaint.

Township: means the Corporation of the Township of Bonfield.

Vexatious: means causing or tending to cause annoyance, frustration or worry.

Vexatious Complaint: means a complaint filed in ill will or with the intent of malice towards another person and may include retaliatory complaints and neighbor disputes.

Date adopted_____

Policy:

1. General Application

Any Provincial Act or applicable regulation, Federal Act or applicable regulation, Township of Bonfield By-law that is in force shall prevail if they conflict with this Policy.

2. General By-law Enforcement Complaints

The Township will only respond to Formal Complaints in writing on a prescribed form received at the Township office in person from complainants who provide their full name, telephone number, address and signature as well as the address of the complaint and details regarding the nature of the complaint.

Anonymous calls will not be documented, and no formal action will be taken unless the complaint's concern is an immediate threat to health or safety.
An Officer may also undertake an investigation on their own initiative upon observation of a possible By- law violation where the matter is of an immediate threat to health or safety in accordance with Section 5 of this policy.

An identified complainant' s personal information will be kept confidential in accordance with the Municipal Freedom of Information and Protection of Privacy Act, unless permission to release such information is provided by the complainant or the complainant is required as a witness in Court or at a hearing or tribunal.

3. Vexatious By-law Enforcement Complaints

In situations where multiple complaints are received from a single person at one time, or where a single person continuously submits a variety of complaints on an ongoing basis, the Officer is given the discretion to decide on the appropriate level of response to such complaints. The level of response by the Officer may include a decision to act on some or all of the complaints, to not act on some or all of the complaints, or to assign priority to some of all of the complaints.

In making a decision on the appropriate level of response to such complaints, the officer will have regard to the following criteria:

- Safety factors;
- Available resources;
- Potential impact on the complainant;
- Potential impact of not responding;

- Impact on the immediate neighbourhood;
- Complaints that appear to result from a form of retribution, or are otherwise deemed to be frivolous and vexatious;
- Offer for formal mediation;
- Coordinating involvement with other relevant agencies.

In situations where By- law Enforcement Staff are involved in a dispute between two or more individuals, and where it has become obvious that staff' s involvement will not be able to achieve a reasonable resolution to their dispute, staff are given the discretion to decide in consultation with the Chief Administration Officer, on an appropriate level of further involvement.
The level of involvement may include a decision to suspend further involvement or take no further action in the dispute. This decision will be communicated to the complainant.

In making a decision as to the level of further involvement in the dispute, staff will have regard to the following criteria:

- Safety factors;
- History of attempts to mediate by staff;
- Offer for formal mediation;
- Coordinating involvement with other relevant agencies;
- The number of unfounded complaints received;
- Apparent attempts to purposely aggravate the situation;
- The number of complaints or concerns registered that do not fall within the jurisdiction of the Town.

4. Receipt and Confirmation of Complaint:

Upon receipt of a Formal Complaint, described in Section 2, staff shall open an enforcement file and forward it to the Officer who will register the complaint in a digital file folder. Staff shall encourage complainants to describe, in as much detail as possible, the matter in writing and in their own words, detailing who, what, why, when and where and the nature of the situation.

Staff should assure the complainant that their name and any personal information provided by them to the Township will remain in the strictest of confidence, in accordance with the Municipal Freedom of Information and Protection of Privacy Act and will not be revealed to anyone unless ordered by a Court or other body of competent jurisdiction.

Upon receipt of the complaint, an Officer will conduct a preliminary review of the complaint to verify the accuracy of the information provided and research any supporting documentation which may be available in Township records. An Officer shall contact the complainant to reassure him that the complaint has been received by the Officer and that an investigation into the allegations will begin.

The Officer may contact the complainant at any time, if necessary, for further details or the matter or to clarify information that was provided in the Formal Complaint.

5. Priority of Response:

An Officer will respond to Formal Complaints on a reactive basis. An Officer may also undertake a proactive investigation upon observation of a possible situation or a By-law violation that is deemed to be an immediate threat to health and safety. Immediate threats include the following violations and will be given top enforcement priority:

- Unsafe swimming pools
- Unsafe residential rental units that lack vital services to be provided by a landlord
- Health and safety concerns related to snow and ice removal
- Structures not in accordance with zoning bylaw or building code
- Any other By-law violation that could cause injury or even death, or poses a serious safety hazard

Any decision made under this policy including a decision not to respond to complaints or enforce By- law, and including a decision made in consultation with the Chief Administration Officer may, at any time, be revisited.

6. Investigation:

An Officer shall attend the site to witness and record the occurrence to determine if a By-law contravention exists. If the Officer determines the occurrence is not a contravention of any By- law or any other statute that the Town is responsible for enforcing, staff will advise the complainant, and the file will be closed.

If the Officer has investigated the occurrence and determines that there is insufficient evidence and/ or the absence of contravention at the time of the investigation then the Officer may either, keep the complaint file open and may make intermittent inspections or observations to collect information as necessary to for him to perform his duties or at the discretion of the Officer close the complaint file for lack of evidence or substance.

The Officer is not required to report, nor share the particulars or status of the investigation with the complainant but may do so at his discretion.

7. Enforcement:

First Stage

i. The Officer shall provide a noncompliance warning to the violator in person, by telephone or in writing which shall provide a time limit in which voluntary compliance is expected, or

ii. The Officer shall issue an Order against the violator and or the property owner and deliver the Order in person or by registered mail as regulated by the Ontario Building Code Act.

iii. If an Officer determines that a violation exists and the violator is a repeat offender and/or if the activity on the property is a reoccurring contravention, the Officer may proceed as follows: In the case of situations where Council has established set fines and/or Administrative Monetary Penalty for violations, an Officer may, upon confirmation of the existence of a violation, and at their discretion immediately issue an offence notice/ ticket/ AMP .

iv. The Officer shall notify any internal department and outside agencies that may have jurisdiction or may be required to assist with or rectify the situation including, but not limited to, the Fire Department, Planning, Public Works, Regional Public Health or Ministry of Environment.

v. Where provided for by By-law or other statute, an Officer may issue an emergency order to remedy a violation in lieu of an initial warning if the situation poses an immediate threat to health and safety. After the time limit has expired, the Officer shall return to the site to determine if compliance has been achieved.

vi. Upon compliance, the Officer will record the status of the complaint in the file and any relevant details of the resolution.

Enforcement:

Second Stage

i. If an initial warning or order has not been complied with, an Officer may determine whether to attempt a second written warning, or except for an Emergency Order, the Officer may provide the complainant with one or more compliance date extensions as he sees fit or proceed with the actions necessary to address the matter in accordance with the By-law or any other related statues.

ii. If an Officer determines that a violation exists and the violator is a repeat offender and/or if the activity on the property is not being rectified, the Officer may proceed as follows: In the case of situations where Council has established set

fines and/or Administrative Monetary Penalty for violations, an Officer may, upon confirmation of the existence of a violation, and at their discretion immediately issue an offence notice/ ticket/ AMP or may begin usual action as required.

In determining the best course of action the Officer will determine if:

i. Compliance date extension to the Order or letter of noncompliance; or
ii. A second written warning or formal order is to be issued, in which case, the Officer will proceed with giving a final time period in which to comply; or
iii. If legal action is determined, the Officer will provide the Chief Administration Officer or other staff person responsible for administering the By- law with a recommendation to proceed with legal action through the Town's solicitor, when it appears obvious compliance is not forthcoming. At any stage of the enforcement process, if in the opinion of the Officer or Chief Administrative Officer, that the matter is of significant consequence, the matter may be brought before Council for direction.

8. Timelines

For complaints that are not urgent health and safety related the Officer shall when possible:

i. Respond to a complaint within 3 business days of receiving the formal complaint.
ii. Commence an investigation within 7 business days of receiving the complaint.

9. Service Request

The Service Request Form is to be filled out by a resident of the Township of Bonfield to formerly request that a Municipal Department attend to a concern on a public property or related to a service the Township provides to the community.

The Township response shall meet the provincial minimum standards for all road related matters. Department heads will strive to close a file within 90 days. When closing a file the outcome may be recorded, actioned and completed, action postponed until work aligns with municipal workplan, request for future discussions, or no actioned.

Should a request not be actioned and completed the Department head shall notify the requester in writing of the outcome.

Bonfield
CANTON • TOWNSHIP

THE CORPORATION OF THE TOWNSHIP OF BONFIELD

Formal Complaint

Occurrence #:_____ Date:_____ Time:_____

Taken by: _____

Informant name: _____

Contact information:_____

TYPE OF OCCURRENCE (check the box)

Property Standards	☐	Roads	☐	Fire	☐
Municipal By -laws	☐	Landfill	☐	Drainage	☐
Building Code	☐	Recycling	☐	Animal Control	☐

DETAILS OF OCCURRENCE

Property Owner: _____

Address or legal description: _____

_____

Phone number:

_____

DETAILS OF OCCURENCE: Date: _____ Time:_____

_____

_____

_____

_____

_____

_____

_____

_____

Date of notification of Occurrence: _____

Date of File Closed: _____

OCCURRENCE # _____

Investigation/ actions taken by:

MLEO	☐	PUBLIC WORKS MGR.	☐
CBO	☐	ANIMAL CONTROL OFFICER	☐
FIRE CHIEF	☐		

CANTON DE Bonfield TOWNSHIP

REPORT TO COMMITTEE

DEPARTMENT: Fire Department
MEETING DATE: January 20, 2025
FROM: Joshua DeWaal, Interim Fire Chief
SUBJECT: Fire Department Operations Monthly update

RECOMMENDATION

That the Fire Department Committee of the Township of Bonfield receives this report for information purposes only.

BACKGROUND

This report highlights the activities of the Volunteer Fire Department from December 12/24 to January 16/25. The purpose of this report is to keep Committee, and the community informed on Fire Services.

Operations

- 15 operational volunteer members,
- Responded to 12 calls for service,

Dispatch Date	Dispatch Time	Type	# Responders	Duration (HRS)
2025/01/14	11:31:32 AM	Medical Call (MC)	2	1
2025/01/12	12:56:22 PM	Medical Call (MC)	4	1
2025/01/05	2:24:17 PM	Medical Call (MC)	4	1
2025/01/01	12:24:48 PM	Medical Call (MC)	5	1
2024/12/28	1:04:04 AM	Medical Call (MC)	2	1
2024/12/26	6:39:20 AM	Structure Fire	6	6
2024/12/24	7:41:00 PM	Medical Call (MC)	2	1
2024/12/22	4:45:49 PM	Medical Call (MC)	3	1
2024/12/22	12:14:06 AM	Medical Call (MC)	3	1
2024/12/20	5:56:58 PM	Medical Call (MC)	3	1
2024/12/19	8:37:41 PM	Medical Call (MC)	4	1
2024/12/16	7:07:14 PM	Medical Call (MC)	4	1

- 2024 Call total- 66
- Calls to date 2025- 4

CANTON DE Bonfield TOWNSHIP

Regular Weekly Training

- Truck inspections
- Truck Cleanup and restock
- Personal protective equipment
    - SCBA Checks
    - Personnel bunker gear inspection
- Cleaned hall
    - Swept floors
    - Washed/cleaned trucks

Special Training

- Fire Prevention Officer has completed legislation in class

Fire Chief Updates

- Station 2 has new gear lockers installed in closed in space to help with cancer reduction
- Station 1 lockers are in the process of being moved off the apparatus floor to the hall way, also to help with cancer reduction.
- Standard operating procedures and policies under review
- FireQ data input and usage is well underway. Reporting and review is being done 90% through FireQ app

Fire Prevention

- On going during any incident/call
- Smoke and CO inspections planned for Monday January 20/25
- New FPO is building a 2025 calendar of events
- Smoke and CO inspection plan is being developed

Community Involvement

- Family Day Event Upcoming

Prepared by:
Interim Fire Chief
Joshua DeWaal

CANTON DE Bonfield TOWNSHIP

REPORT TO COUNCIL

DATE: January 28th, 2025
FROM: Casandra Klooster, Administrative Assistant
SUBJECT: OAC Grant Timelines

RECOMMENDATION:

THAT the Council of the Township of Bonfield accept this report from the Administrative Assistant and herby approve the timeline.

BACKGROUND:

As you are aware from the Recreation Committee minutes, the Celebrate the Arts event has been changed from a February event to a one day event in February with Rendezvous and the art installations in the park have been moved to the spring.

Upon consultation with the Ontario Arts Council (OAC), it was confirmed that the installation date for the art project in Kaibuskong Park could be postponed without penalty, provided it remains aligned with the original grant application. A formal request to set a new installation date as May 16th, 2025, was submitted to the OAC and subsequently approved.

UPDATED INFORMATION:

A formal call for artists was issued in collaboration with Creative Industries North Bay, BRAVO, the Recreation & Fitness Committee, and other Northern Ontario arts organizations.

The submission deadline for the call is March 10th, 2025. Following this, the Recreation & Fitness Committee will convene a special meeting on March 11th, 2025 to review the submissions and finalize a shortlist. The shortlist will be presented to Council for approval at the Regular Council Meeting scheduled for March 11th, 2025.

Upon Council's approval, the successful artists will be promptly notified, and arrangements will be made to ensure the timely installation of the art pieces in Kaibuskong Park ahead of the May 2025 long weekend.

Respectfully,

Casandra Klooster
Clerk

I concur with this report,

Nicky Kunkel
CAO - Clerk - Treasurer

THE CORPORATION OF THE TOWNSHIP OF BONFIELD
EMERGENCY SERVICES COMMITTEE MEETING
January 20th, 2025

PRESENT: Steve Featherstone, Chair Josh DeWaal, Acting Fire Chief
Allan Reid, CEMC

STAFF PRESENT: Nicky Kunkel, CAO
Santana Chubb, Clerk

EXCUSED ABSENCE: Donna Clark, Vice-Chair

1. Call to Order

Motion 1
Moved by Allan Reid Seconded by Josh DeWaal
THAT this meeting be opened at 6:01 p.m.
Carried Steve Featherstone

2. Adoption of Agenda

Motion 2
Moved by Allan Reid Seconded by Josh DeWaal
THAT the agenda for the Emergency Services Committee Meeting for January 20, 2025, be approved as circulated.
Carried Steve Featherstone

3. Disclosure of Pecuniary Interest: None for this session

4. Adoption of Previous Minutes

Motion 3
Moved by Josh DeWaal Seconded by Allan Reid
THAT the minutes of the Emergency Services Committee Meeting held December 16, 2024, be adopted as circulated.
Carried Steve Featherstone

5. Presentation & Delegations: None for this session

6. Staff Reports

6.a Report from Acting Fire Chief regarding recent call reports, training, and community involvement.
The Acting Fire Chief gave a brief report on recent calls, training, community involvement and other relevant information from December 12, 2024, to January 16, 2025.

Recent Calls:

The volunteers responded to a total of 12 calls.

2024:

- December 16: Medical call at 7:07pm, 4 personnel, 1-hour duration.
- December 19: Medical call at 8:37pm, 4 personnel, 1-hour duration.
- December 20: Medical call at 5:56pm, 3 personnel, 1-hour duration.
- December 22: Medical call at 12:14am, 3 personnel, 1-hour duration.
- December 22: Medical call at 4:45pm, 3 personnel, 1-hour duration.
- December 24: Medical call at 7:41pm, 2 personnel, 1-hour duration.
- December 26: Structure Fire at 6:39am, 6 personnel, 6-hour duration.
- December 28: Medical call at 1:04am, 2 personnel, 1-hour duration.

2024 call total: 66

2025:

- January 01: Medical call at 12:24pm, 5 personnel, 1-hour duration.
- January 05: Medical call at 2:24pm, 4 personnel, 1-hour duration.
- January 12: Medical call at 12:56pm, 4 personnel, 1-hour duration.
- January 14: Medical call at 11:31am, 2 personnel, 1-hour duration.

2025 calls to date: 4

Current volunteer staff is 15 operational members.

Recent Training:

Weekly Training:

- Truck inspections
- Truck cleanup and restock
- PPE.
  - SCBA checks
  - Personal bunker gear inspections
- Cleaned Fire Hall
  - Swept floors
  - Washed/cleaned trucks

Special Training:

- The Fire Prevention Officer completed legislation in class.

Fire Chief Updates:

- Fire Station 2 has new gear lockers installed in a closed in space (cancer prevention).
- Fire Station 1 in the process of moving the remaining lockers off the apparatus floor and into the hallway (cancer prevention).
- SOPs and policies are under review.
- 90% of reporting and review is being done through the FireQ app.

Fire Prevention:

- Fire Prevention is ongoing during calls.
- Smoke and CO inspections being performed on Monday January 20, 2025.
- The Fire Prevention Officer is building a 2025 calendar of events.
- A smoke and CO alarm inspection plan is being developed by the FPO.

Community involvement:

- There will be an upcoming Family Day event.

7. Items for Committee Discussion

7.a Receive and review update on the Department Plan provided by the Acting Fire Chief.
Deferred to next meeting.

7.b Receive and review the Fire Department 2025 draft budget provided by the CAO and the Acting Fire Chief.
The following updates were provided.

- No new items were added to the budget since the previous meeting.
- The Acting Fire Chief will provide the CAO with a quote for a trailer for the side-by-side.

7.c Receive and review quote for firetruck provided by the CAO.
The following updates were provided.

- The quote to repair the firetruck was $4,503.39. The work has been approved and is underway.
- There will be additional costs to repair the upper bumper and the winch. The Acting Fire Chief will obtain prices for a new winch and mounting bracket.

7.d Discuss the Firefighters Protection Grant.
The following updates were provided.

- The Township has applied for 20 viking hoods and 6 bunker gear sets (coats and pants) for a total of $18,895.
- The Township received $16,460 from the grant and will focus on obtaining the bunker gear first.

8. Resolutions to be Considered for Council Recommendation: None for this session

9. Correspondence: None for this session

10. Closed Session: None for this session

11. Adjournment

Motion 4
Moved by Josh DeWaal Seconded by Allan Reid
THAT this meeting be adjourned at 6:29 p.m.
Carried Steve Featherstone

Next scheduled meetings:

- February 10, 2025, at 6pm.
- March 3, 2025, at 6pm.
- March 17, 2025, at 6pm.

_____
CHAIR

_____
SECRETARY

Nicky Kunkel

From: Municipal Housing Infrastructure Program (MOI) <MHIP@ontario.ca>
Sent: January 17, 2025 3:10 PM
To: Nicky Kunkel
Subject: A Message from the Ministry of Infrastructure

Cette communication est disponible en français sur demande.

DATE: January 17th, 2025

Nicky Kunkel
CAO/Clerk Treasurer
CORPORATION OF THE TOWNSHIP OF BONFIELD
cao.clerk@bonfieldtownship.com

Dear Nicky Kunkel,

Project Title: Rehabilitation of Development Road
Case Number: 2024-09-1-2999020294

I am writing to provide you with an update to the above noted project, submitted under the Housing-Enabling Core Servicing (HECS) stream of the Municipal Housing Infrastructure Program (MHIP).

Following an evidence-based provincial review process, your project was not approved for funding. The MHIP-HECS intake was highly competitive, and demand for funding exceeded available resources.

Projects that were approved were those that most closely aligned with provincial assessment criteria and requirements. The provincial assessment criteria included reviewing projects based on housing outcomes, project readiness, the technical merit of the proposed project, financial capacity, and efficiencies through joint projects.

The remaining funding under MHIP will help municipalities target other key infrastructure priorities, including maintaining the health and safety of local water and wastewater systems. More information about this funding, including eligibility and application intake details, will be announced shortly.

If you have any questions about your project's assessment, ministry staff are available to provide additional details and can be reached via email at MHIP@ontario.ca.

Sincerely,

[original signed by]

Trevor Fleck
Director, Program, Policy and Development
Infrastructure Programs and Projects Division
Ministry of Infrastructure

January 15, 2025

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

E-mail: pwmanager@bonfieldtownship.org

Attention: Alex Hackenbrook
Public Works Manager

Re: 2024 Annual Water Quality Summary Report
Bonfield Landfill Site, Township of Bonfield, Ontario
Pinchin File: 236957.006

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 on 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 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 2024. To achieve the reporting objectives of this Site monitoring program, Pinchin carried out groundwater, surface water and potable well water sampling at the Site on May 16 (spring), July 23 and 24 (summer) and October 1 (fall), 2024.

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 metres (m).

The Site is an operational landfill currently under management by the Client with oversight by the Ontario Ministry of the Environment, Conservation and Parks (MECP, formerly known as the Ministry of Environment and Climate Change (MOECC)). The Site was approved with a total fill area of 12.0 hectares and 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, which included the preparation of the 2024 Annual Water Quality Summary Report, 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 2024 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 2024 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 16, July 24 and October 1, 2024;
- 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 an YSI-556 water quality meter for measurement of field parameters. Sample residual was disposed of onto the ground surface, on-site and upgradient 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 16, July 24 and October 1, 2024;
- 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 23, 2024;
- Prior to collecting the sample, 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 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 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 2024 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 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 (only spring and fall collected), MW6 and MW7D.
Iron	0.3	All samples from MW2, MW3D, MW4 and MW5. Spring and summer samples from MW6 and MW7S.
Manganese	0.05	All samples from MW2, MW3D, MW4, MW5, MW6 and MW7S. Summer and fall samples from MW1. Spring and summer samples from MW7D.

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. It is noted that samples could not be collected at monitoring well MW5 during the summer due to the tubing being stuck.

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 (low)	6.5 (Low) - 8.5 (High)	-	6.5 (Low) - 9.0 (High)	SWB (all samples exceed PWQO and CWQG).
Aluminum	0.075	-	0.1	SWB (Spring and Summer samples exceed PWQO and CWQG; Oct samples exceed PWQO only).

Parameter	PWQO (mg/L)	APV (mg/L)	CWQG (mg/L)	Monitoring Station ID
Iron	0.3	-	0.3	All samples from all locations exceed PWQO and CWQG.
Phenols	0.001	0.961	0.004	SWA (Spring and Summer), SWB (all samples) and SWC (Spring) exceed PWQO.
Chromium	0.0089	0.064	0.001	SWB (Summer and Fall) exceeds CWQG.
Cobalt	0.0009	0.0052	-	SWC (Summer sample) exceeds PWQO.
Potassium	-	0.039	-	All samples from all locations exceed APV.
Total Phosphorous	0.03	-	-	SWA (Fall), SWB (Summer and Fall) and SWC (Summer) exceed PWQO.

The analytical data for each surface water 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 both residential monitoring locations during the summer 2024 monitoring event. 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 2024 monitoring identified the following parameters that exceeded the ODWQS:

Parameter	ODWQS (mg/L)	Monitoring Well ID
Total Hardness (low)	80-100	6 GDR
Total Hardness (high)	80-100	1 GDR
Aluminum	0.1	6 GDR
Lead	0.01	1 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 these locations. Lead is considered to be a significant concern for drinking water systems and is a human health-related parameter. The exceedance of lead at 1 GDR of 0.013 mg/L (in comparison to the ODWQS standard of 0.01 mg/L) is minor and should continue to be monitored during future sampling events. It is noted that this concentration of lead is elevated in comparison to the historic monitoring record; and therefore, may be anomalous. Concentrations of other metals, including aluminum, cadmium, copper and silver are also slightly elevated compared to the historic record; therefore, these elevated metals concentrations, including lead, may be attributed to standing water within the pipes or tap fixtures that could not be removed at the time of sampling. These concentrations 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 2024 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 2024:

Sampling Event	Duplicate Sample ID	Original Sample ID
Spring 2024 (May 16, 2024)	GW DUP	MW4
	SW DUP	SWB
Summer 2024 (July 23 and 24, 2024)	GW DUP	MW3D
	SW DUP	SWB
	RW DUP	1 GDR
Fall 2024 (October 1, 2024)	GW DUP	MW3D
	SW DUP	SWC

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 2024 monitoring events with the exception of:

- Titanium for the surface water sample SWB during the spring event (RPD of 72.39%);
- Titanium for the surface water sample SWC during the fall event (RPD of 142.86%);

- Cobalt for the surface water sample SWC during the fall event (RPD of 64.55%);
- Iron for the surface water sample SWC during the fall event (RPD of 52.91%);
- Dissolved manganese for the surface water sample SWC during the fall event (RPD of 94.88%);
- Aluminium for the potable well sample 1 GDR during the summer event (RPD of 180%); and
- Tin for the potable well sample 1 GDR during the summer event (RPD of 51.85%).

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, 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 2024 annual monitoring program:

- All groundwater, surface water and potable well water (summer only) sampling locations were monitored during the spring (May 16, 2024), summer (July 23 and 24, 2024) and fall (October 1, 2024) sampling events;
- 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 (spring and fall), MW6 and MW7D;
  - Iron at all locations except MW1 and MW3S; 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 SWB;
  - Aluminum at SWB;
  - Iron at all locations;
  - Phenols at all locations;
  - Chromium at SWB;
  - Cobalt at SWC;
  - Potassium at all locations; and
  - Total phosphorous at all locations.
- The summer sampling event of 1 Grand Desert Road (1 GDR) and 6 Grand Desert Road (6 GDR) quantified exceedances of total hardness (low) and aluminum for 6 GDR and total hardness (high) and lead for 1 GDR;
- 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 2024 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 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 Guideline B-7 criteria to evaluate landfill compliance;
- Groundwater elevations at all existing monitoring wells should continue to be measured during each groundwater sampling round (spring, summer and fall) to further confirm groundwater flow directions and establish seasonal fluctuations; and
- The Client should continue to ensure that the requirements as specified in the ECA are complied with.

7.0 MONITORING AND SCREENING CHECKLIST

In accordance with the MECP Landfill Standards, the Monitoring and Screening Checklist for the Site completed by the Pinchin CEP is completed and provided in Appendix V.

8.0 DISCLAIMER

This Water Quality Monitoring 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 Monitoring Summary 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 Monitoring Summary 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 Monitoring Summary 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.

9.0 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 Tim McBride at 705.521.0560, or by email at tmcbride@pinchin.com.

Pinchin Ltd.

Prepared by:

Katie Rinaldi, B.Sc., M.A.Sc.
Project Technologist

Reviewed by:

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Practice Specialist – Hydrogeology
Director, Landfill & Municipal Services

Encl. Appendix I – Figures

Appendix II – Certificate of Approval

Appendix III – Summary Tables

Appendix IV – Laboratory Certificates of Analysis

Appendix V – MECP Monitoring and Screening Checklist

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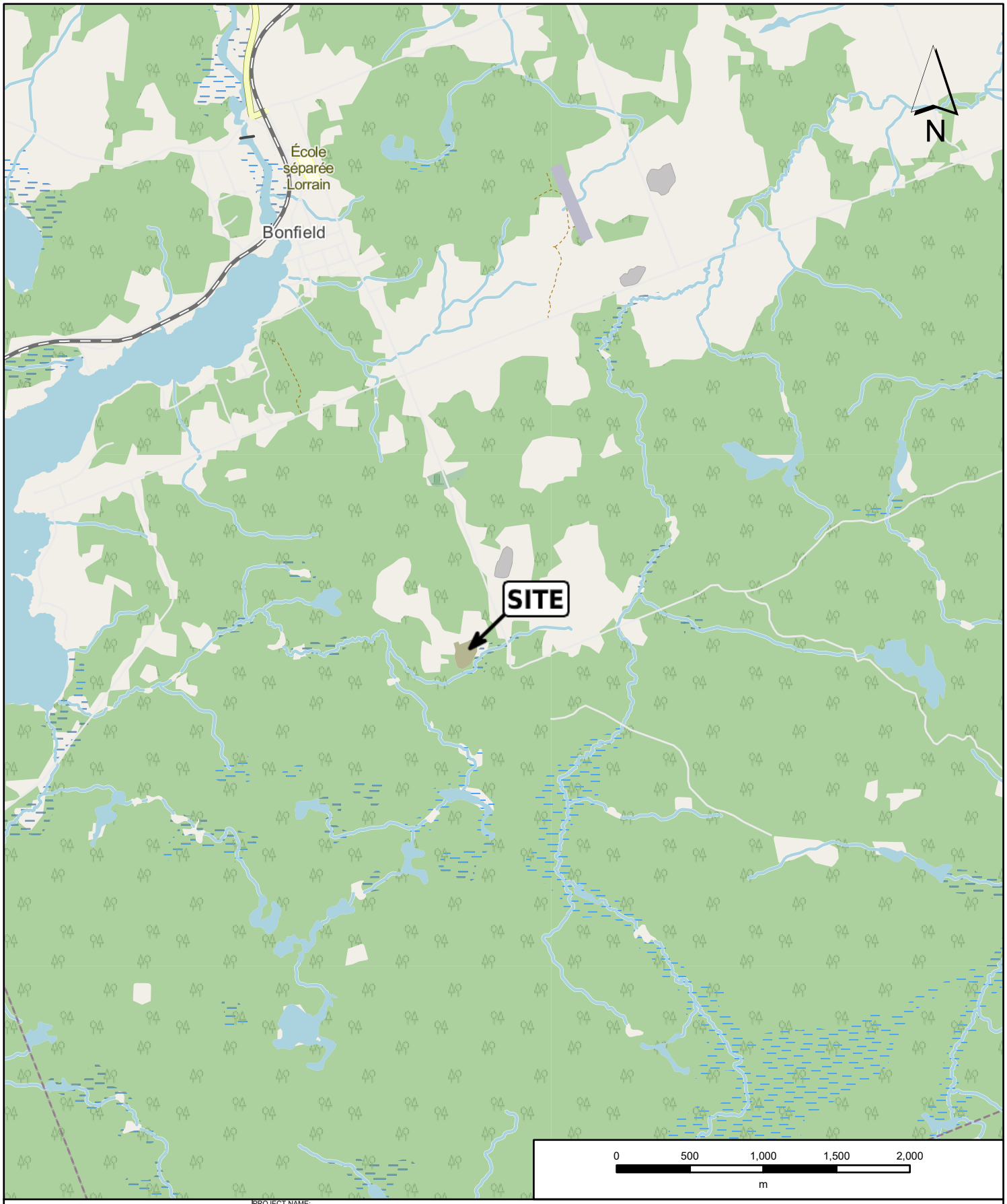
Template: Groundwater Monitoring Report Template, EDR, July 23, 2024

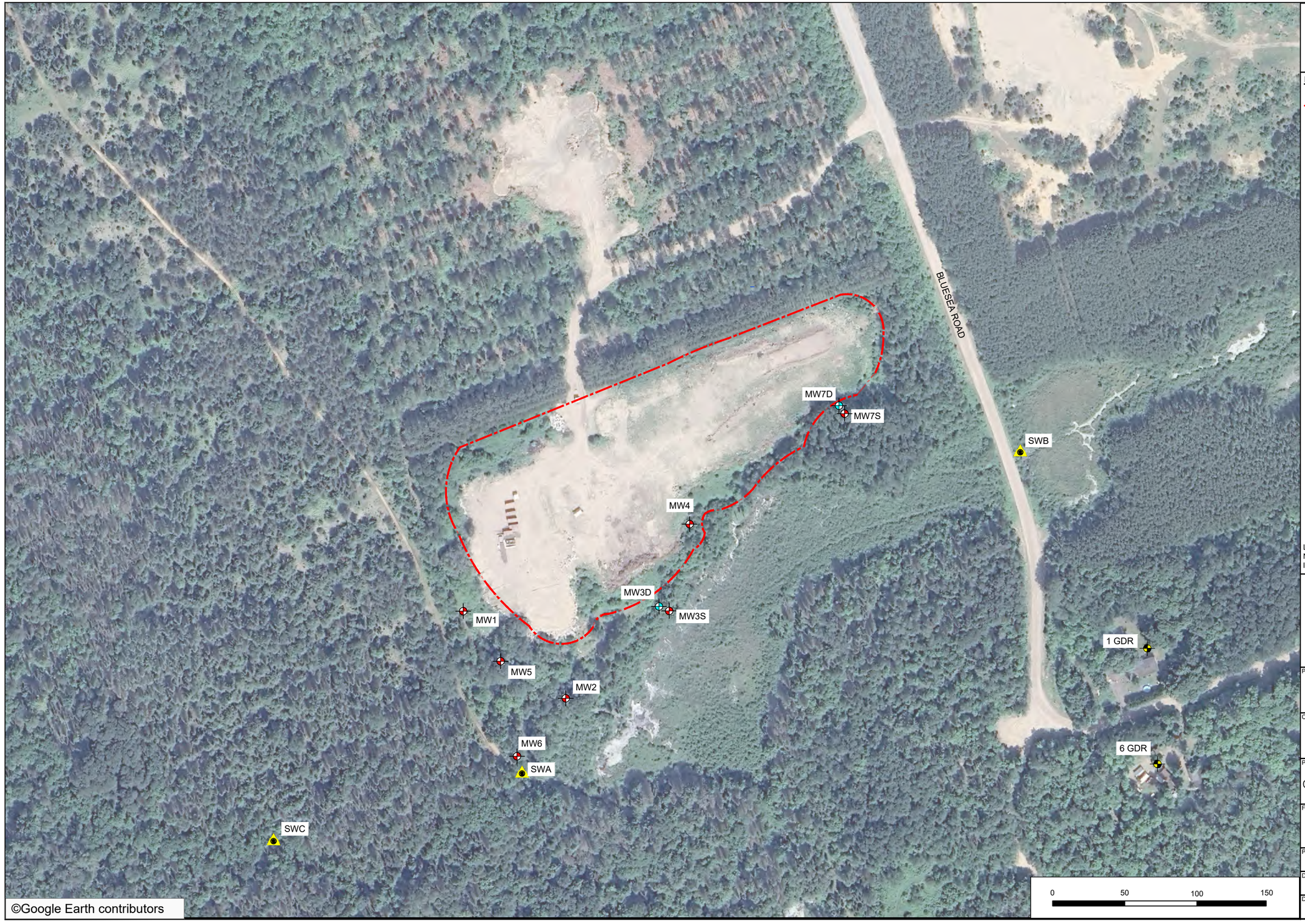
APPENDIX I
Figures



PINCHIN

PROJECT NAME:	2024 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:
236957.006	1:50,000	NJ	KR	JANUARY 2025



N

LEGEND

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

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

PINCHIN

PROJECT NAME:
2024 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:
236957.006	AS SHOWN
DRAWN BY: NJ	REVIEWED BY: KR
DATE: JANUARY 2025	FIGURE NUMBER: 2

APPENDIX II
Certificate of 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.
B. V. Daly
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.
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.
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.
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.

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.
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.
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
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.

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	8.4	2.18					-
	02/08/2023			0.64	3.47	8.4	2.83					-
	28/09/2023			0.64	3.66	8.57	3.02					-
	16/05/2024			0.56	3.17	8.4	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.

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	
Electrical Conductivity	uS/cm	337.00	723.00	754.00	346.00	682.00	833.00	-	-	-	-	-	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	**106.00**	**291.00**	**203.00**	**118.00**	**263.00**	**298.00**	85	**420**	**440**	**270**	**260**	**430**	90.00	**138**	**373**	**248**	**220**	**283**	**174**	**238**	**312**	**173**	**350**	**566**	80 - 100
Total Dissolved Solids	mg/L	223.00	**503.00**	**540.00**	240.00	**540.00**	**548.00**	-	-	-	-	-	**800**	-	-	-	-	-	-	-	-	-	-	-	-	500.00
Chloride	mg/L	7.00	20.00	20.00	6.43	56.00	28.70	4.9	14	42	11	30	48	6.00	6.00	29.00	7	4	9	5	5	10	5	31	26	250.00
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	-
Ammonia as N	mg/L	-	-	-	0.08	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium - NH4	mg/L	-	-	-	0.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Organic Carbon	mg/L	**8.00**	**11.00**	**15.00**	**12.40**	**10.80**	**14.10**	-	-	-	-	-	**16.00**	-	-	-	-	-	-	-	-	-	-	-	-	5.00
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	-
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	-
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	-
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	-
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	200.00
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	-
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	0.10
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	0.01
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	1.00
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	-
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	-
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	5.00
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	0.01
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	0.05
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	-
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	1.00
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	0.30
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	0.01
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	-
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**	0.05
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	-
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	-
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	-
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	0.05
Silicon	mg/L	2.71000	2.86000	3.42000	1.30000	1.69000	2.38000	1.30000	1.90000	2.00000	1.60000	1.70000	2.00000	1.58000	1.62000	1.51000	1.61	1.56	-	< 0.00005	1.74	1.84	1.37	1.45	1.88	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	5.00
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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	0.77	0.99	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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**	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	0.01
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	-
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**	0.05
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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	0.08	0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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	0.3
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	0.01
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	-
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	0.05
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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	0.98	0.09	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
Calcium	mg/L	42.7	38.3	19.1	33.5	16.4	14.0	54.0	45.0	20	49.0	28.0	20	53.7	52	33.8	58.8	55.4	24.9	62.9	63.6	57.2	57.6	59.4	32.3	-
Magnesium	mg/L	11.8	10.8	5.79	9.91	5.04	4.52	15.0	13.0	6.1	15.0	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	-
Sodium	mg/L	19.7	17.1	8.75	14.5	7.75	7.06	23.0	20.0	11	20.0	12.0	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	200
Potassium	mg/L	4.92	4.74	2.8	3.75	2.05	1.96	6.10	5.20	2.5	5.20	3.10	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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**	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	0.01
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	-
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**	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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	6.9	6.85	7.26	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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**	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	0.01
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	-
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**	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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
Electrical Conductivity	uS/cm	129	141	186	132	205	180	-	-	-	-	-	170	-	-	-	-	-	-	-	-	-	-	NO SAMPLE	-	-
pH	pH Units	**6.32**	6.77	**6.35**	6.71	6.97	6.59	-	-	-	-	-	6.64	-	-	-	-	-	-	-	-	-	-		-	6.5 - 8.5
Total Hardness (as CaCO3)	mg/L	**42**	**55.7**	**55.8**	**47.2**	80.0	**53.0**	**44**	**44.0**	**56**	**35**	**78**	**54**	**49.5**	**67.6**	**48.4**	**56.2**	**68.8**	**64**	**32**	**33.7**	**74.9**	**44.5**		**50.3**	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	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	-
Ammonia as N	mg/L	-	-	-	0.14	0.11	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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**	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	0.01
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	-
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**	0.05
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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	0.09	0.04	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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	0.3
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	0.01
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	-
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**	0.05
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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	3.30	3.56	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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	0.3
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	0.01
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	-
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**	0.05
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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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	
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**	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	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	-
Ammonia as N	mg/L	-	-	-	0.22	0.05	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-
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	-
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	-
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	-
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	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	-
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	0.1
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	0.006
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	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	-
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	-
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	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	0.005
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	0.05
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	-
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	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	0.3
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	0.01
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	-
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	0.05
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	-
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	-
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	-
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	0.05
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	-
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	-
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	-
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	-
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	-
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	0.02
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	-
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	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	-
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	-
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	-
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	-
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	-

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			
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	6.5-8.5	-	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	-	-	-
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	-	-	-
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	-	-	-
Chloride	mg/L	5	9	8.00	3.72	11.0	6.35	6.80	16.0	21.0	13	15	18	9.0	14.0	11.0	8.0	18.0	16.0	10.0	18.0	18.0	11.0	9.0	17.0	-	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	-	-	-
Ammonia as N	mg/L	-	-	-	<0.02	<0.02	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-
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	0.961	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	-	-	-
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	-	-	-
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	-	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*	-	0.04	-
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	0.075	-	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	0.1	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	-	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	0.011	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	-	-	-
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	0.2	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	0.0002	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	0.0089	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	0.0009	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	0.005	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**	0.3	-	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	0.005	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	-	-	-
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	-	-	-
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	0.04	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	0.025	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**	0.03	-	-
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	0.1	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	-	-	-
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	0.0001	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	0.0003	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	-	-	-
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	-	-	-
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	0.005	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	0.006	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	0.03	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	-	-	-
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	-	-	-
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	-	-	-
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	-	-	-
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	-	-	-

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			
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**	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	-	-	-
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	-	-	-
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	-	-	-
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	-	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	-	-	-
Ammonia as N	mg/L	-	-	-	<0.02	**0.40**	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-
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**	0.001	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	-	-	-
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	-	-	-
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	-	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*	-	0.039	-
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**	0.075	-	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	0.1	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	-	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	0.011	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	-	-	-
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	0.2	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	0.0002	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	0.0089	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	0.0009	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	0.005	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**	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	0.005	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	-	-	-
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	-	-	-
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	0.04	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	0.025	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**	0.03	-	-
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	0.1	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	-	-	-
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	0.0001	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	0.0003	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	-	-	-
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	-	-	-
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	0.005	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	0.006	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	0.010000	0.025000	0.006000	0.005000	0.007000	0.007000	0.021000	0.006000	0.004000	0.007000	0.008000	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	-	-	-
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	-	-	-
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	-	-	-
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	-	-	-
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	-	-	-

Notes:

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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			
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	6.5-8.5	-	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	-	-	-
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	-	-	-
Hardness (as CaCO3)	mg/L	41.5	107.0	30.4	17.8	37.6	18.9	21.0	46.0	34.0	33.0	38.0	28.0	21.3	33.4	26.2	16.5	35.2	25.8	21.0	44.0	38.0	30.8	36.0	41.7	-	-	-
Chloride	mg/L	6.0	8.0	14.0	6.3	11.3	11.4	6.2	16.0	20.0	12.0	15.0	15.0	8.0	14.0	12.0	8.0	17.0	16.0	9.0	17.0	17.0	10.0	7.0	16.0	-	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	-	-	-
Ammonia as N	mg/L	-	-	-	<0.02	**0.21**	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-
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	0.96	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	-	-	-
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	-	-	-
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	-	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*	-	0.04	-
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	0.08	-	0.10
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	1.60	-
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	0.10	0.15	0.01
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	-	2.30	-
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	0.01	0.01	-
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	-	-	-
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	0.20	3.55	1.50
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	0.0002	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	0.01	0.06	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	0.0009	0.01	-
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	0.01	0.01	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**	0.30	-	0.30
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	0.01	0.00200	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	-	-	-
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	-	-	-
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	0.04	0.73	0.07
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	0.03	0.04	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	0.03	-	-
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	0.1	0.01	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	-	-	-
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	0.0001	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	0.0003	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	-	-	-
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	-	-	-
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	0.01	0.03	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	0.01	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	0.00400	0.008	0.009	0.004	< 0.002	0.002	0.003	0.004	0.002	0.004	0.006	0.002	0.03	0.09	0.09
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	-	-	-
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	-	-	-
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	-	-	-
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	-	-	-
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	-	-	-

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	
Electrical Conductivity	uS/cm	-	250	-	-	-	-	-
pH	pH Units	-	7.57	-	-	-	-	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, 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	
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**	80 - 100
Total Dissolved Solids	mg/L	-	100	-	-	-	-	500
Chloride	mg/L	<1.0	1.3	2	< 1	< 1	1	250
Ammonia (Total)	mg/L	<0.050	<0.050	-	< 0.04	< 0.04	< 0.04	-
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	-
Phenols	mg/L	0.001	<0.0010	<0.002	2.5	< 0.002	< 0.002	-
Calcium	mg/L	23	21	6.15	16.4	16.1	9.49	-
Magnesium	mg/L	5.5	4.8	1.16	3.83	3.38	1.66	-
Sodium	mg/L	1.9	1.7	1.32	1.86	1.57	1.48	200
Potassium	mg/L	1	1	1.4	0.953	0.912	1.17	-
Aluminium	mg/L	0.077	**0.11**	**0.147**	0.042	**0.13**	**0.227**	0.1
Antimony	mg/L	<0.0005	<0.0005	<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	1
Beryllium	mg/L	<0.0005	<0.0004	0.000093	0.000046	0.000048	0.000097	-
Bismuth	mg/L	<0.001	<0.001	<0.00001	< 0.00001	< 0.00001	< 0.00001	-
Boron	mg/L	0.011	0.011	0.016	0.03	0.009	0.01	5
Cadmium	mg/L	<0.0001	<0.00009	0.000029	0.000007	0.000014	0.000018	0.005
Chromium	mg/L	<0.005	<0.005	0.00041	0.00017	0.0002	0.00041	0.05
Cobalt	mg/L	<0.0005	<0.0005	0.000711	0.000096	0.000138	0.000417	-
Copper	mg/L	0.0035	0.0029	0.0104	0.0039	0.0032	0.01	1
Iron	mg/L	<0.1	<0.1	0.019	0.018	0.04	0.016	0.3
Lead	mg/L	<0.0005	<0.0005	0.00075	< 0.00009	0.00015	0.00062	0.01
Lithium	mg/L	<0.005	<0.005	0.0005	0.0005	0.0004	0.0005	-
Manganese	mg/L	0.015	0.021	**0.0685**	0.0273	0.0185	0.0456	0.05
Molybdenum	mg/L	0.00095	0.0009	0.00011	0.00095	0.0006	< 0.0004	-
Nickel	mg/L	<0.001	<0.001	0.0039	< 0.0001	0.0003	0.0005	-
Total Phosphorus	mg/L	<0.1	<0.00002	<0.03	< 0.03	< 0.03	< 0.03	-
Selenium	mg/L	<0.002	<0.002	0.00006	0.00021	0.00009	0.0001	0.05
Silicon	mg/L	4.1	3.9	3.74	3.85	4.03	3.93	-
Silver	mg/L	<0.0001	<0.00009	<0.00005	< 0.00005	< 0.00005	< 0.00005	-
Thallium	mg/L	<0.0005	<0.00005	0.000012	0.000006	0.000006	0.000008	-
Tin	mg/L	<0.001	<0.001	0.00008	-	< 0.00006	< 0.00006	-
Titanium	mg/L	<0.005	<0.005	0.00028	0.00011	0.00081	0.0002	-
Uranium	mg/L	0.00036	0.00037	0.000238	0.000108	0.000264	0.000168	0.02
Vanadium	mg/L	<0.0005	<0.0005	0.00003	0.00004	0.00007	0.00004	-
Zinc	mg/L	0.007	0.0071	0.062	0.005	0.023	0.038	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	16/05/2024			24/07/2024			01/10/2024		
				MW4	GW DUP	Relative Percent Difference (%)	MW3D	GW DUP	Relative Percent Difference (%)	MW3D	GW DUP	Relative Percent Difference (%)
Electrical Conductivity	uS/cm	-	-	-	-	-	-	-	-	-	-	-
pH	pH Units	-	-	1	1	-	-	-	-	-	-	-
Total Hardness (as CaCO3)	mg/L	0.05	0.25	257	256	0.39	218	216	0.92	120	120	0.00
Total Dissolved Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chloride	mg/L	1	5	45	45	0.00	48	48	0.00	32	32	0.00
Ammonia (Total)	mg/L	0.04	0.2	6.57	6.78	3.15	3.7	3.73	0.81	1.4	1.4	0.00
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	7.26	7.34	1.10	3.68	4.17	12.48	1.6	1.7	6.06
Phenols	mg/L	0.002	0.01	0.004	0.004	NC	0.002	< 0.002	NC	< 0.002	< 0.002	NC
Calcium	mg/L	0.01	0.05	80.3	79.8	0.62	59.4	58.7	1.19	32.3	32.3	0.00
Magnesium	mg/L	0.001	0.005	13.6	13.7	0.73	16.9	17	0.59	9.67	9.55	1.25
Sodium	mg/L	0.01	0.05	31.9	31.4	1.58	26.8	27	0.74	14.9	15.3	2.65
Potassium	mg/L	0.009	0.045	9.65	9.29	3.80	7	7	0.00	3.92	3.91	0.26
Aluminium	mg/L	0.001	0.005	0.087	0.089	2.27	0.002	0.002	NC	0.001	0.001	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	0.00002	0.0001	0.0792	0.0754	4.92	0.122	0.119	2.49	0.068	0.0669	1.63
Beryllium	mg/L	0.000007	0.000035	0.00023	0.000247	7.13	0.00002	0.000018	10.53	0.000012	0.000018	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	0.388	0.388	0.00	0.3	0.321	6.76	0.131	0.134	2.26
Cadmium	mg/L	0.000003	0.000015	0.000438	0.000431	1.61	0.000268	0.000262	2.26	0.000133	0.000114	15.38
Chromium	mg/L	0.00008	0.0004	0.00061	0.00061	0.00	0.00036	0.00035	NC	0.00018	0.00013	NC
Cobalt	mg/L	0.000004	0.00002	0.0044	0.0044	0.00	0.00321	0.00321	0.00	0.000948	0.000951	0.32
Copper	mg/L	0.0002	0.001	0.002	0.002	0.00	0.004	0.003	28.57	0.002	0.003	40.00
Iron	mg/L	0.007	0.035	3.83	3.53	8.15	4.93	4.87	1.22	1.44	1.44	0.00
Lead	mg/L	0.00009	0.00045	< 0.00009	< 0.00009	NC	< 0.00009	< 0.00009	NC	< 0.00009	< 0.00009	NC
Lithium	mg/L	0.0001	0.0005	0.0015	0.0015	0.00	0.0041	0.0037	10.26	0.0027	0.0024	11.76
Manganese	mg/L	0.00001	0.00005	9.27	8.94	3.62	7.78	7.66	1.55	2.94	2.89	1.72
Molybdenum	mg/L	0.00004	0.0002	< 0.0004	< 0.0004	NC	0.0016	0.0017	NC	0.0011	0.0011	0.00
Nickel	mg/L	0.0001	0.0005	0.0037	0.0037	0.00	0.0041	0.0041	0.00	0.0019	0.0019	0.00
Total Phosphorus	mg/L	0.03	0.15	< 0.03	0.05	NC	< 0.03	< 0.03	NC	< 0.03	< 0.03	NC
Selenium	mg/L	0.00004	0.0002	0.00022	0.00026	16.67	0.00017	0.00019	NC	< 0.00004	< 0.00004	NC
Silicon	mg/L	0.02	0.1	8.95	8.99	0.45	9.03	8.9	1.45	7.82	8.2	4.74
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	0.000024	0.000024	0.00	0.00006	0.000056	6.90	0.000036	0.000034	5.71
Tin	mg/L	0.00006	0.0003	0.00012	0.00012	NC	0.00011	0.00008	NC	< 0.00006	< 0.00006	NC
Titanium	mg/L	0.00005	0.00025	0.0003	0.0002	NC	0.0002	0.0003	NC	< 0.0001	< 0.0001	NC
Uranium	mg/L	0.000002	0.00001	0.000166	0.00016	3.68	0.00125	0.00127	1.59	0.000363	0.000384	5.62
Vanadium	mg/L	0.00001	0.00005	0.00088	0.00078	12.05	0.00018	0.0002	10.53	0.00007	0.00007	0.00
Zinc	mg/L	0.002	0.01	0.003	0.003	NC	0.008	0.007	NC	0.004	0.005	NC

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	16/05/2024			24/07/2024			01/10/2024		
				SW-B	SW DUP	Relative Percent Difference (%)	SW-B	SW DUP	Relative Percent Difference (%)	SW-C	SW DUP	Relative Percent Difference (%)
pH	pH Units	0.05	0.25	5.76	5.69	1.22	6.15	6.25	1.61	7.11	7.2	1.26
Alkalinity (as CaCO3)	mg/L	2	10	6	20	NC	4	5	22.22	37	35	5.56
Electrical Conductivity	uS/cm	2	10	52	73	33.60	39	43	9.76	115	117	1.72
Hardness (as CaCO3)	mg/L	0.05	0.25	12.6	12.6	0.00	15	14.9	0.67	41.7	39.9	4.41
Chloride	mg/L	1	5	12	12	0.00	10	9	10.53	16	16	0.00
Ammonia (Total)	mg/L	0.04	0.2	< 0.04	< 0.04	NC	0.04	0.08	NC	< 0.1	< 0.1	NC
Ammonia as N	mg/L	-	-			-	-	-	-	-	-	-
Ammonium - NH4	mg/L	-	-			-	-	-	-	-	-	-
Phenols	mg/L	0.001	0.005	0.003	0.003	NC	0.002	0.003	NC	< 0.001	< 0.001	NC
Calcium	mg/L	0.01	0.05	3.28	3.24	1.23	4.23	4.21	0.47	11.6	11	5.31
Magnesium	mg/L	0.001	0.005	1.07	1.11	3.67	1.07	1.06	0.94	3.11	3.02	2.94
Sodium	mg/L	0.01	0.05	3.66	3.61	1.38	2.33	2.26	3.05	6.37	6.06	4.99
Potassium	mg/L	0.009	0.045	0.458	0.501	8.97	0.65	0.651	0.00	2.10	2.01	4.38
Aluminium	mg/L	0.001	0.005	0.101	0.103	1.96	0.14	0.14	0.72	0.007	0.007	0.00
Antimony	mg/L	-	-			-	-	-	-	-	-	-
Arsenic	mg/L	0.0002	0.001	< 0.0002	< 0.0002	NC	0.0004	0.0003	NC	< 0.0002	< 0.0002	NC
Barium	mg/L	0.00002	0.0001	0.0162	0.0269	49.65	0.02	0.0239	2.54	0.027	0.0228	15.76
Beryllium	mg/L	0.000007	0.000035	0.000021	0.000018	NC	0.00004	0.000039	0.00	0.000012	< 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	0.003	0.003	NC	0.007	0.006	15.38	0.021	0.021	0.00
Cadmium	mg/L	0.000003	0.000015	0.000009	0.000013	NC	0.00001	0.00001	NC	0.00001	0.000003	NC
Chromium	mg/L	0.00008	0.0004	0.00083	0.00104	22.46	0.00120	0.00116	3.39	0.00031	0.00021	NC
Cobalt	mg/L	0.000004	0.00002	0.000616	0.00067	8.40	0.00066	0.00066	0.60	0.00025	0.000128	**64.55**
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	2.86	3.55	21.53	3.26	3.56	8.80	1.25	0.727	**52.91**
Lead	mg/L	0.00009	0.00045	0.00009	0.00017	NC	0.0003	0.00027	NC	0.00016	< 0.00009	NC
Lithium	mg/L	0.0001	0.0005	0.0007	0.0008	13.33	0.0014	0.0014	0.00	0.0007	0.0007	0.00
Dissolved Manganese	mg/L	0.00001	0.00005	0.0828	0.086	3.79	0.08	0.0778	0.13	0.193	0.0688	**94.88**
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	0.0008	0.0011	31.58	0.001	0.001	0.00	0.0004	0.0003	NC
Total Phosphorus	mg/L	0.003	0.015	0.024	0.038	45.16	0.03	0.038	14.08	0.02	0.01	NC
Selenium	mg/L	0.00004	0.0002	0.00005	0.00004	NC	0.0001	0.00007	NC	< 0.00004	< 0.00004	NC
Silicon	mg/L	0.02	0.1	1.33	1.41	5.84	2.57	2.56	0.39	5.36	5.03	6.35
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	0.00001	0.000006	NC	< 0.000005	< 0.000005	NC
Tin	mg/L	0.00006	0.0003	< 0.00006	< 0.00006	NC	0.00	< 0.00006	NC	< 0.00006	< 0.00006	NC
Titanium	mg/L	0.00005	0.00025	0.0052	0.0111	**72.39**	0.02	0.0182	5.65	0.0042	0.0007	**142.86**
Uranium	mg/L	0.000002	0.00001	0.000011	0.000018	48.28	0.00002	0.000026	12.24	0.000014	0.000007	NC
Vanadium	mg/L	0.0001	0.0005	0.00041	0.00074	NC	0.00077	0.00084	8.70	0.00015	0.00008	NC
Zinc	mg/L	0.002	0.01	0.004	0.006	NC	0.01	0.007	NC	0.002	< 0.002	NC

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	24/07/2024		
				1 GDR	GDR DUP	Relative Percent Difference (%)
Electrical Conductivity	uS/cm	-	-	-	-	-
pH	pH Units	-	-	-	-	-
Total Hardness (as CaCO3)	mg/L	0.05	0.25	103.0	102.0	0.98
Total Dissolved Solids	mg/L	-	-	-	-	-
Chloride	mg/L	1	5	20	20	0.00
Ammonia (Total)	mg/L	0.04	0.2	< 0.04	< 0.04	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	0.87	0.92	5.59
Phenols	mg/L	0.002	0.01	0.003	0.004	NC
Calcium	mg/L	0.01	0.05	30.9	30.5	1.30
Magnesium	mg/L	0.001	0.005	6.23	6.22	0.16
Sodium	mg/L	0.01	0.05	8.88	9.08	2.23
Potassium	mg/L	0.009	0.045	2.28	2.24	1.77
Aluminium	mg/L	0.001	0.005	0.049	0.931	**180.00**
Antimony	mg/L	0.0009	0.0045	< 0.0009	< 0.0009	NC
Arsenic	mg/L	-	-	-	-	-
Barium	mg/L	0.00008	0.0004	0.0423	0.0408	3.61
Beryllium	mg/L	0.000007	0.000035	< 0.000007	< 0.000007	NC
Bismuth	mg/L	0.00001	0.00005	< 0.00001	0.00001	NC
Boron	mg/L	0.002	0.01	0.036	0.036	0.00
Cadmium	mg/L	0.000003	0.000015	0.000115	0.000106	8.14
Chromium	mg/L	0.00008	0.0004	0.00037	0.00095	NC
Cobalt	mg/L	0.000004	0.00002	0.000023	0.000022	4.44
Copper	mg/L	0.0002	0.001	0.088	0.066	28.57
Iron	mg/L	0.007	0.035	0.04	0.035	13.33
Lead	mg/L	0.00009	0.00045	0.013	0.0107	19.41
Lithium	mg/L	0.0001	0.0005	0.0021	0.0022	4.65
Manganese	mg/L	0.00001	0.00005	0.00076	0.00062	20.29
Molybdenum	mg/L	0.00004	0.0002	0.0023	0.0023	0.00
Nickel	mg/L	0.0001	0.0005	0.0003	0.0003	NC
Total Phosphorus	mg/L	0.03	0.15	< 0.03	< 0.03	NC
Selenium	mg/L	0.00004	0.0002	< 0.00004	0.00004	NC
Silicon	mg/L	0.02	0.1	4.61	4.65	0.86
Silver	mg/L	0.00005	0.00025	0.00014	0.00009	NC
Thallium	mg/L	0.000005	0.000025	< 0.000005	< 0.000005	NC
Tin	mg/L	0.00006	0.0003	0.00085	0.0005	**51.85**
Titanium	mg/L	0.00007	0.00035	< 0.0001	0.0002	NC
Uranium	mg/L	0.000002	0.00001	0.000851	0.000913	7.03
Vanadium	mg/L	0.00001	0.00005	0.00064	0.00076	17.14
Zinc	mg/L	0.002	0.01	0.037	0.035	5.56

Notes:

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

APPENDIX IV

Laboratory Certificates of Analysis

FINAL REPORT

CA15176-MAY24 R

236957.006, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15176-MAY24 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560 cell: 705-618-0186.	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Greg Way	Telephone	705-652-2000
Telephone	705-521-0560 cell: 705-618-0186	Facsimile	705-652-6365
Facsimile		Email	Maarit.Wolfe@sgs.com
Email	gway@Pinchin.com	SGS Reference	CA15176-MAY24
Project	236957.006, Township of Bonfield GW	Received	05/17/2024
Order Number		Approved	05/31/2024
Samples	Ground Water (10)	Report Number	CA15176-MAY24 R
		Date Reported	05/31/2024

COMMENTS

Temperature of Sample upon Receipt: 10 degrees C

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

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FINAL REPORT

CA15176-MAY24 R

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Ribhdi

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	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024
Parameter		**Units**	**RL**	**L1**	**L2**	**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 (N)		as N mg/L	0.05			0.41	0.65	0.07	3.30	7.26	0.23	0.12	1.32
Ammonia+Ammonium (N)		as N mg/L	0.04			< 0.04	0.39	< 0.04	2.95	6.57	< 0.04	< 0.04	0.24
Metals and Inorganics													
Phosphorus (total)		mg/L	0.03			0.83	1.52	1.90	< 0.03	< 0.03	0.78	0.32	0.99
Hardness (dissolved)		mg/L as CaCO3	0.05	100		173	144	53.5	213	257	44.5	32.1	282
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			0.023	0.007	0.009	0.006	0.087	0.004	0.009	0.007
Barium (dissolved)		mg/L	0.00008		1	0.103	0.0455	0.0179	0.110	0.0792	0.0261	0.0196	0.252
Beryllium (dissolved)		mg/L	0.000007			0.000018	0.000010	< 0.000007	0.000018	0.000230	0.000007	0.000012	0.000009
Boron (dissolved)		mg/L	0.002		5	1.36	0.076	0.043	0.267	0.388	0.051	0.007	0.844
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			54.8	51.3	14.2	57.6	80.3	12.4	7.07	97.2
Cadmium (dissolved)		mg/L	0.000003		0.005	0.000025	0.000008	0.000005	0.000251	0.000438	0.000015	0.000020	0.000030
Cobalt (dissolved)		mg/L	0.000004			0.000309	0.00109	0.000044	0.00321	0.00440	0.000866	0.00122	0.00146
Chromium (dissolved)		mg/L	0.00008		0.05	0.00035	0.00021	0.00038	0.00030	0.00061	0.00017	0.00017	0.00052
Copper (dissolved)		mg/L	0.001	1		0.006	< 0.001	0.001	0.004	0.002	< 0.001	< 0.001	0.002
Iron (dissolved)		mg/L	0.007	0.3		0.039	3.36	0.020	4.06	3.83	0.793	0.772	0.853
Potassium (dissolved)		mg/L	0.009			5.00	4.24	4.75	6.62	9.65	2.50	1.94	14.9
Lithium (dissolved)		mg/L	0.0001			0.0001	0.0001	0.0002	0.0039	0.0015	0.0005	0.0011	0.0001

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Ribhdi

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	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024
Parameter	**Units**	**RL**	**L1**	**L2**		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)													
Magnesium (dissolved)	mg/L	0.001				8.68	3.96	4.40	16.9	13.6	3.30	3.50	9.61
Manganese (dissolved)	mg/L	0.00001	0.05			0.0359	0.537	0.00247	8.00	9.27	0.385	0.119	1.01
Molybdenum (dissolved)	mg/L	0.0004				< 0.0004	< 0.0004	0.0010	0.0016	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (dissolved)	mg/L	0.01	200	20		20.9	6.37	7.08	26.8	31.9	5.12	4.12	25.1
Nickel (dissolved)	mg/L	0.0001				0.0006	0.0004	0.0001	0.0042	0.0037	0.0005	0.0012	0.0015
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		0.00029	0.00008	0.00014	0.00009	0.00022	< 0.00004	< 0.00004	0.00015
Silicon (dissolved)	mg/L	0.02				1.37	2.64	2.07	9.61	8.95	7.22	9.61	4.69
Tin (dissolved)	mg/L	0.00006				0.00009	0.00007	< 0.00006	0.00010	0.00012	0.00008	0.00006	0.00017
Titanium (dissolved)	mg/L	0.0001				0.0006	0.0011	0.0012	0.0002	0.0003	0.0002	0.0009	0.0002
Thallium (dissolved)	mg/L	0.000005				0.000033	0.000018	< 0.000005	0.000059	0.000024	0.000007	0.000006	0.000039
Uranium (dissolved)	mg/L	0.000002		0.02		0.00135	0.000323	0.000161	0.00113	0.000166	0.000054	0.000021	0.00110
Vanadium (dissolved)	mg/L	0.00001				0.00009	0.00047	0.00016	0.00025	0.00088	0.00010	0.00008	0.00041
Zinc (dissolved)	mg/L	0.002	5			0.002	< 0.002	< 0.002	0.008	0.003	0.002	0.003	< 0.002

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Ribhdi

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	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024	16/05/2024
						Result	Result	Result	Result	Result	Result	Result	Result
Other (ORP)													
Chloride	mg/L	1	250			5	17	13	43	45	2	1	30
Phenols													
4AAP-Phenolics	mg/L	0.002				0.003	< 0.002	< 0.002	0.003	0.004	< 0.002	< 0.002	0.005

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	16/05/2024	16/05/2024
						Result	Result
Acid Rock Drainage							
pH Check <2	pH	0.05				1.00	1.00
General Chemistry							
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05				0.20	7.34
Ammonia+Ammonium (N)	as N mg/L	0.04				0.07	6.78
Metals and Inorganics							
Phosphorus (total)	mg/L	0.03				0.03	0.05
Hardness (dissolved)	mg/L as CaCO3	0.05	100			57.0	256
Silver (dissolved)	mg/L	0.00005				< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001				0.010	0.089
Barium (dissolved)	mg/L	0.00008		1		0.0129	0.0754
Beryllium (dissolved)	mg/L	0.000007				0.000014	0.000247
Boron (dissolved)	mg/L	0.002		5		0.169	0.388

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Ribhdi

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	16/05/2024	16/05/2024
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			17.0	79.8
Cadmium (dissolved)	mg/L	0.000003		0.005	0.000025	0.000431
Cobalt (dissolved)	mg/L	0.000004			0.000071	0.00440
Chromium (dissolved)	mg/L	0.00008		0.05	0.00026	0.00061
Copper (dissolved)	mg/L	0.001	1		< 0.001	0.002
Iron (dissolved)	mg/L	0.007	0.3		0.043	3.53
Potassium (dissolved)	mg/L	0.009			2.51	9.29
Lithium (dissolved)	mg/L	0.0001			0.0008	0.0015
Magnesium (dissolved)	mg/L	0.001			3.56	13.7
Manganese (dissolved)	mg/L	0.00001	0.05		0.256	8.94
Molybdenum (dissolved)	mg/L	0.0004			< 0.0004	< 0.0004
Sodium (dissolved)	mg/L	0.01	200	20	12.8	31.4
Nickel (dissolved)	mg/L	0.0001			0.0002	0.0037
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	0.00006	0.00026
Silicon (dissolved)	mg/L	0.02			5.14	8.99
Tin (dissolved)	mg/L	0.00006			< 0.00006	0.00012
Titanium (dissolved)	mg/L	0.0001			0.0004	0.0002
Thallium (dissolved)	mg/L	0.000005			0.000020	0.000024
Uranium (dissolved)	mg/L	0.000002		0.02	0.000164	0.000160

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Ribhdi

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	16/05/2024	16/05/2024
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Vanadium (dissolved)	mg/L	0.00001			0.00003	0.00078
Zinc (dissolved)	mg/L	0.002	5		< 0.002	0.003
Other (ORP)						
Chloride	mg/L	1	250		23	45
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	173	100	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	20.9		20
MW2					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	144	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	3.36	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.537	0.05	
MW3D					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	213	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.06	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	8.00	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	26.8		20
MW4					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	257	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	3.83	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	9.27	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	31.9		20
MW5					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	0.793	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.385	0.05	
MW6					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	0.772	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.119	0.05	
MW7S					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	282	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	0.853	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	1.01	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	25.1		20
MW7D					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.256	0.05	
GW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	256	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	3.53	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	8.94	0.05	

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)					
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	31.4		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)	SKA0192-MAY24	mg/L	0.04	<0.04	ND	10	100	90	110	88	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	DIO8073-MAY24	mg/L	1	<1	3	20	93	80	120	96	75	125
Chloride	DIO8083-MAY24	mg/L	1	<1	ND	20	98	80	120	100	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)	EMS0200-MAY24	mg/L	0.00005	<0.00005	ND	20	103	90	110	81	70	130
Aluminum (dissolved)	EMS0200-MAY24	mg/L	0.001	<0.001	ND	20	99	90	110	108	70	130
Barium (dissolved)	EMS0200-MAY24	mg/L	0.00008	<0.00008	ND	20	100	90	110	102	70	130
Beryllium (dissolved)	EMS0200-MAY24	mg/L	0.000007	<0.000007	ND	20	101	90	110	97	70	130
Boron (dissolved)	EMS0200-MAY24	mg/L	0.002	<0.002	ND	20	104	90	110	98	70	130
Bismuth (dissolved)	EMS0200-MAY24	mg/L	0.00001	<0.00001	ND	20	101	90	110	100	70	130
Calcium (dissolved)	EMS0200-MAY24	mg/L	0.01	<0.01	ND	20	99	90	110	100	70	130
Cadmium (dissolved)	EMS0200-MAY24	mg/L	0.000003	<0.000003	ND	20	103	90	110	104	70	130
Cobalt (dissolved)	EMS0200-MAY24	mg/L	0.000004	<0.000004	ND	20	103	90	110	101	70	130
Chromium (dissolved)	EMS0200-MAY24	mg/L	0.00008	<0.00008	ND	20	104	90	110	99	70	130
Copper (dissolved)	EMS0200-MAY24	mg/L	0.001	<0.001	ND	20	102	90	110	100	70	130
Iron (dissolved)	EMS0200-MAY24	mg/L	0.007	<0.007	ND	20	99	90	110	100	70	130
Potassium (dissolved)	EMS0200-MAY24	mg/L	0.009	<0.009	0	20	100	90	110	74	70	130
Lithium (dissolved)	EMS0200-MAY24	mg/L	0.0001	<0.0001	5	20	104	90	110	93	70	130
Magnesium (dissolved)	EMS0200-MAY24	mg/L	0.001	<0.001	0	20	101	90	110	99	70	130
Manganese (dissolved)	EMS0200-MAY24	mg/L	0.00001	<0.00001	ND	20	103	90	110	107	70	130
Molybdenum (dissolved)	EMS0200-MAY24	mg/L	0.0004	<0.0004	ND	20	102	90	110	83	70	130
Sodium (dissolved)	EMS0200-MAY24	mg/L	0.01	<0.01	1	20	99	90	110	85	70	130
Nickel (dissolved)	EMS0200-MAY24	mg/L	0.0001	<0.0001	ND	20	102	90	110	103	70	130
Lead (dissolved)	EMS0200-MAY24	mg/L	0.00009	<0.00009	ND	20	101	90	110	99	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)	EMS0200-MAY24	mg/L	0.0009	<0.0009	ND	20	108	90	110	108	70	130
Selenium (dissolved)	EMS0200-MAY24	mg/L	0.00004	<0.00004	ND	20	99	90	110	101	70	130
Silicon (dissolved)	EMS0200-MAY24	mg/L	0.02	<0.02	ND	20	94	90	110	NV	70	130
Tin (dissolved)	EMS0200-MAY24	mg/L	0.00006	<0.00006	ND	20	97	90	110	NV	70	130
Titanium (dissolved)	EMS0200-MAY24	mg/L	0.0001	<0.0001	ND	20	103	90	110	NV	70	130
Thallium (dissolved)	EMS0200-MAY24	mg/L	0.000005	<0.000005	ND	20	96	90	110	75	70	130
Uranium (dissolved)	EMS0200-MAY24	mg/L	0.000002	<0.000002	ND	20	101	90	110	95	70	130
Vanadium (dissolved)	EMS0200-MAY24	mg/L	0.00001	<0.00001	ND	20	105	90	110	102	70	130
Zinc (dissolved)	EMS0200-MAY24	mg/L	0.002	<0.002	ND	20	103	90	110	105	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	SKA0202-MAY24	mg/L	0.002	<0.002	0	10	103	80	120	87	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)	SKA0206-MAY24	mg/L	0.03	<0.03	ND	10	101	90	110	98	75	125
Phosphorus (total)	SKA0216-MAY24	mg/L	0.03	<0.03	4	10	100	90	110	103	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 (N)	SKA0190-MAY24	mg/L	0.05	<0.05	1	10	101	90	110	108	75	125
Total Kjeldahl Nitrogen (N)	SKA0204-MAY24	mg/L	0.05	<0.05	ND	10	100	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): 05/17/2024 h

LAB LIMS #: CA 15176-may24

Received Time (After Hours Only): __:__

Temperature Upon Receipt (°C): 10x3

Billing & Reporting Information

Invoice/Receipt to {3}:

Company:	Pinchin
Attention:	Greg Way
Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4
Email:	gway@pinchin.com

Project Name/Number: 236957.006-Township of Bonfield

P.O. #:

Quote #: 2021 183

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:		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		GW Package					
MW1	05/16/24	12:00	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	↓	3:00	4	Y		X					

Sampled By {1}:	(Name) Katie Binaldi	(Signature)		Date:	05/16/24	(mm/dd/yy)
Relinquished by {2}:	(Name) Katie Binaldi	(Signature)		Date:	05/16/24	(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.

FINAL REPORT

CA15171-MAY24 R

236957.006, Township of Bonfield SW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15171-MAY24 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560 cell: 705-618-0186.	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Greg Way	Telephone	705-652-2000
Telephone	705-521-0560 cell: 705-618-0186	Facsimile	705-652-6365
Facsimile		Email	Maarit.Wolfe@sgs.com
Email	gway@Pinchin.com	SGS Reference	CA15171-MAY24
Project	236957.006, Township of Bonfield SW	Received	05/17/2024
Order Number		Approved	05/29/2024
Samples	Surface Water (4)	Report Number	CA15171-MAY24 R
		Date Reported	05/29/2024

COMMENTS

Temperature of Sample upon Receipt: 10 degrees C

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15171-MAY24 R

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Rintldi

MATRIX: WATER

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			16/05/2024	16/05/2024	16/05/2024	16/05/2024
Parameter	**Units**	**RL**	**Result**	**Result**	**Result**	**Result**
General Chemistry						
Alkalinity	mg/L as CaCO3	2	32	6	28	20
Conductivity	uS/cm	2	106	52	90	73
Ammonia+Ammonium (N)	as N mg/L	0.04	0.04	< 0.04	< 0.04	< 0.04
Metals and Inorganics						
Hardness	mg/L as CaCO3	0.05	33.9	12.6	30.8	12.6
Silver (total)	mg/L	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (0.2µm)	mg/L	0.001	0.030	0.101	0.037	0.103
Arsenic (total)	mg/L	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Barium (total)	mg/L	0.00008	0.0205	0.0162	0.0182	0.0269
Beryllium (total)	mg/L	0.000007	0.000008	0.000021	0.000016	0.000018
Boron (total)	mg/L	0.002	0.025	0.003	0.021	0.003
Bismuth (total)	mg/L	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (total)	mg/L	0.01	9.52	3.28	8.58	3.24
Cadmium (total)	mg/L	0.000003	0.000009	0.000009	0.000021	0.000013
Cobalt (total)	mg/L	0.000004	0.000230	0.000616	0.000247	0.000670
Chromium (total)	mg/L	0.00008	0.00038	0.00083	0.00045	0.00104
Copper (total)	mg/L	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Iron (total)	mg/L	0.007	1.13	2.86	1.12	3.55
Potassium (total)	mg/L	0.009	1.62	0.458	1.47	0.501
Lithium (total)	mg/L	0.0001	0.0006	0.0007	0.0006	0.0008
Magnesium (total)	mg/L	0.001	2.46	1.07	2.27	1.11
Manganese (total)	mg/L	0.00001	0.150	0.0828	0.129	0.0860

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Rintldi

MATRIX: WATER

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			16/05/2024	16/05/2024	16/05/2024	16/05/2024
Parameter	**Units**	**RL**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)						
Molybdenum (total)	mg/L	0.0004	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (total)	mg/L	0.01	5.30	3.66	4.60	3.61
Nickel (total)	mg/L	0.0001	0.0006	0.0008	0.0005	0.0011
Phosphorus (total)	mg/L	0.003	0.020	0.024	0.025	0.038
Lead (total)	mg/L	0.00009	0.00011	0.00009	0.00021	0.00017
Selenium (total)	mg/L	0.00004	0.00005	0.00005	0.00007	0.00004
Silicon (total)	mg/L	0.02	1.98	1.33	2.22	1.41
Tin (total)	mg/L	0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Titanium (total)	mg/L	0.0001	0.0015	0.0052	0.0044	0.0111
Thallium (total)	mg/L	0.000005	0.000005	< 0.000005	0.000008	< 0.000005
Uranium (total)	mg/L	0.000002	0.000024	0.000011	0.000034	0.000018
Vanadium (total)	mg/L	0.00001	0.00017	0.00041	0.00027	0.00074
Zinc (total)	mg/L	0.002	0.003	0.004	0.004	0.006

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Rintldi

MATRIX: WATER

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				16/05/2024	16/05/2024	16/05/2024	16/05/2024
Parameter	**Units**	**RL**		**Result**	**Result**	**Result**	**Result**
Other (ORP)							
pH	No unit	0.05		6.68	5.76	6.82	5.69
Chloride	mg/L	1		11	12	10	12
Phenols							
4AAP-Phenolics	mg/L	0.001		0.002	0.003	0.004	0.003

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	EWL0561-MAY24	mg/L as CaCO3	2	< 2	0	20	104	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)	SKA0192-MAY24	mg/L	0.04	<0.04	ND	10	100	90	110	88	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	DIO8069-MAY24	mg/L	1	<1	1	20	101	80	120	82	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	EWL0561-MAY24	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)	EMS0247-MAY24	mg/L	0.00005	<0.00005	ND	20	95	90	110	83	70	130
Aluminum (0.2µm)	EMS0247-MAY24	mg/L	0.001	<0.001	1	20	99	90	110	101	70	130
Arsenic (total)	EMS0247-MAY24	mg/L	0.0002	<0.0002	7	20	102	90	110	108	70	130
Barium (total)	EMS0247-MAY24	mg/L	0.00008	<0.00008	7	20	94	90	110	103	70	130
Beryllium (total)	EMS0247-MAY24	mg/L	0.000007	<0.000007	ND	20	96	90	110	94	70	130
Boron (total)	EMS0247-MAY24	mg/L	0.002	<0.002	0	20	98	90	110	98	70	130
Bismuth (total)	EMS0247-MAY24	mg/L	0.00001	<0.00001	ND	20	98	90	110	100	70	130
Calcium (total)	EMS0247-MAY24	mg/L	0.01	<0.01	0	20	96	90	110	97	70	130
Cadmium (total)	EMS0247-MAY24	mg/L	0.000003	<0.000003	2	20	99	90	110	101	70	130
Cobalt (total)	EMS0247-MAY24	mg/L	0.000004	<0.000004	1	20	95	90	110	97	70	130
Chromium (total)	EMS0247-MAY24	mg/L	0.00008	<0.00008	8	20	104	90	110	116	70	130
Copper (total)	EMS0247-MAY24	mg/L	0.001	<0.001	2	20	102	90	110	107	70	130
Iron (total)	EMS0247-MAY24	mg/L	0.007	<0.007	1	20	98	90	110	75	70	130
Potassium (total)	EMS0247-MAY24	mg/L	0.009	<0.009	1	20	95	90	110	85	70	130
Lithium (total)	EMS0247-MAY24	mg/L	0.0001	<0.0001	1	20	96	90	110	86	70	130
Magnesium (total)	EMS0247-MAY24	mg/L	0.001	<0.001	0	20	99	90	110	112	70	130
Manganese (total)	EMS0247-MAY24	mg/L	0.00001	<0.00001	0	20	103	90	110	109	70	130
Molybdenum (total)	EMS0247-MAY24	mg/L	0.0004	<0.0004	3	20	97	90	110	99	70	130
Sodium (total)	EMS0247-MAY24	mg/L	0.01	<0.01	1	20	95	90	110	93	70	130
Nickel (total)	EMS0247-MAY24	mg/L	0.0001	<0.0001	0	20	102	90	110	102	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)	EMS0247-MAY24	mg/L	0.00009	<0.00009	ND	20	96	90	110	98	70	130
Phosphorus (total)	EMS0247-MAY24	mg/L	0.003	<0.003	6	20	95	90	110	NV	70	130
Selenium (total)	EMS0247-MAY24	mg/L	0.00004	<0.00004	ND	20	97	90	110	90	70	130
Silicon (total)	EMS0247-MAY24	mg/L	0.02	<0.02	3	20	95	90	110	NV	70	130
Tin (total)	EMS0247-MAY24	mg/L	0.00006	<0.00006	ND	20	98	90	110	NV	70	130
Titanium (total)	EMS0247-MAY24	mg/L	0.0001	<0.0001	19	20	97	90	110	NV	70	130
Thallium (total)	EMS0247-MAY24	mg/L	0.000005	<0.000005	ND	20	95	90	110	98	70	130
Uranium (total)	EMS0247-MAY24	mg/L	0.000002	<0.000002	1	20	101	90	110	119	70	130
Vanadium (total)	EMS0247-MAY24	mg/L	0.00001	<0.00001	12	20	101	90	110	108	70	130
Zinc (total)	EMS0247-MAY24	mg/L	0.002	<0.002	4	20	103	90	110	97	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	EWL0515-MAY24	No unit	0.05	NA	0		101			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	SKA0202-MAY24	mg/L	0.001	<0.001	0	10	103	80	120	87	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):	05/17/2024 km	LAB LIMS #:	MayCAIS171 - May24
Received Time (After Hours Only):	__:__	Temperature Upon Receipt (°C):	9, 10

Billing & Reporting Information

Invoice/Receipt to {3}:	
Company:	Pinchin
Attention:	Greg Way
Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4
Email:	gway@pinchin.com

Project Name/Number:	236957.006-Township of Bonfield	P.O. #:	

Quote #: 2021 183

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:		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	05/16/24	12:00	6	N		x					
SW-B	↓	↓	6	N		x					
SW-C	↓	↓	6	N		x					
SW Dup	↓	8:00	6	N		x					

Sampled By {1}:	(Name) Kellie Binaldi	(Signature)		Date: 05/16/24	(mm/dd/yy)
Relinquished by {2}:	(Name) Kellie Binaldi	(Signature)		Date: 05/16/24	(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

FINAL REPORT

CA15816-JUL24 R

236957.006, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15816-JUL24 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	236957.006, Township of Bonfield GW
Order Number	
Samples	Ground Water (9)

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	CA15816-JUL24
Received	07/25/2024
Approved	08/01/2024
Report Number	CA15816-JUL24 R
Date Reported	08/01/2024

COMMENTS

Temperature of Sample upon Receipt: 6 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15816-JUL24 R

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi

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	MW6	MW7S	MW7D
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024
						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 (N)	as N mg/L	0.05				0.63	0.74	< 0.05	3.68	3.22	0.15	3.58	< 0.05
Ammonia+Ammonium (N)	as N mg/L	0.04				0.08	0.44	< 0.04	3.70	2.93	0.04	2.92	< 0.04
Metals and Inorganics													
Phosphorus (total)	mg/L	0.03				0.66	3.87	1.93	< 0.03	0.14	0.28	0.18	0.04
Hardness (dissolved)	mg/L as CaCO3	0.05	100			350	141	55.1	218	252	32.0	310	63.7
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				0.020	0.008	0.007	0.002	0.038	0.006	0.011	0.003
Barium (dissolved)	mg/L	0.00008		1		0.198	0.0502	0.0190	0.122	0.0776	0.0190	0.224	0.0125
Beryllium (dissolved)	mg/L	0.000007				0.000023	0.000010	< 0.000007	0.000020	0.000137	0.000010	0.000021	0.000011
Boron (dissolved)	mg/L	0.002		5		1.26	0.106	0.050	0.300	0.373	0.014	1.84	0.166
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				113	50.6	14.7	59.4	80.9	7.18	104	19.1
Cadmium (dissolved)	mg/L	0.000003		0.005		0.000049	0.000013	0.000008	0.000268	0.000438	0.000026	0.000073	0.000008
Cobalt (dissolved)	mg/L	0.000004				0.000341	0.000885	0.000044	0.00321	0.00361	0.000672	0.00260	0.000045
Chromium (dissolved)	mg/L	0.00008		0.05		0.00047	0.00027	0.00033	0.00036	0.00051	0.00025	0.00096	0.00026
Copper (dissolved)	mg/L	0.001	1			0.006	0.001	0.001	0.004	0.002	0.001	0.004	0.001
Iron (dissolved)	mg/L	0.007	0.3			0.010	1.11	0.015	4.93	2.66	0.473	5.40	0.016
Potassium (dissolved)	mg/L	0.009				6.96	5.64	5.02	7.00	8.85	2.07	23.1	2.22
Lithium (dissolved)	mg/L	0.0001				< 0.0001	< 0.0001	0.0003	0.0041	0.0014	0.0009	< 0.0001	0.0007

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi

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	MW6	MW7S	MW7D
					Sample Matrix Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date 24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024
					Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics (continued)												
Magnesium (dissolved)	mg/L	0.001			16.4	3.68	4.49	16.9	12.0	3.41	12.6	3.91
Manganese (dissolved)	mg/L	0.00001	0.05		0.0688	0.744	0.00176	7.78	7.78	0.0724	2.30	0.103
Molybdenum (dissolved)	mg/L	0.0004			< 0.0004	< 0.0004	0.0012	0.0016	< 0.0004	< 0.0004	0.0010	< 0.0004
Sodium (dissolved)	mg/L	0.01	200	20	16.4	4.69	6.76	26.8	22.2	3.75	45.1	11.8
Nickel (dissolved)	mg/L	0.0001			0.0009	0.0007	0.0002	0.0041	0.0035	0.0012	0.0022	0.0002
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	0.00117	0.00016	0.00017	0.00017	0.00072	< 0.00004	0.00033	0.00008
Silicon (dissolved)	mg/L	0.02			1.45	2.85	2.27	9.03	7.84	9.17	6.59	5.13
Tin (dissolved)	mg/L	0.00006			< 0.00006	0.00008	< 0.00006	0.00011	0.00012	0.00006	0.00022	< 0.00006
Titanium (dissolved)	mg/L	0.0001			0.0003	0.0018	0.0008	0.0002	0.0003	0.0005	0.0004	0.0001
Thallium (dissolved)	mg/L	0.000005			0.000039	0.000014	< 0.000005	0.000060	0.000024	< 0.000005	0.000146	0.000015
Uranium (dissolved)	mg/L	0.000002		0.02	0.00215	0.000270	0.000177	0.00125	0.000184	0.000015	0.00197	0.000143
Vanadium (dissolved)	mg/L	0.00001			0.00011	0.00031	0.00014	0.00018	0.00042	0.00008	0.00074	0.00004
Zinc (dissolved)	mg/L	0.002	5		< 0.002	< 0.002	< 0.002	0.008	0.003	0.003	0.002	< 0.002

Client: Pinchin Ltd
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Project Manager: Greg Way
Samplers: Katie Binaldi

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	MW6	MW7S	MW7D
					Sample Matrix Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date 24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024
Other (ORP)												
Chloride	mg/L	1	250		31	26	3	48	46	2	26	26
Phenols												
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002	< 0.002	0.002	< 0.002	< 0.002	0.003	< 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	Sample Name GW DUP	Sample Matrix Ground Water	Sample Date 24/07/2024
Acid Rock Drainage								
pH Check <2	pH	0.05			1.00			
General Chemistry								
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05			4.17			
Ammonia+Ammonium (N)	as N mg/L	0.04			3.73			
Metals and Inorganics								
Phosphorus (total)	mg/L	0.03			< 0.03			
Hardness (dissolved)	mg/L as CaCO3	0.05	100		216			
Silver (dissolved)	mg/L	0.00005			< 0.00005			
Aluminum (dissolved)	mg/L	0.001			0.002			
Barium (dissolved)	mg/L	0.00008		1	0.119			
Beryllium (dissolved)	mg/L	0.000007			0.000018			
Boron (dissolved)	mg/L	0.002		5	0.321			

Client: Pinchin Ltd
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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
Sample Name	GW DUP
Sample Matrix	Ground Water
Sample Date	24/07/2024

Metals and Inorganics (continued)

Parameter	Units	RL	L1	L2	Result
Bismuth (dissolved)	mg/L	0.00001			< 0.00001
Calcium (dissolved)	mg/L	0.01			58.7
Cadmium (dissolved)	mg/L	0.000003		0.005	0.000262
Cobalt (dissolved)	mg/L	0.000004			0.00321
Chromium (dissolved)	mg/L	0.00008		0.05	0.00035
Copper (dissolved)	mg/L	0.001	1		0.003
Iron (dissolved)	mg/L	0.007	0.3		**4.87**
Potassium (dissolved)	mg/L	0.009			7.00
Lithium (dissolved)	mg/L	0.0001			0.0037
Magnesium (dissolved)	mg/L	0.001			17.0
Manganese (dissolved)	mg/L	0.00001	0.05		**7.66**
Molybdenum (dissolved)	mg/L	0.0004			0.0017
Sodium (dissolved)	mg/L	0.01	200	20	**27.0**
Nickel (dissolved)	mg/L	0.0001			0.0041
Lead (dissolved)	mg/L	0.00009		0.01	< 0.00009
Antimony (dissolved)	mg/L	0.0009		0.006	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05	0.00019
Silicon (dissolved)	mg/L	0.02			8.90
Tin (dissolved)	mg/L	0.00006			0.00008
Titanium (dissolved)	mg/L	0.0001			0.0003
Thallium (dissolved)	mg/L	0.000005			0.000056
Uranium (dissolved)	mg/L	0.000002		0.02	0.00127

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi

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
Sample Name	GW DUP
Sample Matrix	Ground Water
Sample Date	24/07/2024

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Vanadium (dissolved)	mg/L	0.00001			0.00020
Zinc (dissolved)	mg/L	0.002	5		0.007
Other (ORP)					
Chloride	mg/L	1	250		48
Phenols					
4AAP-Phenolics	mg/L	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	350	100	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.0688	0.05	
MW2					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	141	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.11	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.744	0.05	
MW3D					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	218	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.93	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	7.78	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	26.8		20
MW4					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	252	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	2.66	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	7.78	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	22.2		20
MW6					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	0.473	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.0724	0.05	
MW7S					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	310	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	5.40	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	2.30	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	45.1		20
MW7D					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.103	0.05	
GW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	216	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	4.87	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	7.66	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	27.0		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)	SKA0238-JUL24	mg/L	0.04	<0.04	ND	10	100	90	110	96	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	DIO8067-JUL24	mg/L	1	<1	3	20	96	80	120	101	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)	EMS0248-JUL24	mg/L	0.00005	<0.00005	ND	20	98	90	110	86	70	130
Aluminum (dissolved)	EMS0248-JUL24	mg/L	0.001	<0.001	6	20	95	90	110	112	70	130
Barium (dissolved)	EMS0248-JUL24	mg/L	0.00008	<0.00008	4	20	99	90	110	92	70	130
Beryllium (dissolved)	EMS0248-JUL24	mg/L	0.000007	<0.000007	13	20	98	90	110	94	70	130
Boron (dissolved)	EMS0248-JUL24	mg/L	0.002	<0.002	2	20	101	90	110	96	70	130
Bismuth (dissolved)	EMS0248-JUL24	mg/L	0.00001	<0.00001	9	20	98	90	110	92	70	130
Calcium (dissolved)	EMS0248-JUL24	mg/L	0.01	<0.01	1	20	99	90	110	99	70	130
Cadmium (dissolved)	EMS0248-JUL24	mg/L	0.000003	<0.000003	7	20	102	90	110	106	70	130
Cobalt (dissolved)	EMS0248-JUL24	mg/L	0.000004	<0.000004	2	20	98	90	110	98	70	130
Chromium (dissolved)	EMS0248-JUL24	mg/L	0.00008	<0.00008	20	20	99	90	110	110	70	130
Copper (dissolved)	EMS0248-JUL24	mg/L	0.001	<0.001	1	20	99	90	110	93	70	130
Iron (dissolved)	EMS0248-JUL24	mg/L	0.007	<0.007	10	20	103	90	110	100	70	130
Potassium (dissolved)	EMS0248-JUL24	mg/L	0.009	<0.009	1	20	100	90	110	92	70	130
Lithium (dissolved)	EMS0248-JUL24	mg/L	0.0001	<0.0001	3	20	90	90	110	89	70	130
Magnesium (dissolved)	EMS0248-JUL24	mg/L	0.001	<0.001	1	20	104	90	110	84	70	130
Manganese (dissolved)	EMS0248-JUL24	mg/L	0.00001	<0.00001	4	20	96	90	110	78	70	130
Molybdenum (dissolved)	EMS0248-JUL24	mg/L	0.0004	<0.0004	0	20	100	90	110	106	70	130
Sodium (dissolved)	EMS0248-JUL24	mg/L	0.01	<0.01	3	20	95	90	110	100	70	130
Nickel (dissolved)	EMS0248-JUL24	mg/L	0.0001	<0.0001	3	20	102	90	110	100	70	130
Lead (dissolved)	EMS0248-JUL24	mg/L	0.00009	<0.00009	2	20	108	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)	EMS0248-JUL24	mg/L	0.0009	<0.0009	ND	20	97	90	110	102	70	130
Selenium (dissolved)	EMS0248-JUL24	mg/L	0.00004	<0.00004	2	20	101	90	110	95	70	130
Silicon (dissolved)	EMS0248-JUL24	mg/L	0.02	<0.02	2	20	97	90	110	NV	70	130
Tin (dissolved)	EMS0248-JUL24	mg/L	0.00006	<0.00006	6	20	97	90	110	NV	70	130
Titanium (dissolved)	EMS0248-JUL24	mg/L	0.0001	<0.0001	11	20	100	90	110	NV	70	130
Thallium (dissolved)	EMS0248-JUL24	mg/L	0.000005	<0.000005	12	20	103	90	110	92	70	130
Uranium (dissolved)	EMS0248-JUL24	mg/L	0.000002	<0.000002	1	20	102	90	110	95	70	130
Vanadium (dissolved)	EMS0248-JUL24	mg/L	0.00001	<0.00001	2	20	98	90	110	104	70	130
Zinc (dissolved)	EMS0248-JUL24	mg/L	0.002	<0.002	2	20	101	90	110	92	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	SKA0240-JUL24	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)	SKA0255-JUL24	mg/L	0.03	<0.03	2	10	96	90	110	98	75	125
Phosphorus (total)	SKA0273-JUL24	mg/L	0.03	<0.03	2	10	94	90	110	97	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 (N)	SKA0244-JUL24	mg/L	0.05	<0.05	ND	10	96	90	110	97	75	125
Total Kjeldahl Nitrogen (N)	SKA0253-JUL24	mg/L	0.05	<0.05	ND	10	103	90	110	97	75	125
Total Kjeldahl Nitrogen (N)	SKA0262-JUL24	mg/L	0.05	<0.05	ND	10	99	90	110	99	75	125
Total Kjeldahl Nitrogen (N)	SKA0269-JUL24	mg/L	0.05	<0.05	ND	10	97	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 --

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): 7/25/24	LAB LIMS #: CA15816-JUL24
Received Time (After Hours Only): __:__	Temperature Upon Receipt (°C): 6x3

Billing & Reporting Information

Invoice/Receipt to {3}:	
Company:	Pinchin
Attention:	Greg Way
Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4
Email:	gway@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:	236957.006-Township of Bonfield GW	P.O. #:	

Client Information/Report To:

			Client Lab #:
Company Name:	Pinchin Ltd.	Phone Number:	705-521-0560
Contact Name:	Greg Way	Fax Number:	
Address:	662 Falconbridge Rd, Unit 3	E-mail:	
Copy to:	gway@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		GW Package					
MW1	07/24/24	9:30AM	4	Y		X					
MW2	↓	↓	4	Y		X					
MW3S			4	Y		X					
MW3D		↓	4	Y		X					
MW4	↓	1:00PM	4	Y		X					
~~MW5~~						X					
MW6	07/24/24	9:30AM	4	Y		X					
MW7S	↓	↓	4	Y		X					
MW7D		↓	4	Y		X					
GW Dup	↓	1:00PM	4	Y		X					

Sampled By {1}:	(Name) Katie Rinaldi	(Signature) KRinaldi	Date:	07/24/24	(mm/dd/yy)
Relinquished by {2}:	(Name) Katie Rinaldi	(Signature) KRinaldi	Date:	07/24/24	(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.

3348014260977
105 JRTN

FINAL REPORT

CA15817-JUL24 R

236957.006, Township of Bonfield SW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15817-JUL24 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 cell: 705-618-0186.	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Greg Way	Telephone	705-652-2143
Telephone	705-521-0560 cell: 705-618-0186	Facsimile	705-652-6365
Facsimile		Email	brad.moore@sgs.com
Email	gway@Pinchin.com	SGS Reference	CA15817-JUL24
Project	236957.006, Township of Bonfield SW	Received	07/25/2024
Order Number		Approved	08/01/2024
Samples	Surface Water (4)	Report Number	CA15817-JUL24 R
		Date Reported	08/01/2024

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Binaldi

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				24/07/2024	24/07/2024	24/07/2024	24/07/2024
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
General Chemistry							
Alkalinity	mg/L as CaCO3	2		36	4	33	5
Conductivity	uS/cm	2		95	39	79	43
Ammonia+Ammonium (N)	as N mg/L	0.04		0.06	0.04	0.10	0.08
Metals and Inorganics							
Hardness	mg/L as CaCO3	0.05		41.5	15.0	36.0	14.9
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	0.020	0.139	0.075	0.140
Arsenic (total)	mg/L	0.0002	0.005	0.0005	0.0004	0.0006	0.0003
Barium (total)	mg/L	0.00008		0.0407	0.0233	0.0381	0.0239
Beryllium (total)	mg/L	0.000007	0.011	0.000014	0.000039	0.000033	0.000039
Boron (total)	mg/L	0.002	0.2	0.026	0.007	0.019	0.006
Bismuth (total)	mg/L	0.00001		< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (total)	mg/L	0.01		12.0	4.23	10.5	4.21
Cadmium (total)	mg/L	0.000003	0.0001	0.000008	0.000007	0.000039	0.000010
Cobalt (total)	mg/L	0.000004	0.0009	0.00103	0.000664	0.00119	0.000660
Chromium (total)	mg/L	0.00008	0.1	0.00065	0.00120	0.00069	0.00116
Copper (total)	mg/L	0.001	0.001 0.005	< 0.001	< 0.001	< 0.001	0.001
Iron (total)	mg/L	0.007	0.3	7.54	3.26	6.91	3.56
Potassium (total)	mg/L	0.009		0.875	0.651	0.834	0.651
Lithium (total)	mg/L	0.0001		0.0007	0.0014	0.0007	0.0014

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Binaldi

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				24/07/2024	24/07/2024	24/07/2024	24/07/2024
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Magnesium (total)	mg/L	0.001		2.82	1.07	2.38	1.06
Manganese (total)	mg/L	0.00001		0.984	0.0779	0.902	0.0778
Molybdenum (total)	mg/L	0.0004	0.04	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (total)	mg/L	0.01		3.96	2.33	3.30	2.26
Nickel (total)	mg/L	0.0001	0.025	0.0007	0.0010	0.0011	0.0010
Phosphorus (total)	mg/L	0.003	0.01	0.033	0.033	0.045	0.038
Lead (total)	mg/L	0.00009	0.005 0.01	0.00021	0.00025	0.00083	0.00027
Selenium (total)	mg/L	0.00004	0.1	0.00007	0.00006	0.00009	0.00007
Silicon (total)	mg/L	0.02		4.67	2.57	4.68	2.56
Tin (total)	mg/L	0.00006		0.00007	0.00007	< 0.00006	< 0.00006
Titanium (total)	mg/L	0.0001		0.0023	0.0172	0.0094	0.0182
Thallium (total)	mg/L	0.000005	0.0003	< 0.000005	0.000007	0.000007	0.000006
Uranium (total)	mg/L	0.000002	0.005	0.000032	0.000023	0.000058	0.000026
Vanadium (total)	mg/L	0.00001	0.006	0.00024	0.00077	0.00065	0.00084
Zinc (total)	mg/L	0.002	0.02	0.003	0.007	0.006	0.007

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: Katie Binaldi

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	24/07/2024	24/07/2024	24/07/2024	24/07/2024
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Other (ORP)							
pH	No unit	0.05	0.1 8.6	7.22	6.15	7.41	6.25
Chloride	mg/L	1		9	10	7	9
Phenols							
4AAP-Phenolics	mg/L	0.001	0.001	0.002	0.002	0.001	0.003

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
SW-A				
Cobalt	SM 3030/EPA 200.8	mg/L	0.00103	0.0009
Iron	SM 3030/EPA 200.8	mg/L	7.54	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.033	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001
SW-B				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.139	0.015
Iron	SM 3030/EPA 200.8	mg/L	3.26	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.033	0.01
pH	SM 4500	No unit	6.15	0.1
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001
SW-C				
Cobalt	SM 3030/EPA 200.8	mg/L	0.00119	0.0009
Iron	SM 3030/EPA 200.8	mg/L	6.91	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.045	0.01
SW DUP				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.140	0.015
Iron	SM 3030/EPA 200.8	mg/L	3.56	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.038	0.01
pH	SM 4500	No unit	6.25	0.1
4AAP-Phenolics	SM 5530B-D	mg/L	0.003	0.001

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	EWL0569-JUL24	mg/L as CaCO3	2	< 2	0	20	106	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)	SKA0238-JUL24	mg/L	0.04	<0.04	ND	10	100	90	110	96	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	DIO8067-JUL24	mg/L	1	<1	3	20	96	80	120	101	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	EWL0569-JUL24	uS/cm	2	2	0	20	101	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)	EMS0231-JUL24	mg/L	0.00005	<0.00005	ND	20	97	90	110	75	70	130
Aluminum (0.2µm)	EMS0231-JUL24	mg/L	0.001	<0.001	4	20	101	90	110	106	70	130
Arsenic (total)	EMS0231-JUL24	mg/L	0.0002	<0.0002	11	20	99	90	110	105	70	130
Barium (total)	EMS0231-JUL24	mg/L	0.00008	<0.00008	3	20	99	90	110	119	70	130
Beryllium (total)	EMS0231-JUL24	mg/L	0.000007	<0.000007	11	20	100	90	110	97	70	130
Boron (total)	EMS0231-JUL24	mg/L	0.002	<0.002	2	20	104	90	110	96	70	130
Bismuth (total)	EMS0231-JUL24	mg/L	0.00001	<0.00001	ND	20	95	90	110	86	70	130
Calcium (total)	EMS0231-JUL24	mg/L	0.01	<0.01	1	20	102	90	110	104	70	130
Cadmium (total)	EMS0231-JUL24	mg/L	0.000003	<0.000003	ND	20	97	90	110	100	70	130
Cobalt (total)	EMS0231-JUL24	mg/L	0.000004	<0.000004	5	20	99	90	110	95	70	130
Chromium (total)	EMS0231-JUL24	mg/L	0.00008	<0.00008	4	20	98	90	110	99	70	130
Copper (total)	EMS0231-JUL24	mg/L	0.001	<0.001	0	20	99	90	110	94	70	130
Iron (total)	EMS0231-JUL24	mg/L	0.007	<0.007	ND	20	103	90	110	100	70	130
Potassium (total)	EMS0231-JUL24	mg/L	0.009	<0.009	3	20	102	90	110	90	70	130
Lithium (total)	EMS0231-JUL24	mg/L	0.0001	<0.0001	2	20	103	90	110	97	70	130
Magnesium (total)	EMS0231-JUL24	mg/L	0.001	<0.001	7	20	101	90	110	94	70	130
Manganese (total)	EMS0231-JUL24	mg/L	0.00001	<0.00001	4	20	102	90	110	99	70	130
Molybdenum (total)	EMS0231-JUL24	mg/L	0.0004	<0.0004	ND	20	101	90	110	104	70	130
Sodium (total)	EMS0231-JUL24	mg/L	0.01	<0.01	6	20	101	90	110	100	70	130
Nickel (total)	EMS0231-JUL24	mg/L	0.0001	<0.0001	ND	20	98	90	110	99	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)	EMS0231-JUL24	mg/L	0.00009	<0.00009	4	20	97	90	110	96	70	130
Phosphorus (total)	EMS0231-JUL24	mg/L	0.003	<0.003	ND	20	100	90	110	NV	70	130
Selenium (total)	EMS0231-JUL24	mg/L	0.00004	<0.00004	ND	20	100	90	110	97	70	130
Silicon (total)	EMS0231-JUL24	mg/L	0.02	<0.02	7	20	94	90	110	NV	70	130
Tin (total)	EMS0231-JUL24	mg/L	0.00006	<0.00006	ND	20	101	90	110	NV	70	130
Titanium (total)	EMS0231-JUL24	mg/L	0.0001	<0.0001	15	20	101	90	110	NV	70	130
Thallium (total)	EMS0231-JUL24	mg/L	0.000005	<0.000005	ND	20	95	90	110	86	70	130
Uranium (total)	EMS0231-JUL24	mg/L	0.000002	<0.000002	5	20	99	90	110	101	70	130
Vanadium (total)	EMS0231-JUL24	mg/L	0.00001	<0.00001	5	20	100	90	110	101	70	130
Zinc (total)	EMS0231-JUL24	mg/L	0.002	<0.002	18	20	97	90	110	100	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	EWL0569-JUL24	No unit	0.05	NA	0		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	SKA0240-JUL24	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):	7/25/24	LAB LIMS #:	CA 15817 - July 24
Received Time (After Hours Only):	__:__	Temperature Upon Receipt (°C):	7x3

Billing & Reporting Information

Invoice/Receipt to {3}:		
	Company:	Pinchin
	Attention:	Greg Way
	Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4
	Email:	gway@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:	236957.006-Township of Bonfield SW	P.O. #:	

Client Information/Report To:

Company Name:	Pinchin Ltd.	Phone Number:	705-521-0560
Contact Name:	Greg Way	Fax Number:	
Address:	662 Falconbridge Rd, Unit 3	E-mail:	
Copy to:	gway@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		SW Package					
SW-A	07/24/24	9:30AM	6	N		x					
SW-B	↓	↓	6	N		x					
SW-C			6	N		x					
SW Dup		1:00PM	6	N		x					

Sampled By {1}:	(Name) Katie Rinaldi	(Signature) [signature]	Date: 07/24/24	(mm/dd/yy)
Relinquished by {2}:	(Name) Katie Rinaldi	(Signature) [signature]	Date: 07/24/24	(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.

3348014726399

10 J KTN

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

FINAL REPORT

CA15803-JUL24 R1

236957.006, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

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	236957.006, Township of Bonfield GW
Order Number	
Samples	Ground Water (3)

LABORATORY DETAILS

Project Specialist	Maarit Wolfe, Hon.B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2000
Facsimile	705-652-6365
Email	Maarit.Wolfe@sgs.com
SGS Reference	CA15803-JUL24
Received	07/24/2024
Approved	07/31/2024
Report Number	CA15803-JUL24 R1
Date Reported	01/07/2025

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

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FINAL REPORT

CA15803-JUL24 R1

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Katie Binaldi

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
					Sample Name	1GDR	6GDR	RW DUP
					Sample Matrix	Ground Water	Ground Water	Ground Water
					Sample Date	23/07/2024	23/07/2024	23/07/2024
						Result	Result	Result
Acid Rock Drainage								
pH Check <2	pH	0.05				1.00	1.00	1.00
General Chemistry								
Total Kjeldahl Nitrogen (N)	as N mg/L	0.05				0.87	0.13	0.92
Ammonia+Ammonium (N)	as N mg/L	0.04				< 0.04	< 0.04	< 0.04
Metals and Inorganics								
Phosphorus (total)	mg/L	0.03				< 0.03	< 0.03	< 0.03
Hardness (dissolved)	mg/L as CaCO3	0.05	100			103	30.6	102
Silver (dissolved)	mg/L	0.00005				0.00014	< 0.00005	0.00009
Aluminum (dissolved)	mg/L	0.001				0.049	0.227	0.931
Barium (dissolved)	mg/L	0.00008		1		0.0423	0.0305	0.0408
Beryllium (dissolved)	mg/L	0.000007				< 0.000007	0.000097	< 0.000007
Boron (dissolved)	mg/L	0.002		5		0.036	0.010	0.036
Bismuth (dissolved)	mg/L	0.00001				< 0.00001	< 0.00001	0.00001
Calcium (dissolved)	mg/L	0.01				30.9	9.49	30.5
Cadmium (dissolved)	mg/L	0.000003		0.005		0.000115	0.000018	0.000106
Cobalt (dissolved)	mg/L	0.000004				0.000023	0.000417	0.000022
Chromium (dissolved)	mg/L	0.00008		0.05		0.00037	0.00041	0.00095
Copper (dissolved)	mg/L	0.001	1			0.088	0.010	0.066
Iron (dissolved)	mg/L	0.007	0.3			0.040	0.016	0.035
Potassium (dissolved)	mg/L	0.009				2.28	1.17	2.24
Lithium (dissolved)	mg/L	0.0001				0.0021	0.0005	0.0022

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
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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
				Sample Name	1GDR	6GDR	RW DUP
				Sample Matrix	Ground Water	Ground Water	Ground Water
				Sample Date	23/07/2024	23/07/2024	23/07/2024
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Magnesium (dissolved)	mg/L	0.001			6.23	1.66	6.22
Manganese (dissolved)	mg/L	0.00001	0.05		0.00076	0.0456	0.00062
Molybdenum (dissolved)	mg/L	0.0004			0.0023	< 0.0004	0.0023
Sodium (dissolved)	mg/L	0.01	200	20	8.88	1.48	9.08
Nickel (dissolved)	mg/L	0.0001			0.0003	0.0005	0.0003
Lead (dissolved)	mg/L	0.00009		0.01	0.0130	0.00062	0.0107
Antimony (dissolved)	mg/L	0.0009		0.006	< 0.0009	< 0.0009	< 0.0009
Selenium (dissolved)	mg/L	0.00004		0.05	< 0.00004	0.00010	0.00004
Silicon (dissolved)	mg/L	0.02			4.61	3.93	4.65
Tin (dissolved)	mg/L	0.00006			0.00085	< 0.00006	0.00050
Titanium (dissolved)	mg/L	0.0001			< 0.0001	0.0002	0.0002
Thallium (dissolved)	mg/L	0.000005			< 0.000005	0.000008	< 0.000005
Uranium (dissolved)	mg/L	0.000002		0.02	0.000851	0.000168	0.000913
Vanadium (dissolved)	mg/L	0.00001			0.00064	0.00004	0.00076
Zinc (dissolved)	mg/L	0.002	5		0.037	0.038	0.035

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
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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
Sample Name					1GDR	6GDR	RW DUP
Sample Matrix					Ground Water	Ground Water	Ground Water
Sample Date					23/07/2024	23/07/2024	23/07/2024
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**
Other (ORP)							
Chloride	mg/L	1	250		20	1	20
Phenols							
4AAP-Phenolics	mg/L	0.002			0.003	< 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
1GDR					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	103	100	
Lead (dissolved)	SM 3030/EPA 200.8	mg/L	0.0130		0.01
RW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	102	100	
Lead (dissolved)	SM 3030/EPA 200.8	mg/L	0.0107		0.01

QC SUMMARY

Ammonia by SFA

Method: SM 4500 | 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)	SKA0217-JUL24	mg/L	0.04	<0.04	0	10	104	90	110	102	75	125
Ammonia+Ammonium (N)	SKA0229-JUL24	mg/L	0.04	<0.04	2	10	99	90	110	95	75	125

Anions by discrete analyzer

Method: US EPA 325.2 | 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	DIO8058-JUL24	mg/L	1	<1	ND	20	94	80	120	98	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)	EMS0212-JUL24	mg/L	0.00005	<0.00005	ND	20	95	90	110	83	70	130
Aluminum (dissolved)	EMS0212-JUL24	mg/L	0.001	<0.001	ND	20	102	90	110	110	70	130
Barium (dissolved)	EMS0212-JUL24	mg/L	0.00008	<0.00008	ND	20	101	90	110	105	70	130
Beryllium (dissolved)	EMS0212-JUL24	mg/L	0.000007	<0.000007	ND	20	99	90	110	98	70	130
Boron (dissolved)	EMS0212-JUL24	mg/L	0.002	<0.002	4	20	98	90	110	95	70	130
Bismuth (dissolved)	EMS0212-JUL24	mg/L	0.00001	<0.00001	ND	20	95	90	110	94	70	130
Calcium (dissolved)	EMS0212-JUL24	mg/L	0.01	<0.01	13	20	100	90	110	104	70	130
Cadmium (dissolved)	EMS0212-JUL24	mg/L	0.000003	<0.000003	ND	20	97	90	110	96	70	130
Cobalt (dissolved)	EMS0212-JUL24	mg/L	0.000004	<0.000004	ND	20	94	90	110	94	70	130
Chromium (dissolved)	EMS0212-JUL24	mg/L	0.00008	<0.00008	ND	20	97	90	110	89	70	130
Copper (dissolved)	EMS0212-JUL24	mg/L	0.001	<0.001	ND	20	99	90	110	96	70	130
Iron (dissolved)	EMS0212-JUL24	mg/L	0.007	<0.007	ND	20	101	90	110	100	70	130
Potassium (dissolved)	EMS0212-JUL24	mg/L	0.009	<0.009	4	20	101	90	110	98	70	130
Lithium (dissolved)	EMS0212-JUL24	mg/L	0.0001	<0.0001	1	20	102	90	110	97	70	130
Magnesium (dissolved)	EMS0212-JUL24	mg/L	0.001	<0.001	9	20	99	90	110	96	70	130
Manganese (dissolved)	EMS0212-JUL24	mg/L	0.00001	<0.00001	ND	20	100	90	110	102	70	130
Molybdenum (dissolved)	EMS0212-JUL24	mg/L	0.0004	<0.0004	ND	20	100	90	110	97	70	130
Sodium (dissolved)	EMS0212-JUL24	mg/L	0.01	<0.01	3	20	96	90	110	81	70	130
Nickel (dissolved)	EMS0212-JUL24	mg/L	0.0001	<0.0001	ND	20	99	90	110	96	70	130
Lead (dissolved)	EMS0212-JUL24	mg/L	0.00009	<0.00009	ND	20	104	90	110	104	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)	EMS0212-JUL24	mg/L	0.0009	<0.0009	ND	20	107	90	110	116	70	130
Selenium (dissolved)	EMS0212-JUL24	mg/L	0.00004	<0.00004	ND	20	99	90	110	100	70	130
Silicon (dissolved)	EMS0212-JUL24	mg/L	0.02	<0.02	ND	20	101	90	110	NV	70	130
Tin (dissolved)	EMS0212-JUL24	mg/L	0.00006	<0.00006	ND	20	101	90	110	NV	70	130
Titanium (dissolved)	EMS0212-JUL24	mg/L	0.0001	<0.0001	ND	20	102	90	110	NV	70	130
Thallium (dissolved)	EMS0212-JUL24	mg/L	0.000005	<0.000005	ND	20	96	90	110	93	70	130
Uranium (dissolved)	EMS0212-JUL24	mg/L	0.000002	<0.000002	ND	20	95	90	110	93	70	130
Vanadium (dissolved)	EMS0212-JUL24	mg/L	0.00001	<0.00001	ND	20	101	90	110	104	70	130
Zinc (dissolved)	EMS0212-JUL24	mg/L	0.002	<0.002	ND	20	99	90	110	107	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	SKA0223-JUL24	mg/L	0.002	<0.002	ND	10	100	80	120	102	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)	SKA0219-JUL24	mg/L	0.03	<0.03	1	10	105	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 (N)	SKA0218-JUL24	mg/L	0.05	<0.05	0	10	100	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 --

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): JUL 24 2024 / ___ / ____

LAB LIMS #: ~~JUL~~ CA-15803-Jul 24

Received Time (After Hours Only): ___ : ___

Temperature Upon Receipt (°C): 8 | 7.7

Billing & Reporting Information

Invoice/Receipt to {3}:

Company:	Pinchin Ltd
Attention:	Greg Way
Address:	622 Falconbridge Road, Unit 3 Sudbury, ON P3A 4S4
Email:	gway@pinchin.com

Project Name/Number: 236957.006 | 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:	Greg Way	Fax Number:	
Address:	662 Falconbridge road, Unit 3	E-mail:	
Copy to:	gway@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)
1 GDR	07/23/24	5:00pm	4	
6 GDR	↓	↓	4	
RW DUP	↓	5:30pm	4	

Sampled By {1}: Katie Binaldi (Signature) [signature] Date: 07/23/24 (mm/dd/yy)

Relinquished by {2}: Katie Binaldi (Signature) [signature] Date: 07/23/24 (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.

This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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RN NP 10:15

Revision #: 2.3
Date of Issue: 24 Jun 2014

FINAL REPORT

CA15515-OCT24 R

236957.006, Township of Bonfield GW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15515-OCT24 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 cell: 705-618-0186.	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Greg Way	Telephone	705-652-2143
Telephone	705-521-0560 cell: 705-618-0186	Facsimile	705-652-6365
Facsimile		Email	brad.moore@sgs.com
Email	gway@Pinchin.com	SGS Reference	CA15515-OCT24
Project	236957.006, Township of Bonfield GW	Received	10/02/2024
Order Number		Approved	10/09/2024
Samples	Ground Water (10)	Report Number	CA15515-OCT24 R
		Date Reported	10/09/2024

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15515-OCT24 R

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Olivia King & Katie Rinaldi

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	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024
						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				0.8	0.8	< 0.5	1.6	6.5	< 0.5	< 0.5	1.5
Ammonia+Ammonium (N)	as N mg/L	0.1				< 0.1	0.6	< 0.1	1.4	6.2	< 0.1	< 0.1	0.3
Metals and Inorganics													
Phosphorus (total)	mg/L	0.03				0.34	1.43	0.54	< 0.03	0.03	0.63	0.16	0.59
Hardness (dissolved)	mg/L as CaCO3	0.05	100			566	146	56.4	120	270	50.3	37.8	409
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				0.031	0.007	0.004	0.001	0.010	0.004	0.003	0.006
Barium (dissolved)	mg/L	0.00008		1		0.379	0.0606	0.0212	0.0680	0.159	0.0308	0.0208	0.262
Beryllium (dissolved)	mg/L	0.000007				0.000029	0.000013	< 0.000007	0.000012	0.000069	0.000010	0.000008	0.000011
Boron (dissolved)	mg/L	0.002		5		2.67	0.102	0.079	0.131	0.483	0.037	0.031	2.07
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				186	51.8	14.9	32.3	82.3	13.8	8.51	138
Cadmium (dissolved)	mg/L	0.000003		0.005		0.000096	0.000021	0.000008	0.000133	0.000242	0.000033	0.000022	0.000088
Cobalt (dissolved)	mg/L	0.000004				0.000493	0.00108	0.000037	0.000948	0.00286	0.000886	0.000521	0.00146
Chromium (dissolved)	mg/L	0.00008		0.05		0.00059	0.00027	0.00027	0.00018	0.00059	0.00021	0.00027	0.00076
Copper (dissolved)	mg/L	0.001	1			0.008	< 0.001	0.002	0.002	0.002	0.001	0.002	0.009
Iron (dissolved)	mg/L	0.007	0.3			0.023	3.39	0.013	1.44	12.7	1.95	0.266	0.081
Potassium (dissolved)	mg/L	0.009				9.59	5.66	5.41	3.92	13.5	2.55	2.23	27.3
Lithium (dissolved)	mg/L	0.0001				0.0001	0.0002	0.0003	0.0027	0.0033	0.0004	0.0011	0.0001

Client: Pinchin Ltd
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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	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024
						Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics (continued)													
Magnesium (dissolved)	mg/L	0.001				24.7	4.07	4.68	9.67	15.6	3.84	4.01	15.7
Manganese (dissolved)	mg/L	0.00001	0.05			0.132	0.920	0.00115	2.94	16.8	0.427	0.0656	1.44
Molybdenum (dissolved)	mg/L	0.0004				0.0004	< 0.0004	0.0012	0.0011	< 0.0004	< 0.0004	< 0.0004	0.0012
Sodium (dissolved)	mg/L	0.01	200	20		35.0	5.88	7.81	14.9	31.5	4.52	3.78	45.2
Nickel (dissolved)	mg/L	0.0001				0.0015	0.0008	0.0002	0.0019	0.0029	0.0006	0.0017	0.0025
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		0.00055	0.00007	0.00012	< 0.00004	0.00014	0.00005	< 0.00004	0.00031
Silicon (dissolved)	mg/L	0.02				1.88	3.23	2.53	7.82	10.8	7.20	9.72	6.08
Tin (dissolved)	mg/L	0.00006				0.00007	< 0.00006	0.00034	< 0.00006	0.00015	< 0.00006	< 0.00006	0.00015
Titanium (dissolved)	mg/L	0.0001				0.0004	0.0005	0.0002	< 0.0001	< 0.0001	< 0.0001	0.0002	0.0001
Thallium (dissolved)	mg/L	0.000005				0.000058	0.000015	0.000006	0.000036	0.000011	0.000008	< 0.000005	0.000088
Uranium (dissolved)	mg/L	0.000002		0.02		0.00433	0.000358	0.000202	0.000363	0.000331	0.000067	0.000020	0.00311
Vanadium (dissolved)	mg/L	0.00001				0.00012	0.00049	0.00012	0.00007	0.00069	0.00009	0.00005	0.00027
Zinc (dissolved)	mg/L	0.002	5			0.002	< 0.002	< 0.002	0.004	0.003	0.002	0.003	0.002

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Olivia King & Katie Rinaldi

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 01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Other (ORP)												
Chloride	mg/L	1	250		26	23	1	32	51	4	< 1	33
Phenols												
4AAP-Phenolics	mg/L	0.002			< 0.002	< 0.002	< 0.002	< 0.002	0.005	< 0.002	< 0.002	0.004

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 01/10/2024	01/10/2024
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	1.7
Ammonia+Ammonium (N)	as N mg/L	0.1			< 0.1	1.4
Metals and Inorganics						
Phosphorus (total)	mg/L	0.03			< 0.03	< 0.03
Hardness (dissolved)	mg/L as CaCO3	0.05	100		43.8	120
Silver (dissolved)	mg/L	0.00005			< 0.00005	< 0.00005
Aluminum (dissolved)	mg/L	0.001			< 0.001	0.001
Barium (dissolved)	mg/L	0.00008		1	0.00944	0.0669
Beryllium (dissolved)	mg/L	0.000007			0.000012	0.000018
Boron (dissolved)	mg/L	0.002		5	0.067	0.134

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Olivia King & Katie Rinaldi

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	01/10/2024	01/10/2024
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			12.4	32.3
Cadmium (dissolved)	mg/L	0.000003		0.005	0.000005	0.000114
Cobalt (dissolved)	mg/L	0.000004			0.000028	0.000951
Chromium (dissolved)	mg/L	0.00008		0.05	0.00027	0.00013
Copper (dissolved)	mg/L	0.001	1		< 0.001	0.003
Iron (dissolved)	mg/L	0.007	0.3		0.017	1.44
Potassium (dissolved)	mg/L	0.009			1.85	3.91
Lithium (dissolved)	mg/L	0.0001			0.0007	0.0024
Magnesium (dissolved)	mg/L	0.001			3.10	9.55
Manganese (dissolved)	mg/L	0.00001	0.05		0.0351	2.89
Molybdenum (dissolved)	mg/L	0.0004			< 0.0004	0.0011
Sodium (dissolved)	mg/L	0.01	200	20	10.4	15.3
Nickel (dissolved)	mg/L	0.0001			0.0001	0.0019
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			5.16	8.20
Tin (dissolved)	mg/L	0.00006			< 0.00006	< 0.00006
Titanium (dissolved)	mg/L	0.0001			< 0.0001	< 0.0001
Thallium (dissolved)	mg/L	0.000005			0.000011	0.000034
Uranium (dissolved)	mg/L	0.000002		0.02	0.000105	0.000384

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield GW
Project Manager: Greg Way
Samplers: Olivia King & Katie Rinaldi

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	01/10/2024	01/10/2024
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Metals and Inorganics (continued)						
Vanadium (dissolved)	mg/L	0.00001			0.00002	0.00007
Zinc (dissolved)	mg/L	0.002	5		< 0.002	0.005
Other (ORP)						
Chloride	mg/L	1	250		24	32
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	566	100	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.132	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	35.0		20
MW2					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	146	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	3.39	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.920	0.05	
MW3D					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	120	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.44	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	2.94	0.05	
MW4					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	270	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	12.7	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	16.8	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	31.5		20
MW5					
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.95	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.427	0.05	
MW6					
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	0.0656	0.05	
MW7S					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	409	100	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	1.44	0.05	
Sodium (dissolved)	SM 3030/EPA 200.8	mg/L	45.2		20
GW DUP					
Hardness (dissolved)	SM 3030/EPA 200.7	mg/L as CaCO3	120	100	
Iron (dissolved)	SM 3030/EPA 200.8	mg/L	1.44	0.3	
Manganese (dissolved)	SM 3030/EPA 200.8	mg/L	2.89	0.05	

QC SUMMARY

Ammonia by SFA

Method: SM 4500 | 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)	SKA0025-OCT24	as N mg/L	0.1	<0.1	ND	10	96	90	110	101	75	125
Ammonia+Ammonium (N)	SKA0041-OCT24	as N mg/L	0.1	<0.1	ND	10	100	90	110	99	75	125

Anions by discrete analyzer

Method: US EPA 325.2 | 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	DIO8019-OCT24	mg/L	1	<1	0	20	94	80	120	79	75	125
Chloride	DIO8020-OCT24	mg/L	1	<1	1	20	95	80	120	89	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)	EMS0033-OCT24	mg/L	0.00005	<0.00005	ND	20	94	90	110	109	70	130
Aluminum (dissolved)	EMS0033-OCT24	mg/L	0.001	<0.001	ND	20	99	90	110	95	70	130
Barium (dissolved)	EMS0033-OCT24	mg/L	0.00008	<0.00008	2	20	106	90	110	94	70	130
Beryllium (dissolved)	EMS0033-OCT24	mg/L	0.000007	<0.000007	ND	20	100	90	110	95	70	130
Boron (dissolved)	EMS0033-OCT24	mg/L	0.002	<0.002	ND	20	100	90	110	97	70	130
Bismuth (dissolved)	EMS0033-OCT24	mg/L	0.00001	<0.00001	ND	20	99	90	110	70	70	130
Calcium (dissolved)	EMS0033-OCT24	mg/L	0.01	<0.01	3	20	100	90	110	95	70	130
Cadmium (dissolved)	EMS0033-OCT24	mg/L	0.000003	<0.000003	ND	20	96	90	110	95	70	130
Cobalt (dissolved)	EMS0033-OCT24	mg/L	0.000004	<0.000004	ND	20	92	90	110	87	70	130
Chromium (dissolved)	EMS0033-OCT24	mg/L	0.00008	<0.00008	ND	20	100	90	110	86	70	130
Copper (dissolved)	EMS0033-OCT24	mg/L	0.001	<0.001	ND	20	100	90	110	91	70	130
Iron (dissolved)	EMS0033-OCT24	mg/L	0.007	<0.007	ND	20	101	90	110	100	70	130
Potassium (dissolved)	EMS0033-OCT24	mg/L	0.009	<0.009	3	20	98	90	110	80	70	130
Lithium (dissolved)	EMS0033-OCT24	mg/L	0.0001	<0.0001	3	20	107	90	110	92	70	130
Magnesium (dissolved)	EMS0033-OCT24	mg/L	0.001	<0.001	0	20	101	90	110	95	70	130
Manganese (dissolved)	EMS0033-OCT24	mg/L	0.00001	1e-005	ND	20	96	90	110	91	70	130
Molybdenum (dissolved)	EMS0033-OCT24	mg/L	0.0004	<0.0004	ND	20	105	90	110	100	70	130
Sodium (dissolved)	EMS0033-OCT24	mg/L	0.01	<0.01	1	20	99	90	110	75	70	130
Nickel (dissolved)	EMS0033-OCT24	mg/L	0.0001	<0.0001	ND	20	101	90	110	93	70	130
Lead (dissolved)	EMS0033-OCT24	mg/L	0.00009	<0.00009	ND	20	98	90	110	91	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)	EMS0033-OCT24	mg/L	0.0009	<0.0009	ND	20	101	90	110	104	70	130
Selenium (dissolved)	EMS0033-OCT24	mg/L	0.00004	<0.00004	ND	20	97	90	110	97	70	130
Silicon (dissolved)	EMS0033-OCT24	mg/L	0.02	<0.02	ND	20	96	90	110	NV	70	130
Tin (dissolved)	EMS0033-OCT24	mg/L	0.00006	<0.00006	ND	20	100	90	110	NV	70	130
Titanium (dissolved)	EMS0033-OCT24	mg/L	0.0001	<0.0001	ND	20	97	90	110	NV	70	130
Thallium (dissolved)	EMS0033-OCT24	mg/L	0.000005	<0.000005	ND	20	98	90	110	91	70	130
Uranium (dissolved)	EMS0033-OCT24	mg/L	0.000002	<0.000002	ND	20	99	90	110	95	70	130
Vanadium (dissolved)	EMS0033-OCT24	mg/L	0.00001	<0.00001	ND	20	98	90	110	88	70	130
Zinc (dissolved)	EMS0033-OCT24	mg/L	0.002	<0.002	ND	20	99	90	110	104	70	130
Boron (dissolved)	EMS0060-OCT24	mg/L	0.002	<0.002	2	20	93	90	110	91	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	SKA0036-OCT24	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)	SKA0032-OCT24	mg/L	0.03	<0.03	2	10	100	90	110	91	75	125
Phosphorus (total)	SKA0040-OCT24	mg/L	0.03	<0.03	2	10	100	90	110	90	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	SKA0039-OCT24	as N mg/L	0.5	<0.5	ND	10	100	90	110	95	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):	10/02/24	LAB LIMS #:	CA 15515-OCT24
Received Time (After Hours Only):	__ : __	Temperature Upon Receipt (°C):	10.7.7.

Billing & Reporting Information

Invoice/Receipt to {3}:		
Company:	Pinchin	
Attention:	Greg Way	
Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4	
Email:	gway@pinchin.com	
Project Name/Number:	236957.006-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	Phone Number:	705-521-0560		
Contact Name:	Greg Way	Fax Number:			
Address:	662 Falconbridge Rd. Unit 3. Sudbury. ON	E-mail:	gway@pinchin.com		
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	10/01/24	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	↓	2:30	4	Y		X					

Sampled By {1}:	(Name) Olivia King & Katie Rinaldi	(Signature)		Date: 10/01/24	(mm/dd/yy)
Relinquished by {2}:	(Name) Olivia King	(Signature)		Date: 10/01/24	(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.

FINAL REPORT

CA15521-OCT24 R

236957.006, Township of Bonfield SW

Prepared for

Pinchin Ltd

FINAL REPORT

CA15521-OCT24 R

First Page

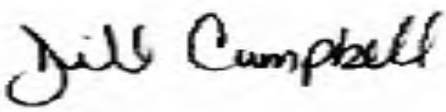
CLIENT DETAILS		LABORATORY DETAILS	
Client	Pinchin Ltd	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	662 Falconbridge Rd, Unit 3, Sudbury Canada, P3A 4S4 Phone: 705-521-0560 cell: 705-618-0186.	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Greg Way	Telephone	2165
Telephone	705-521-0560 cell: 705-618-0186	Facsimile	705-652-6365
Facsimile		Email	jill.campbell@sgs.com
Email	gway@Pinchin.com	SGS Reference	CA15521-OCT24
Project	236957.006, Township of Bonfield SW	Received	10/02/2024
Order Number		Approved	10/08/2024
Samples	Surface Water (4)	Report Number	CA15521-OCT24 R
		Date Reported	10/08/2024

COMMENTS

Temperature of Sample upon Receipt: 9 degrees C

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

CA15521-OCT24 R

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: OK & KR

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	01/10/2024	01/10/2024	01/10/2024	01/10/2024	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
General Chemistry							
Alkalinity	mg/L as CaCO3	2		40	9	37	35
Conductivity	uS/cm	2		119	68	115	117
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		42.2	19.2	41.7	39.9
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	0.010	0.083	0.007	0.007
Arsenic (total)	mg/L	0.0002	0.005	< 0.0002	0.0002	< 0.0002	< 0.0002
Barium (total)	mg/L	0.00008		0.0356	0.0269	0.0267	0.0228
Beryllium (total)	mg/L	0.000007	0.011	0.000013	0.000030	0.000012	< 0.000007
Boron (total)	mg/L	0.002	0.2	0.023	0.004	0.021	0.021
Bismuth (total)	mg/L	0.00001		< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium (total)	mg/L	0.01		11.6	4.79	11.6	11.0
Cadmium (total)	mg/L	0.000003	0.0001	0.000007	0.000004	0.000010	0.000003
Cobalt (total)	mg/L	0.000004	0.0009	0.000548	0.000877	0.000250	0.000128
Chromium (total)	mg/L	0.00008	0.1	0.00038	0.00108	0.00031	0.00021
Copper (total)	mg/L	0.001	0.001 0.005	< 0.001	< 0.001	< 0.001	< 0.001
Iron (total)	mg/L	0.007	0.3	5.97	5.47	1.25	0.727
Potassium (total)	mg/L	0.009		2.26	1.84	2.10	2.01
Lithium (total)	mg/L	0.0001		0.0008	0.0015	0.0007	0.0007

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: OK & KR

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				01/10/2024	01/10/2024	01/10/2024	01/10/2024
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)							
Magnesium (total)	mg/L	0.001		3.19	1.77	3.11	3.02
Manganese (total)	mg/L	0.00001		0.514	0.128	0.193	0.0688
Molybdenum (total)	mg/L	0.0004	0.04	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Sodium (total)	mg/L	0.01		6.74	4.78	6.37	6.06
Nickel (total)	mg/L	0.0001	0.025	0.0005	0.0014	0.0004	0.0003
Phosphorus (total)	mg/L	0.003	0.01	0.042	0.085	0.022	0.010
Lead (total)	mg/L	0.00009	0.005 0.01 0.02	0.00025	0.00017	0.00016	< 0.00009
Selenium (total)	mg/L	0.00004	0.1	0.00005	0.00005	< 0.00004	< 0.00004
Silicon (total)	mg/L	0.02		5.21	2.76	5.36	5.03
Tin (total)	mg/L	0.00006		0.00014	< 0.00006	< 0.00006	< 0.00006
Titanium (total)	mg/L	0.0001		0.0027	0.0115	0.0042	0.0007
Thallium (total)	mg/L	0.000005	0.0003	< 0.000005	0.000006	< 0.000005	< 0.000005
Uranium (total)	mg/L	0.000002	0.005	0.000040	0.000021	0.000014	0.000007
Vanadium (total)	mg/L	0.00001	0.006	0.00026	0.00070	0.00015	0.00008
Zinc (total)	mg/L	0.002	0.02	0.002	0.008	0.002	< 0.002

Client: Pinchin Ltd
Project: 236957.006, Township of Bonfield SW
Project Manager: Greg Way
Samplers: OK & KR

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	01/10/2024	01/10/2024	01/10/2024	01/10/2024
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**
Other (ORP)							
pH	No unit	0.05	0.1 8.6	6.80	6.42	7.11	7.20
Chloride	mg/L	1		17	15	16	16
Phenols							
4AAP-Phenolics	mg/L	0.001	0.001	< 0.001	0.003	< 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	5.97	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.042	0.01
SW-B				
Aluminum (dissolved)	SM 3030/EPA 200.8	mg/L	0.083	0.015
Iron	SM 3030/EPA 200.8	mg/L	5.47	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.085	0.01
pH	SM 4500	No unit	6.42	0.1
4AAP-Phenolics	SM 5530B-D	mg/L	0.003	0.001
SW-C				
Iron	SM 3030/EPA 200.8	mg/L	1.25	0.3
Phosphorus	SM 3030/EPA 200.8	mg/L	0.022	0.01
SW DUP				
Iron	SM 3030/EPA 200.8	mg/L	0.727	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	EWL0092-OCT24	mg/L as CaCO3	2	< 2	0	20	98	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)	SKA0025-OCT24	as N mg/L	0.1	<0.1	ND	10	96	90	110	101	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	DIO8019-OCT24	mg/L	1	<1	0	20	94	80	120	79	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	EWL0092-OCT24	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)	EMS0031-OCT24	mg/L	0.00005	<0.00005	ND	20	94	90	110	83	70	130
Aluminum (0.2µm)	EMS0031-OCT24	mg/L	0.001	<0.001	15	20	99	90	110	111	70	130
Arsenic (total)	EMS0031-OCT24	mg/L	0.0002	<0.0002	ND	20	98	90	110	104	70	130
Barium (total)	EMS0031-OCT24	mg/L	0.00008	<0.00008	5	20	106	90	110	113	70	130
Beryllium (total)	EMS0031-OCT24	mg/L	0.000007	<0.000007	ND	20	103	90	110	95	70	130
Boron (total)	EMS0031-OCT24	mg/L	0.002	<0.002	1	20	98	90	110	95	70	130
Bismuth (total)	EMS0031-OCT24	mg/L	0.00001	<0.00001	ND	20	99	90	110	103	70	130
Calcium (total)	EMS0031-OCT24	mg/L	0.01	<0.01	10	20	100	90	110	107	70	130
Cadmium (total)	EMS0031-OCT24	mg/L	0.000003	<0.000003	ND	20	96	90	110	98	70	130
Cobalt (total)	EMS0031-OCT24	mg/L	0.000004	<0.000004	ND	20	92	90	110	99	70	130
Chromium (total)	EMS0031-OCT24	mg/L	0.00008	<0.00008	1	20	100	90	110	99	70	130
Copper (total)	EMS0031-OCT24	mg/L	0.001	<0.001	ND	20	100	90	110	106	70	130
Iron (total)	EMS0031-OCT24	mg/L	0.007	<0.007	ND	20	101	90	110	75	70	130
Potassium (total)	EMS0031-OCT24	mg/L	0.009	<0.009	6	20	98	90	110	95	70	130
Lithium (total)	EMS0031-OCT24	mg/L	0.0001	<0.0001	ND	20	99	90	110	91	70	130
Magnesium (total)	EMS0031-OCT24	mg/L	0.001	<0.001	15	20	101	90	110	101	70	130
Manganese (total)	EMS0031-OCT24	mg/L	0.00001	<0.00001	ND	20	96	90	110	97	70	130
Molybdenum (total)	EMS0031-OCT24	mg/L	0.0004	<0.0004	ND	20	105	90	110	109	70	130
Sodium (total)	EMS0031-OCT24	mg/L	0.01	<0.01	4	20	99	90	110	104	70	130
Nickel (total)	EMS0031-OCT24	mg/L	0.0001	<0.0001	ND	20	101	90	110	102	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)	EMS0031-OCT24	mg/L	0.00009	<0.00009	ND	20	98	90	110	104	70	130
Phosphorus (total)	EMS0031-OCT24	mg/L	0.003	<0.003	ND	20	99	90	110	NV	70	130
Selenium (total)	EMS0031-OCT24	mg/L	0.00004	<0.00004	19	20	97	90	110	84	70	130
Silicon (total)	EMS0031-OCT24	mg/L	0.02	<0.02	9	20	96	90	110	NV	70	130
Tin (total)	EMS0031-OCT24	mg/L	0.00006	<0.00006	4	20	100	90	110	NV	70	130
Titanium (total)	EMS0031-OCT24	mg/L	0.0001	<0.0001	ND	20	97	90	110	NV	70	130
Thallium (total)	EMS0031-OCT24	mg/L	0.000005	<0.000005	ND	20	98	90	110	104	70	130
Uranium (total)	EMS0031-OCT24	mg/L	0.000002	<0.000002	ND	20	99	90	110	109	70	130
Vanadium (total)	EMS0031-OCT24	mg/L	0.00001	<0.00001	11	20	99	90	110	96	70	130
Zinc (total)	EMS0031-OCT24	mg/L	0.002	<0.002	3	20	99	90	110	93	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	EWL0092-OCT24	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	SKA0036-OCT24	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.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): 10/02/24	LAB LIMS #: CA15521-Oct24
Received Time (After Hours Only): __:__	Temperature Upon Receipt (°C): 9.9.9

Billing & Reporting Information

Invoice/Receipt to {3}:	
Company:	Pinchin
Attention:	Greg Way
Address:	662 Falconbridge Rd, Unit 3 Sudbury, ON P3A 4S4
Email:	gway@pinchin.com

Project Name/Number:	236957.006-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:

Company Name:	Pinchin	Phone Number:	705-521-0560
Contact Name:	Alana Valle	Fax Number:	
Address:	662 Falconbridge Road, Unit 3	E-mail:	avalle@pinchin.com
Copy to:			

Client Lab #:

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	10/01/24	11:30	6	N		x					
SW-B	↓	↓	6	N		x					
SW-C	↓	↓	6	N		x					
SW Dup	↓	2:00pm	6	N		x					

Sampled By {1}:	(Name) OH + NB	(Signature)		Date: 10/01/24	(mm/dd/yy)
Relinquished by {2}:	(Name) Katie Binaldi	(Signature)		Date: 10/01/24	(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

APPENDIX V

MECP Monitoring and Screening Checklist

Appendix D-Monitoring and Screening Checklist
General Information and Instructions

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

Definition of Groundwater CEP:
For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:
(a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
(b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..
Definition of Surface water CEP:
A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

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

Monitoring Report and Site Information	
Waste Disposal Site Name	Bonfield Landfill Site
Location (e.g. street address, lot, concession)	The landfill is located 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.
GPS Location (taken within the property boundary at front gate/ front entry)	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).
Municipality	Township of Bonfield
Client and/or Site Owner	Corporation of the Township of Bonfield
Monitoring Period (Year)	2024
This Monitoring Report is being submitted under the following:	
Certificate of Approval No.:	A530702
Director's Order No.:	Type Here
Provincial Officer's Order No.:	Type Here
Other:	Type Here

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

Groundwater WDS Verification:

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

Sampling and Monitoring Program Status:

1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:	◯ **Yes** ◯ **No**	If no, list exceptions (Type Here):
2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document(s):	◯ **Yes** ◯ **No** ◯ **Not Applicable**	If no, list exceptions below or attach information.

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

3) a) Some or all groundwater, leachate and WDS gas sampling and monitoring requirements have been established or defined outside of a ministry C of A, authorizing, or control document.	◯ **Yes** ◯ **No** ◯ **Not Applicable**	
b) If yes, the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:	◯ **Yes** ◯ **No** ◯ **Not Applicable**	If no, list exceptions below or attach additional information.

Groundwater Sampling Location	**Description/Explanation for change (change in name or location, additions, deletions)**	**Date**
MW5	Tubing stuck inside during summer monitoring event; sample could not be collected - was rectified during fall monitoring event and sample was collected.	24-Jul-2024
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date
Type Here	Type Here	Select Date

4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	◯ **Yes** ◯ **No**	If no, specify (Type Here):

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

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

Groundwater CEP Declaration:

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

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

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

8-Jan-2025

Recommendations:

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

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

Name:	Tim McBride		
Seal:	Add Image		
Signature:		**Date:**	8-Jan-2025
CEP Contact Information:	Tim McBride		
Company:	Pinchin Ltd.		
Address:	662 Falconbridge Road, Unit 3 Sudbury, Ontario P3A 4S4		
Telephone No.:	705.521.0560	Fax No. :	Type Here
E-mail Address:	tmcbride@pinchin.com		
Co-signers for additional expertise provided:			
Signature:		**Date:**	Select Date
Signature:		**Date:**	Select Date

Surface Water WDS Verification:

Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):	
Name (s)	Unnamed wetland and creek system South of the active landfill Site.
Distance(s)	Approximately 130 meters from the active landfill Site.

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

Sampling and Monitoring Program Status:

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

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

3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.	◯ **Yes** ◯ **No** ◯ **Not Applicable**	
b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:	◯ **Yes** ◯ **No** ◯ **Not Applicable**	If no, specify below or provide details in an attachment.

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

4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/ outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	◯ **Yes** ◯ **No**	If no, specify (Type Here):

Sampling and Monitoring Program Results/WDS Conditions and Assessment:

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

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

Parameter	Compliance or Assessment Criteria or Background	Amount by which Compliance or Assessment Criteria or Background Exceeded
e.g. Nickel	e.g. C of A limit, PWQO, background	e.g. X% above PWQO
See Tables 11 through 13	Type Here	Type Here
Type Here	Type Here	Type Here
Type Here	Type Here	Type Here
Type Here	Type Here	Type Here
6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?	◯ **Yes** ◯ **No**	If yes, specify (Type Here)

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

Surface Water CEP Declaration:

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

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

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

8-Jan-2025

Recommendations:

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

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

CEP Signature	
Relevant Discipline	Hydrogeologist
Date:	8-Jan-2025
CEP Contact Information:	Tim McBride
Company:	Pinchin Ltd.
Address:	662 Falconbridge Road, Unit 3 Sudbury, Ontario P3A 4S4
Telephone No.:	705.521.0560
Fax No. :	Type Here
E-mail Address:	tmcbride@pinchin.com

Save As **Print Form**

THE CORPORATION OF THE TOWNSHIP OF BONFIELD

BY-LAW NO. 2025-07

Being a By-Law to Appoint an Area Weed Inspector for the Corporation of the Township of Bonfield

WHEREAS Section 6(1) of the Weed Control Act, R.S.O., 1990 c. W.5 provides that the council of a District Municipality shall by By-Law appoint an area weed inspector.

AND WHEREAS the Council of the Corporation of the Township of Bonfield deems it advisable to pass a By-Law appointing an Area Weed Inspector.

NOW THEREFORE the Council of the Corporation of the Township of Bonfield enacts as follows:

APPOINTMENT

1.1 That Alex Hackenbrook be and is hereby appointed as the Area Weed Inspector for the Corporation of the Township of Bonfield from the Final passing of this By-Law until it is Repealed.

2.1 THAT By-law 2023-12 is hereby repealed in its entirety.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 28th DAY OF JANUARY, 2025.

_____
MAYOR

_____
CLERK

Town of Kearney ®
8 Main Street, P.O. Box 38, Kearney, Ontario POA-1M0
Ph.# (705) 636-7752 Fax # (705) 636-0527
https://townofkearney.ca email admin@townofkearney.ca

December 19, 2024,

Dear Hon. Paul Calandra, Minister of Municipal Affairs and Housing,

Thank you for your recent communication regarding the changes to the Planning Act through the More Homes Built Faster Act, 2022, and the Cutting Red Tape to Build More Homes Act, 2024.

While we appreciate the government's efforts to address the housing supply crisis by promoting the creation of additional residential units (ARUs), we must express our concerns about the applicability of these changes in rural municipalities.

The "as-of-right" permission to develop up to three units per lot is only permitted in urban areas where municipal servicing is provided. In these areas, the demand for housing is high, and land is scarce. However, in rural municipalities, where population density is lower and land availability is not typically a constraint, these changes do not apply.

Rural municipalities often struggle with infrastructure limitations, specifically with water supply, sewage systems, and transportation networks. While these changes the Province has made does cut red tape for urban areas of Ontario, they do not address constraints rural municipalities deal with when trying to increase density without municipal servicing Additionally, the increased residential density permitted by the amendments may not be compatible with the rural character and lifestyle that residents value.

We believe that a one-size-fits-all approach to ARU development may inadvertently overlook the distinct needs of rural communities. As municipalities in rural, Northern Ontario have before, we urge the government to consider creating tailored policies that recognize the specific conditions and requirements of rural areas, ensuring that any regulatory changes support sustainable and contextually appropriate growth.

We appreciate the opportunity to provide our feedback and look forward to working collaboratively with the Ministry of Municipal Affairs and Housing to develop solutions that are beneficial to all Ontarians and where they choose to live.

Sincerely,

Mayor, Cheryl Philip

On behalf of the Council of the Corporation of the Town of Kearney

Town of Kearney

COUNCIL RESOLUTION # 2024 - 398

Date: December 19, 2024

MOVED BY:		SECONDED BY:	
☒	Beaucage, Keven	☐	Beaucage, Keven
☐	Pateman, Heather	☒	Pateman, Heather
☐	Rickward, Michael – Deputy Mayor	☐	Rickward, Michael – Deputy Mayor
☐	Sharer, Jill	☐	Sharer, Jill

WHEREAS the Council of the Corporation of the Town of Kearney has received a communication from the Minister of Municipal Affairs and Housing, Paul Calandra, regarding changes to the Planning Act through the More Homes Built Faster Act, 2022, and the Cutting Red Tape to Build More Homes Act, 2024;

AND WHEREAS this announcement from Minister Calandra does not fully address the needs of Rural or Northern municipalities;

NOW THEREFORE BE IT RESOLVED that Council confirms their desire for the attached letter to be sent to the Minister of Municipal Affairs & Housing, Paul Calandra; MPP Graydon Smith; MP Scott Aitchison; Premier Doug Ford; AMO; FONOM; ROMA and to affected municipalities in Rual/Northern Ontario for their support.

CARRIED ☒ **DEFEATED** ☐ _____

Recorded Vote Requested by: _____

Recorded Vote:	For	Opposed
Beaucage, Keven	☐	☐
Pateman, Heather	☐	☐
Philip, Cheryl – Mayor	☐	☐
Rickward, Michael – Deputy Mayor	☐	☐
Sharer, Jill	☐	☐

Andrée Gagné

From: Carol Trainor <clerk@tarbutt.ca>
Sent: December 19, 2024 2:08 PM
To: mia.cho@mpac.ca
Cc: Tarbutt Treasurer; Katie Scott; Natalie Bray; Tammy Godden; Candy Beauvais; Nicky Kunkel; Kris Croskery - Hodgins; Jackie Mellon; Municipal Clerk; mbouffard@frenchriver.ca; nicole.gourlay@townofkearney.ca; Nancy Field; 'Spanish'; Pam Cress - NEMI; Joseph Burke; 'Debbie Rydall'; Line Webster; jdavis@brucemines.ca; jmaguire@johnsontownship.ca; Janet Boucher; 'Amanda Richardson'; clerk@hiltonbeach.com; Sara; Jennifer Errington; Madison Zuppa; Lacey Kastikainen; Belinda Ketchabaw; Rachel Tyczinski; Jared Brice
Subject: RE: 2025 Municipal Levy

Good day:

Thank you for the information regarding the 2025 municipal levy.

At it's meeting of January 2024, the Council of The Township of Tarbutt passed the resolution below.

Resolution No: 2024 – 11
Moved by: D. McClelland Seconded by: D. Farrar
Be it resolved that correspondence items a. through h. on the consent agenda dated January 17, 2024 be received; and
That The Township of Tarbutt circulate a resolution objecting to the increase to the 2024 levy imposed by MPAC, given that they have been relieved of the responsibility of providing municipal enumeration services, including the creation of a Preliminary List of Electors, and will have a significant reduction in service provision and staffing requirements, and that this service will be provided <u>at no cost</u> by Elections Ontario.
Carried

As levies continue to soar from all parties, we continue to question the justification of the MPAC increase, given the reduction in enumeration and election related services being provided, as noted in the resolution. The financial strain of the pandemic, with fewer staffing and overhead costs, should not be forcing continued increases four and five years post covid without a significant increase in service levels.

Coincidentally, Tarbutt's 2025 levy increase amount is almost exactly the same percentage as the assessment change from 2024 to 2025.

Your response would be appreciated.

Thank you.

Carol O. Trainor, A.M.C.T.
CAO/Clerk/Deputy Treasurer
The Township of Tarbutt
27 Barr Road S.
Desbarats, ON P0R 1E0

Ph: 705-782-6776
Fax: 705-782-4274

Individuals who submit information to Council should be aware that the information contained within their communications may become part of the public record and be made available to the public through the Council Agenda process.

From: Nicole McNeill <Nicole.Mcneill@mpac.ca>
Sent: Wednesday, December 18, 2024 12:54 PM
To: Carol Trainor <clerk@tarbutt.ca>
Subject: 2025 Municipal Levy

MUNICIPAL PROPERTY ASSESSMENT CORPORATION

December 18, 2024

Carol Trainor

CAO/Clerk

Tarbutt Township

Subject: 2025 Municipal Levy

As a municipal service provider, MPAC is committed to supporting municipal priorities. With that in mind and given the additional financial strain caused by the pandemic, the corporation kept the levy stable from 2021 to 2023 without any increases. Last year, we implemented a 2.1 per cent increase due to inflation and rising labour costs.

As we continue to work to meet the evolving needs of our partners, we are writing to inform you that MPAC's Board of Directors has approved the corporation's 2025 operating budget with a 3.4 per cent levy increase. This year's budget increase is crucial for managing fiscal challenges, smoothing future levy impacts, and funding service enhancements.

We understand the challenges faced by municipalities and want to assure you that MPAC is committed to strategically using reserves and finding efficiencies, ensuring a balanced approach when levy targets are established. MPAC strives to ensure that budget increases are below a target rate that combines inflation and year-over-year growth in property counts. This increase is consistent with that target.

MPAC's 2025 budget is a strategic investment in the future, enabling the modernization of our assessment system and providing municipalities with enhanced data and services essential for informed decision-making. For example, we are working to grant you more access to Electronic Assessment (EAI) files in 2025.

In 2025, MPAC will launch our new Strategic Plan which includes investments to enhance service delivery by continuing to collaborate and create valuable products that meet your diverse needs. We look forward to sharing further updates in 2025. In the meantime, we invite you to read the 2024 Municipal Partnership Report to learn more about our collective work to build strong communities across Ontario together this past year.

Not all municipalities will see a 3.4 per cent increase. Individual municipal levies are determined by a funding formula under the *Municipal Property Assessment Corporation Act* based on the weighted average of two factors: the municipal share of the total assessed value and the number of properties compared to the rest of the province. An explanation of how MPAC calculated the municipal levy is available here.

Your first bill will be delivered later this month, followed by equal quarterly invoices thereafter. You will also receive your Assessment Change Summary from your local MPAC Account Manager, which provides a high-level description of the assessment changes within your municipality.

We look forward to continuing to provide you with timely information that supports your work and decision-making, collaborating on forward-looking initiatives and forming new and valuable partnerships.

If you have questions about MPAC's funding requirements, please contact:

Mary Meffe

Vice-President, Corporate Services

and Chief Financial Officer

289-539-0306

Mary.Meffe@mpac.ca

For information about the assessment services available to your municipality, please contact:

Jamie Bishop

Vice-President, Public Affairs and Customer Experience

289-200-1122

Jamie.Bishop@mpac.ca

Yours truly,

Alan Spacek

Chair, MPAC Board of Director

Nicole McNeill
President and Chief Administrative Officer, MPAC

Copy MPAC Board of Directors
Executive Management Group, MPAC
Director and Regional Managers, Municipal and Stakeholder Relations, MPAC

Outlook

Letter regarding FINANCIAL SUSTAINABILITY IN CHILD WELFARE (FONOM) (1)

From FONOM Office/ Bureau de FONOM <fonom.info@gmail.com>
Date Tue 12/31/2024 6:05 PM

1 attachment (132 KB)
Minister of Children, Community and Social Services - Letter regarding FINANCIAL SUSTAINABILITY IN CHILD WELFARE (FONOM) (1).pdf;

Good morning

The FONOM Board has supported the attached Resolution. We would ask that you share the letter with your Councils and Senior Management. I have the email addresses for those individuals listed in the Further it be Resolved.

We would be happy to address any questions.

MinisterMCCSS@ontario.ca; cleo.charlebois@neofacs.org; mmiller@ancfsao.ca; amo@amo.on.ca; Communicate@amo.on.ca; roma@roma.on.ca; pwolfbeiss@amo.on.ca; Mstiles-QP@ndp.on.ca; RGurcharn@ndp.on.ca; anaveed@ontarioliberal.ca; bonnie@ontarioliberal.ca; candicelepage@gpo.ca

Talk soon, Mac.

Mac Bain
Executive Director
The Federation of Northern Ontario Municipalities
665 Oak Street East, Unit 306
North Bay, ON, P1B 9E5
Ph. 705-498-9510

FONOM
Federation of Northern Ontario Municipalities

January 2, 2025

The Honourable Michael Parsa
Minister of Children, Community and Social Services
7th Floor, 438 University Ave.
Toronto, ON M5G 2K8
SENT BY EMAIL: MinisterMCCSS@ontario.ca

Dear Minister Parsa

The Federation of Northern Ontario Municipalities' mission ***is to improve the economic and social quality of life for all northerners and to ensure the future of our youth***. The Board would like the Province to consider providing emergency stabilization funding to address the current shortfall in child welfare providing by the Children's Aid Societies.

As well we would ask that the Ministry of Children, Community and Social Services undertake a Province wide service review, including the funding model. Also, during the review we would ask that the points listed in the resolution be reviewed and discussed.

Minister, I and the FONOM Executive would be pleased to discuss this further with your staff.

FONOM is an association of some 110 districts/municipalities/cities/towns in Northeastern Ontario mandated to work for the betterment of municipal government in Northern Ontario and strive for improved legislation respecting local government in the North. It is a membership-based association that draws its members from Northeastern Ontario and is governed by an 11-member board.

FINANCIAL SUSTAINABILITY IN CHILD WELFARE

WHEREAS Children's Aid Societies across Ontario are experiencing significant financial pressures, with the majority of agencies running deficits in the millions;

WHEREAS the Financial Accountability Office has indicated funding for child protection has fallen behind inflation, with the sector missing $70 million compared to previous funding levels;

WHEREAS the current funding model implemented in 2013 has limitations that affect the safety and well-being of children, particularly in northern and remote communities;

FONOM
Federation of Northern Ontario Municipalities

WHEREAS the Ministry of Children, Community and Social Services' spending on Child Protection Services is projected to grow at only 0.7% annually from 2023-24 to 2028-29, well below inflation;

WHEREAS the child welfare redesign strategy requires enhanced community-based prevention services and improved quality of care, which cannot be achieved without adequate funding.

THEREFORE BE IT RESOLVED that the Federation of Northern Ontario Municipalities (FONOM), calls on the Government of Ontario to immediately address the funding shortfall in child welfare by providing emergency stabilization funding to Children's Aid Societies;

Requests that the Ministry of Children, Community and Social Services undertake **a Province wide service review**, including the funding model. During the review, FONOM asks that the following be included in the review.

- Adequately addresses the unique challenges of northern and remote communities;
- Account created for higher operational costs in geographically dispersed regions;
- Provide sustainable funding for prevention services;
- Urges the Province to implement multi-year funding commitments that allow for proper planning and service delivery;
- Advocates for the development of a specific Northern Strategy for child welfare that recognizes the unique needs and challenges of Northern communities.

BE IT FURTHER RESOLVED that this resolution be forwarded to: The Honourable Michael Parsa, Minister of Children, Community and Social Services, the Ontario Association of Children's Aid Societies, Association of Native Child and Family Services Agencies of Ontario, All municipalities within FONOM's jurisdiction, the Association of Municipalities of Ontario (AMO), Rural Ontario Municipal Association (ROMA), and the leaders of the Opposition Parties.

Regards.

President Danny Whalen
705-622-2479

TOWNSHIP OF
PUSLINCH
EST. 1850

Finance Minister Chrystia Freeland
VIA EMAIL:
chrystia.freeland@parl.gc.ca

Hon. Paul Calandra
VIA EMAIL:
minister.mah@ontario.ca

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
www.puslinch.ca

December 13, 2024

Association of Municipalities of Ontario (AMO)
VIA EMAIL:
amo@amo.on.ca

Top Aggregate Producing Municipalities of Ontario (TAPMO)
VIA EMAIL:
info@tapmo.ca

Rural Ontario Municipalities Association (ROMA)
VIA EMAIL:
roma@roma.on.ca

Hon. Ted Arnott, MPP
VIA EMAIL:
ted.arnottco@pc.ola.org

RE: TAPMO Letter regarding Pre Budget Announcement

Please be advised that Township of Puslinch Council, at its meeting held on November 27, 2024 considered the aforementioned topic and subsequent to discussion, the following was resolved:

Resolution No. 2024-430: Moved by Councillor Sepulis and Seconded by Councillor Bailey

That the Consent Agenda items listed with the exception of items 6.10, 6.11, and 6.12 for NOVEMBER 27, 2024 Council meeting be received for information; and

Whereas the Township of Puslinch Council supports the information provided by TAPMO to member municipalities of TAPMO; and

Whereas the Township of Puslinch Council sees the value and significance of circulating this information provided by TAPMO to all Ontario municipalities;

TOWNSHIP OF
PUSLINCH
EST. 1850

Therefore, that Council directs staff to forward items 6.10, 6.11, and 6.12 to all Ontario municipalities; and

That Council direct staff to forward the following resolution to the Minister of Finance, the Minister of Municipal Affairs and Housing, local school board trustees, AMO, ROMA, Local MPP, all Ontario Municipalities and the Municipal Property Assessment Corporation:

Whereas the Ministry of Finance has introduced a one-time $7 million reduction in education taxes in 2024, a subsidy that will be absorbed by the province through a 95% reduction in education taxes—marking the first such subsidy provided by the province to any industry;

Whereas the Ministry of Finance's plans to introduce a new aggregate property sub-class in 2025, which is set to provide a $6 million subsidy to the aggregate industry, with $3 million of that subsidy being transferred back to the municipal (primarily residential) tax base, raises serious concerns about the fairness and equity of the system;

Whereas the claims that the new sub-class will provide tax stability and predictability seem hollow and do not address the systemic inequities in the taxation framework, which continues to shift an undue burden onto municipal taxpayers, particularly those in rural areas who host these aggregate operations;

Whereas there is significant concern that the government's actions prioritize the interests of the aggregate industry over the financial realities faced by municipalities and their residents, and that this shift in burden undermines public trust in the fairness and integrity of Ontario's legal and tax frameworks;

Whereas TAPMO has presented evidence demonstrating that the aggregate industry is financially capable of meeting its tax obligations, including substantial profits and royalty payments made by industry leaders, further undermining the need for these subsidies;

Whereas the municipal taxpayer should not bear the cost of correcting a past error in assessment methodology that unfairly benefited then aggregate industry, and the new

property tax class ratio risks further undermining the principle of revenue neutrality and eroding confidence in Ontario's legal and tax systems;

Therefore be it resolved that the Council of the Township of Puslinch strongly objects to the undue burden being placed on municipal taxpayers to subsidize the aggregate industry, and calls on the provincial government to:

Reevaluate and correct the misguided subsidies being provided to the aggregate sector, and ensure that future tax policies are fair, equitable, and consistent for all taxpayers.

1. Uphold the principles of revenue neutrality in the aggregate tax framework and ensure that any new tax classifications or methodologies do not result in a net loss of revenue for municipalities, especially those that are already facing significant financial challenges.

2. Commit to meaningful reform that ensures fairness and consistency across all sectors of the economy, and actively engages municipalities and taxpayers in a transparent and inclusive process, rather than catering to the demands of the aggregate industry.

3. Take immediate action to correct the existing inequities in the tax framework, ensuring that the burden of this correction is not unjustly shifted to municipal taxpayers, particularly those in rural communities who host these operations.

4. Respect and uphold the integrity of the legal process by honouring the decisions of the Divisional Court and ensuring that all assessment methodologies are transparent, accountable, and based on a fair and balanced approach.

5. Further be it resolved that the Council Township of Puslinch supports TAPMO's call for the provincial government to adopt reforms that prioritize the needs and fairness of municipal taxpayers and to ensure that the aggregate sector contributes its fair share to the province's tax base; and
Further be it resolved that this resolution be forwarded to the Minister of Finance, the Minister of Municipal Affairs and Housing, local school board trustees, AMO, ROMA,

TOWNSHIP OF
PUSLINCH
EST. 1850

Local MPP, all Ontario Municipalities and the Municipal Property Assessment Corporation.

CARRIED

As per the above resolution, please accept a copy of this correspondence for your information and consideration.

Sincerely,

Justine Brotherston
Municipal Clerk

CC: All Ontario Municipalities, Municipal Property Assessment Corporation (MPAC), Local school board trustees

NEAR NORTH CRIME STOPPERS

P.O. Box 382
North Bay, ON P1B 8H5
705.497.5555 Ext. 7507
admin@nearnorthcrimestoppers.com

January 6, 2025

Dear Mayor and Councilors,

Every January, Crime Stoppers Month is recognized worldwide for its vital role in community safety. This year's theme, "Empowering through Education, Preventing through Action!" reflects our mission to Stop, Solve, and Prevent Crime Together across our region's municipalities.

For 2025, we are not requesting a formal "Proclamation." Instead, we ask for your help amplifying awareness by sharing our messaging in newsletters, on social media, and on community electronic boards using the attached digital images. This effort is especially important as we've seen a significant rise in virtual tips, underscoring the value of robust digital engagement.

As you know, Near North Crime Stoppers (NNCS) serves the Districts of Nipissing and Parry Sound as a registered charitable program, enhancing safety through anonymous tips. Since our inception in 1988, NNCS has received over 23,600 tips, leading to 1,827 arrests, $4.4 million in recovered property and cash, and nearly $58 million in drugs seized from our communities.

In 2025, NNCS is launching a new campaign offering a guaranteed $2,000 reward for tips leading to arrests involving fentanyl or firearms in drug-related offences. This initiative reflects our commitment to addressing critical safety concerns and will be posted publicly across our virtual platforms.

The success of Crime Stoppers relies on community engagement, with municipalities like yours playing a key role. By recognizing and supporting Crime Stoppers, you help advance your Community Safety and Well-Being Plans, ensuring safer communities for all.

Please feel free to contact us for more information, to arrange a presentation, or to request promotional items and road signs. Thank you for your continued support in making our region a safer place.

Sincerely,

Brandon Fenton
Chair

Mary Houghton
Executive Secretary

Happy

CRIME STOPPERS

Month !

CRIME STOPPERS

ÉCHEC AU CRIME

www.nearnorthcrimestoppers.com

1-800-222-TIPS

CRIME STOPPERS

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www.nearnorthcrimestoppers.com

1-800-222-TIPS

THE MUNICIPALITY OF KINCARDINE
great energy. balanced life.

Council Meeting

Motion #	12/11/24 - 02
Title:	Property Taxation Implications Related to Non-Market Valuation of Electricity Industry Properties, CAO General-2024-33
Date:	Wednesday, December 11, 2024

Moved by: Rory Cavanagh
Seconded by: Beth Blackwell

Whereas the Municipality of Kincardine is a proud host community of the Bruce Nuclear Generating Site where Bruce Power generates 30% of Ontario's electricity needs; and

Whereas two decades ago the Province of Ontario adopted a property tax assessment model that continues to apply to Ontario's nuclear generation facilities; and

Whereas the Province assessment model includes non-market property valuation for electricity generating properties; and

Whereas the Municipality of Kincardine undertook a study in 2024 which has shown that the Provincial assessment model is compromising fairness and shifting the tax burden away from the electricity industry properties and onto the broader property tax base within the host community; and

Whereas the study demonstrated that this is primarily attributable to the assessed value of the subject properties being held almost static over several reassessment cycles, resulting from the Provincially prescribed rules for electricity generating, transmission and distribution properties; and

Whereas the Provincial model results in a disparity between the continuously updated market values assigned to the majority of properties and the static, non-market-based formula applied to electricity industry properties means that the tax burden shifts onto non-industry taxpayers; and

Now Therefore be it Resolved That municipal staff be directed to send communication to the Premier of Ontario, Minister of Energy and Electrification, the Minister of Finance, and the local MPP, to request that the Province undertake an immediate review and update the property tax assessment model for Ontario's nuclear generation facilities and other properties within the electricity industry, and copy the Association of Municipalities of Ontario and all Ontario Municipalities.

Carried.

Jennifer Lawrie
Clerk

Hon. Doug Ford
Premier@ontario.ca

Hon. Stephen Lecce
Stephen.Lecce@pc.ola.org

Hon. Peter Bethlenfalvy
Peter.Bethlenfalvy@pc.ola.org

Bob Bailey
bob.baileyco@pc.ola.org
(sent via e-mail)

January 9th, 2025

Re: Property Taxation Implications Related to Non-Market Valuation of Electricity Industry Properties

Please be advised that the Council of the Town of Plympton-Wyoming, at its Regular Council meeting on January 8th, 2025, passed the following motion supporting the resolution from the Municipality of Kincardine regarding Property Taxation Implications Related to Non-Market Valuation of Electricity Industry Properties:

Motion #14
Moved by Bob Woolvett
Seconded by John van Klaveren
That Council support correspondence item 'g' from the Municipality of Kincardine regarding Property Taxation Implications.

Carried.

If you have any questions regarding the above motion, please do not hesitate to contact me by phone or email.

Sincerely,

E Flynn

Ella Flynn
eflynn@plympton-wyoming.ca
Executive Assistant – Deputy Clerk
Town of Plympton-Wyoming

Cc: Association of Municipalities of Ontario
All Ontario Municipalities

THE CORPORATION OF THE
TOWN OF COBALT

December 12, 2024

The Honourable Doug Ford, Premier of Ontario
Legislative Building
Queen's Park
Toronto, ON M7A 1A1

Sent Via Email: premier@ontario.ca

Please be advised that the Council of the Town of Cobalt passed the following resolution at its Regular Meeting of Council held Tuesday, December 10, 2024.

RESOLUTION No. 2024-218
MOVED BY: Councillor Wilcox
SECONDED BY: Councillor Lafleur

WHEREAS Police Services across Ontario are exhausting precious time and resources having to manage the repeated arrests of the same offenders, which in turn, is impacting their morale, and ultimately law-abiding citizens who are paying the often significant financial and emotional toll of this broken system;

AND WHEREAS the "catch and release" system is needlessly increasing the policing costs to the Municipalities;

NOW THEREFORE BE IT RESOLVED THAT that the Corporation of the Town of Cobalt will send a letter to the Federal and Provincial Governments requesting meaningful improvements to the current state of "catch and release" justice in the Ontario legal system;

AND BE IT FURTHER RESOLVED THAT this resolution be forwarded to the Premier, the relevant federal and provincial authorities, the Rural Ontario Municipalities Association, the Federation of Northern Ontario Municipalities and all municipalities in Ontario for their endorsement consideration.

Thank you,

Steven Dalley
Town Manager, Clerk/Treasurer
Tel: (705) 679-8877
Email: sdalley@cobalt.ca

cc: Hon. Doug Ford, Premier of Ontario, premier@ontario.ca
FONOM, fonom.info@gmail.com
Associations of Municipalities Association, amo@amo.on.ca
All Ontario Municipalities

The Town Of
PLYMPTON-WYOMING

Hon. Doug Ford
Premier@ontario.ca
(sent via e-mail)

January 9th, 2025

Re: Improvements to Catch and Release System

Please be advised that the Council of the Town of Plympton-Wyoming, at its Regular Council meeting on January 8th, 2025, passed the following motion supporting the resolution from the Town of Cobalt regarding Improvements to the Catch and Release System:

Motion #15
Moved by John van Klaveren
Seconded by Netty McEwen
That Council support correspondence item 'h' from the Town of Cobalt regarding Improvements to Catch and Release.

Carried.

If you have any questions regarding the above motion, please do not hesitate to contact me by phone or email.

Sincerely,

E Flynn

Ella Flynn
eflynn@plympton-wyoming.ca
Executive Assistant – Deputy Clerk
Town of Plympton-Wyoming

Cc: Rural Ontario Municipal Association, roma@roma.on.ca
Associations of Municipalities Association, amo@amo.on.ca
All Ontario Municipalities

The Corporation of the Town of Aylmer
46 Talbot Street West, Aylmer, Ontario N5H 1J7
Office: 519-773-3164 Fax: 519-765-1446
www.aylmer.ca

January 9, 2025

The Honorable Doug Ford
Premier of Ontario
Legislative Building
Queen's Park
Toronto, ON M7A 1A1
premier@ontario.ca

Re: Motion regarding Opposition to Provincial Legislation on Cycling Lanes and Support for Municipal Authority in Transportation Planning

At their Regular Meeting of Council on January 8, 2025, the Council of the Town of Aylmer endorsed the following resolution:

> WHEREAS the Government of Ontario has announced legislation requiring provincial approval for new cycling lanes;
>
> AND WHEREAS this legislation would compel municipalities to demonstrate that proposed cycling lanes will not negatively impact vehicle traffic;
>
> AND WHEREAS cycling infrastructure is crucial for environmental transportation, road safety, and public health, and provincial oversight in this matter represents an unwarranted intrusion into municipal authority;
>
> AND WHEREAS the Town of Aylmer is evolving an active transportation plan to enhance walking and cycling infrastructure;
>
> AND WHEREAS the Association of Municipalities of Ontario (AMO) has strongly criticized this proposed legislation as a "significant overreach" into municipal jurisdiction;
>
> AND WHEREAS AMO has stated that none of its 444 member municipalities were consulted or shown evidence justifying the province's proposed veto power over new bike lanes;
>
> THEREFORE, BE IT RESOLVED:
>
> 1.That the Town of Aylmer strongly opposes the proposed provincial legislation governing bicycle lanes and affirms its support for maintaining municipal jurisdiction over cycling infrastructure decisions.

The Corporation of the Town of Aylmer
46 Talbot Street West, Aylmer, Ontario N5H 1J7
Office: 519-773-3164 Fax: 519-765-1446
www.aylmer.ca

2.That the Town of Aylmer endorses the AMO's position that municipalities are better positioned than the Ministry of Transportation to make decisions about local transportation matters based on local knowledge and community input.

3.That the Town of Aylmer calls on the Government of Ontario to withdraw the proposed legislation and respect the established authority of municipalities to make informed decisions about local transportation needs, including the implementation of cycling lanes.

4.That the Town of Aylmer reaffirms its commitment to its transportation plan and the continued development of safe, environmentally friendly, efficient cycling infrastructure for the benefit of all residents.

5.That the Town Clerk be directed to forward a copy of this resolution to the Premier of Ontario, the Minister of Transportation, the Member of Provincial Parliament representing constituencies within the Elgin-Middlesex-London region, to the Association of Municipalities of Ontario (amo@amo.on.ca) and all Municipalities in Ontario.

6.That the Town of Aylmer calls upon municipalities across Ontario to adopt similar resolutions in defense of local decision- making authority and sustainable, efficient and environmentally friendly transportation planning.

Thank you,

Owen Jaggard
Director of Legislative Services/Clerk | Town of Aylmer
46 Talbot Street West, Aylmer, ON N5H 1J7
519-773-3164 Ext. 4913 | Fax 519-765-1446
ojaggard@town.aylmer.on.ca | www.aylmer.ca

CC:

Hon. Prabmeet Singh Sarkaria prabmeet.sarkaria@pc.ola.org
Hon. Rob Flack rob.flack@pc.ola.org
Association of Municipalities of Ontario resolutions@amo.on.ca
All municipalities

Société Alzheimer Society

Mayor Narry Paquette
Bonfield - Canton Township
365 Highway 531,
Bonfield, ON, P0H 1E0

December 17th, 2024

Subject: Request for Proclamation and Flag Raising Ceremony for Alzheimer's Awareness Month

Dear Mayor Narry Paquette,

I trust this letter finds you well. I am writing to you on behalf of the Société Alzheimer Society of Sudbury-Manitoulin North Bay & Districts. Our organization provides support, education, respite and resources for individuals and families affected by Alzheimer's disease in our community.

As we approach January 2025, we are eager to engage our community in raising awareness about Alzheimer's disease, particularly during Alzheimer's Awareness Month. To achieve this goal, we would like to request the issuance of an official proclamation declaring January as Alzheimer's Awareness Month in Bonfield - Canton. This proclamation will serve as a testament to our city's commitment to raising awareness and fostering understanding about Alzheimer's Disease. Additionally, I would like to request the raising of a symbolic flag in honor of Alzheimer's Awareness Month at City Hall in Bonfield. The flag serves as a visible reminder of our collective dedication to promoting awareness, encouraging dialogue, and supporting those living the dementia journey.

By officially recognizing and commemorating Alzheimer's Awareness Month, we not only show our solidarity with the individuals and families living the dementia journey, but we also take a significant step towards building a more compassionate and informed community.

I understand that your schedule is busy, and I genuinely appreciate your time and consideration of this request. I am available at your earliest convenience to discuss this proposal further and address any questions or concerns you may have. Thank you for

Main office:
960B Notre Dame Avenue, Sudbury, ON, P3A 2T4
TEL: (705) 560-0603 TOLL FREE: 1-800-407-6369 FAX: (705)-560-6938
EMAIL: info@alzheimersudbury.ca
www.alzheimersudbury.ca
CRN: 12423 7124 RR 0001

considering our request, and we look forward to the possibility of collaborating to make this event a success.

Sincerely,

Shannon Ketchabaw
Executive Director

Main office:
960B Notre Dame Avenue, Sudbury, ON, P3A 2T4
TEL: (705) 560-0603 TOLL FREE: 1-800-407-6369 FAX: (705)-560-6938
EMAIL: info@alzhiemersudbury.ca
www.alzheimersudbury.ca
CRN: 12423 7124 RR 0001

Outlook

Resolution for Consideration - Expanding EPR to the ICI sector

From FONOM Office/ Bureau de FONOM <fonom.info@gmail.com>
Date Thu 1/23/2025 8:00 AM

Good morning Please share this email with your Mayor, Council and Senior Management

The BlueBox and recycling are essential to many of your citizens. In Northeastern Ontario, municipalities will transition to Full Extended Producer Responsibility (EPR) for the household BlueBox program over the next few years. EPR will be important for the Province of Ontario, as producers/stewarts will soon create a sustainable circulatory economy for the paper, packaging and products a household recycles.

Producers/Stewarts are not responsible for products purchased within the Industrial, Commercial, and Institutional (ICI) sectors. Products recycled at home are disposed of by an ICI-funded program or landfilled.

All municipalities are concerned with the lifespan of landfills, and FONOM believes it is important that the Province and the Producers/Stewarts start discussing the transition to a producer-funded EPR system for the recyclables generated by the ICI Sector.

We ask your council to consider supporting the draft resolution below.

I am happy to answer any questions you may have.

WHEREAS under Ontario Regulation 391/21: Blue Box, producers are fully accountable and financially responsible for their products and packaging once they reach their end of life and are disposed of, for 'eligible' sources only;

AND WHEREAS 'ineligible' sources which producers are not responsible for including businesses, places of worship, daycares, campgrounds, public-facing and internal areas of municipal-owned buildings and not-for-profit organizations, such as shelters and food banks;

AND WHEREAS should a municipality continue to provide services to the 'ineligible' sources, the municipality will be required to oversee the collection, transportation, and processing of the recycling, assuming 100% of the costs;

AND WHEREAS these costs will further burden the municipalities' finances and potentially take resources away from vital infrastructure projects;

THEREFORE BE IT RESOLVED THAT the Council of the _____ hereby request that the province amend Ontario Regulation 391/21: Blue Box so that producers are responsible for the end-of-life management of recycling products from all sources;

AND FURTHER THAT this resolution be forwarded to the Honourable Andrea Khanjin, Minister of the Environment, Conservation and Parks, Your Local MPP, AMO, ROMA and FONOM

Email addresses for thoses included in the further;

minister.mecp@ontario.ca; Your Local MPP, amo@amo.on.ca; pwolfbeiss@amo.on.ca; fonom.info@gmail.com

Talk soon, Mac.

Mac Bain
Executive Director
The Federation of Northern Ontario Municipalities
665 Oak Street East, Unit 306
North Bay, ON, P1B 9E5
Ph. 705-498-9510

Corporation de la ville de of the Town of HAWKESBURY

CABINET du MAIRE - MAYOR'S OFFICE

www.hawkesbury.ca

E-mail

January 20th, 2025

Hon. Paul Calandra
Minister of Municipal Affairs and Housing
777 Bay Street, 17th Floor
Toronto, Ontario
M7A 2J3

SUBJECT: Municipal Accountability Act, 2024 - Municipal Code of Conduct

Hon. Paul Calandra:

Members of the Council of the Corporation of the Town of Hawkesbury received your correspondence at its Regular meeting held on January 13, 2025.

After discussion, we concluded that we do not agree with a unanimous vote by members of Council but rather a majority vote in a situation to remove and disqualify members of council and certain local boards for a period of four years for the most serious code of conduct violations, following a recommendation from the local integrity and a concurring report from the Integrity Commissioner of Ontario.

Sincerely,

Robert Lefebvre
Mayor

c.c. All municipalities of Ontario

T. (613) 632-0106 poste/ext. 2288
600, rue Higginson Street, Hawkesbury, ON Canada K6A 1H1

Outlook

Letter to the Hon. Minister Paul Calandra Re: Municipal Accountability Act, 2024 - Municipal Code of Conduct

From Girard, Sonia <sgirard@Hawkesbury.ca>

Date Tue 1/21/2025 3:25 PM

To Paul.Calandra@pc.ola.org <Paul.Calandra@pc.ola.org>

Cc GDMUNHAWConseil@Hawkesbury.ca <GDMUNHAWConseil@Hawkesbury.ca>; mtruelove@rideaulakes.ca <mtruelove@rideaulakes.ca>; Christina.Conklin@uclg.on.ca <Christina.Conklin@uclg.on.ca>; andrea.bolton@uclg.on.ca <andrea.bolton@uclg.on.ca>; cao@Merrickville-wolford.ca <cao@Merrickville-wolford.ca>; clerk@merrickville-wolford.ca <clerk@merrickville-wolford.ca>; cao@villageofwestport.ca <cao@villageofwestport.ca>; pmueller@villageofwestport.ca <pmueller@villageofwestport.ca>; caitlin.salter-macdonald@ottawa.ca <caitlin.salter-macdonald@ottawa.ca>; mouellet@clarence-rockland.com <mouellet@clarence-rockland.com>; sdion@casselman.ca <sdion@casselman.ca>; jbrizard@nationmun.ca <jbrizard@nationmun.ca>; aroy@nationmun.ca <aroy@nationmun.ca>; MUNHAW - DEPT - Fin - Payables <Payable@Hawkesbury.ca>; Girard, Sonia <sgirard@Hawkesbury.ca>; LGut.archives@hawkesbury.ca <LGut.archives@hawkesbury.ca>; arochefort@alfred-plantagenet.com <arochefort@alfred-plantagenet.com>; alison.collard@champlain.ca <alison.collard@champlain.ca>; karla.barton@champlain.ca <karla.barton@champlain.ca>; hvilleneuve@easthawkesbury.ca <hvilleneuve@easthawkesbury.ca>

1 attachment (575 KB)

Letter - Hon. Paul Calandra.pdf;

Hon. Paul Calandra:

Please find enclosed a letter from the Mayor of the Town of Hawkesbury, following the adoption of the resolution below at the Regular meeting held on January 13, 2025, regarding the above subject.

“Moved by Julie Séguin
Seconded by Jeanne Charlebois

Be it resolved to prepare and send a letter to the Minister of Municipal Affairs and Housing to inform him that the Municipal Council of the Corporation of the Town of Hawkesbury does not agreed with a unanimous vote by members of Council but rather a majority vote in a situation to remove and disqualify members of council and certain local boards for a period of four years for the most serious code of conduct violations following a recommendation from the local integrity commissioner and a concurring report from the Integrity Commissioner of Ontario, and;

Be it also resolved that a copy of this resolution be forwarded to all municipalities in Ontario.

Sincerely,

Sonia Girard
Greffière/
Clerk

Téléphone: 613 632-0106

600, rue Higginson, Hawkesbury, ON, K6A 1H1
Web: www.hawkesbury.ca
Courriel: sgirard@hawkesbury.ca

Corporation de la ville de of the Town of HAWKESBURY

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City of Peterborough
500 George Street North, Peterborough Ontario, K9H 3R9

January 21, 2025

Peterborough - Kawartha MPP Dave Smith;
Honourable Doug Ford, Premier;
Honourable Paul Calandra, Minister of Municipal Affairs and Housing;
Honourable Doug Downey, Attorney General;
Association of Municipalities of Ontario; and
Councils of each of Ontario's municipalities.

Subject: Bill 242, Safer Municipalities Act, 2024

The following resolution, adopted by City Council at its meeting held on January 13, 2025, is forwarded for your consideration.

Whereas:

1. **A municipality's parks and open spaces are critical infrastructure that support a strong community, and the public's shared and safe use of the municipality's parks and open spaces is integral to ensuring that support.**

2. **Ontario's municipalities are struggling to maintain their parks and open spaces for their shared and safe use by the public as a result of the increasing proliferation of encampments and illicit activities related thereto.**

3. **Municipalities that enforce their standards regulating or prohibiting encampments in their parks and open spaces must have regard to the availability of shelter space for those who need shelter.**

4. **On January 27, 2023, Justice Valente of the Ontario Superior Court of Justice rendered his judgment in *Waterloo (Regional Municipality) v. Persons Unknown and to be Ascertained* (2023), [2023] O.J. No. 417 (Waterloo Decision) which declared that the municipality's by-law violated section 7 of the *Charter* and was therefore inoperative insofar as it applied to prevent encampment residents from erecting temporary shelters on a site when the number of homeless individuals in the region exceeded the number of accessible shelter beds.**

5. **The Waterloo Decision's analysis of the adequacy of shelter beds suggests an unworkable and unclear standard that goes beyond the number of shelter**

spaces and that includes the requirement to provide shelter spaces that must accommodate illicit drug use and other activities that could put shelter residents, workers and volunteers at risk. The result is that municipalities are impaired in their enforcement of their standards and have lost or are losing control of their parks and open spaces.

6. On December 12, 2024, the Honourable Paul Calandra, Minister of Municipal Affairs and Housing, introduced Bill 242, Safer Municipalities Act, 2024. Among its various initiatives, Bill 242 proposes to amend section 2 of the Trespass to Property Act by adding aggravating factors that must be considered in the court's determination of a penalty under that section. However, the key challenge is that a municipality's exercise of its rights at common law and under section 9 of the Trespass to Property Act to remove encampments from the municipality's parks and open spaces remains potentially subject to the unworkable and unclear standard for the adequacy of shelter space suggested by the Waterloo Decision.

7. In these circumstances, municipalities need provincial legislation that clearly defines a workable standard for shelter space for the purposes of a municipality's jurisdiction to enforce its standards regulating or prohibiting encampments in its parks and open spaces.

Now therefore, be it resolved:

1. That the provincial government be respectfully requested to amend Bill 242 to clearly define a workable standard for shelter space for the purposes of a municipality's jurisdiction to enforce its standards regulating or prohibiting encampments in its parks and open spaces.

2. That, without limitation, Bill 242 provides that a municipality will have met the standard for shelter space for the purposes of the municipality's jurisdiction to enforce its standards regulating or prohibiting encampments in its parks and open spaces:

   a) despite the establishment and enforcement of shelter rules including rules that prohibit drug use and other activities that could put shelter residents, workers and volunteers at risk; and

   b) if an official designated by the municipality is satisfied that the number of available shelter spaces is at least equal to the aggregate of the number of individuals actually seeking shelter and the number of individuals against whom the municipality is planning to enforce its standards regulating or prohibiting encampments in its parks and open spaces.

3. That a copy of this resolution be sent to:

City of Peterborough

a) Peterborough - Kawartha MPP Dave Smith;
b) Honourable Doug Ford, Premier;
c) Honourable Paul Calandra, Minister of Municipal Affairs and Housing;
d) Honourable Doug Downey, Attorney General;
e) Association of Municipalities of Ontario; and to
f) Councils of each of Ontario's municipalities.

Sincerely,

John Kennedy
City Clerk

cc:
City of Peterborough Council
City of Peterborough Staff

Outlook

Re: The Royal Canadian Legion Ontario Command- 12th Annual Military Service Recognition Book

From Louise Fortin <lfortin@campaign-office.com>
Date Wed 1/22/2025 10:48 AM
To Andrée Gagné <deputyclerk@bonfieldtownship.com>

You don't often get email from lfortin@campaign-office.com. Learn why this is important

Thank you.

Have a great day!

From: Andrée Gagné <deputyclerk@bonfieldtownship.com>
Sent: Wednesday, January 22, 2025 11:33 AM
To: Louise Fortin <lfortin@campaign-office.com>
Subject: Re: The Royal Canadian Legion Ontario Command- 12th Annual Military Service Recognition Book

External Message - Please be cautious when opening links or attachments in email

Thank you, I will add that to my agenda.

Andrée Gagné
Deputy Clerk-Treasurer
Township of Bonfield
Email: deputyclerk@bonfieldtownship.com
Ph: 705-776-2641 ext 124
Fx: 705-776-1154

CANTON DE Bonfield TOWNSHIP

Small Community, Big Heart

From: Louise Fortin <lfortin@campaign-office.com>
Sent: Wednesday, January 22, 2025 10:32 AM
To: Andrée Gagné <deputyclerk@bonfieldtownship.com>
Subject: Fw: The Royal Canadian Legion Ontario Command- 12th Annual Military Service Recognition Book

Hello Andrée,

Thank you in advance for your interest in the **Military Service Recognition Book**. As discussed in our recent phone conversation please find attached information outlining the Command Legion's important remembrance project this year on behalf of our Veterans.

This unique remembrance publication includes past and present-day Veterans biographies and photographs. With the help of our Veterans, their families and friends, submissions are collected at local legion branches and our next edition is scheduled for release in **October 2025,** in advance of our Annual Remembrance Day Ceremonies. **This year's publication will be out in conjunction with the 100th anniversary of the Royal Canadian Legion.**

Proceeds raised from this annual project are used to support the **Veterans Transition Programs** that help Veterans who suffer from PTSD, Mental Illness and other such challenges. These programs assist them in transitioning from military life to civilian life.

It is available for all to see at local legion branches and online at the Ontario Command Legion's website: http://www.on.legion.ca/remembrance/military-service-recognition-book. It helps us, and our younger generations, appreciate and never forget the Sacrifices made by our Veterans for the freedoms we enjoy today.

Here is your ad which is the Business Card in color for $395 (taxes included).

We would sincerely appreciate **your** support and appreciation for our Veterans by purchasing an advertisement in our next edition.

If you require any additional information, please reply to this email or phone me at our toll-free number below.

Thank you for your consideration and/or support.

Sincerely,

Louise Fortin
Advertising Rep / Publication Office
The Royal Canadian Legion Ontario Command
Campaign Office
(1-855-241-6967)
oncl@fenety.com

www.on.legion.ca

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National Wall of Remembrance Association
Association de la Muraille commémorative nationale

A Message from the Chairman

The National Wall of Remembrance Association would like to thank you for your support of our project.

More than 117,000 men and women made the ultimate sacrifice to ensure future generations of Canadians live in a free and democratic country. These courageous individuals are buried in cemeteries in Canada, Europe, Russia, South Africa, North Africa, India, Burma, Japan, South Korea and in Hong Kong. Many have no marked grave, and many were lost at sea.

Our mission is to provide one place of Remembrance, both physical and virtual, as an enduring tribute to these brave souls.

Together, with your support, we will erect a permanent monument to the Fallen in the city of Kingston Ontario, birthplace to much of Canada's military history. The companion virtual component is already live at www.canadianfallen.ca. We encourage you to visit the site and search for relatives, submit photos and documents relevant to a profile or read about Canada's major military conflicts.

Our secondary objective, after the monument is erected, will be to ensure the long-term sustainability of both the monument and the virtual space. As an Association aligned with Canada's military, we will also be supporting organizations whose mission is to assist veterans and their families.

Together we can get this done.

Sincerely,

Gary W Coulter

Insp. Gary W. Coulter (ret)
Chairman, NWORA

Bonfield

CANTON TOWNSHIP

Township of Canton
365 Highway 531
Bonfield, ON P0H 1E0

(705)776-2641
deputyclerk@bonfieldtownship.com

www.bonfieldtownship.com

National Wall of Remembrance Association
PO Box 1204
Kingston, Ontario K7L 4X8
Tel.: 1-877-554-2622

Sale Date: 22-Jan.-2025

Invoice #: 3685973GN1301

Item:01 Description:NWRA23/NE34/BC

Size: BUSINESS CARD Cost: 319.00

Due Date: 21-Feb.-2025 HST # 805189404RT0001 HST: 41.47

MS. ANDRE'E GAGNE'
THE CORPORATION OF THE TOWNSHIP OF BONFIELD
365 HIGHWAY 531
BONFIELD ON P0H 1E0

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E-Transfer: Send your payment to accounting@imedianorthside.com and write the Complete Invoice # in the notes/messages section.

Total: 360.47

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National Wall of Remembrance Association
PO Box 1204
Kingston, Ontario K7L 4X8

Publication NWRA23 Edition: NE34

Invoice #: 3685973GN1301 Sale 22-Jan.-25

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Cost: 319.00
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MS. ANDRE'E GAGNE'
THE CORPORATION OF THE TOWNSHIP OF BONFIELD
365 HIGHWAY 531
BONFIELD ON P0H 1E0

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Cheque payable to: W.O.R. Review

Your advertisement will appear in the regional edition of the WOR Review

We believe that it is imperative for this and future generations to remember the sacrifices of our veterans. The National Wall of Remembrance, a 21st century tribute to the more than 117,000 Canadian heroes, who have given their lives in all conflicts to ensure our freedom, will provide a great opportunity for both remembrance and education.

Lorne McCartney – ANAVETS Dominion Secretary-Treasurer

Courageous Canadian Soldiers have fought and died in numerous wars and battles to keep our country free. Local veterans are determined to honour every one of the more than 117,000 Canadian Heroes…going back to the war of 1812…with a wall of remembrance.

Chris Harvey, CKWS Television, Kingston

So many memorials and cenotaphs recognize certain conflicts, World War One, World War Two, Korea. This will recognize them all. All I can tell you is that it's going to be magnificent. "That's Our Plan".

Allan Jones – WOR Association

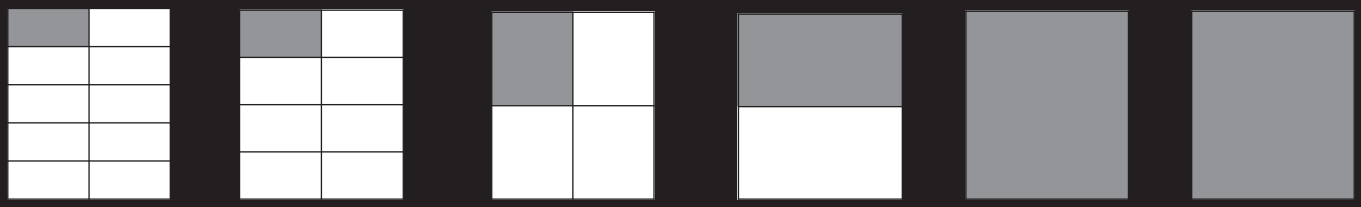
The National Wall of Remembrance Association would, once again, like to thank you for your generous support. In order to honour your commitment, we respectfully ask that you enclose your ad copy and payment in the envelope provided and return it to the Association as soon as possible.

Thank You!

ADVERTISING CHECK LIST

AD DIMENSIONS

FINISHED Digital Publication - 8.25 w x 10.75 h. **Please ensure your artwork corresponds to the ad sizes specified below:**



BUSINESS CARD	EIGHTH PAGE	QUARTER PAGE	HALF PAGE	FULL PAGE	INSIDE COVERS
3.375 w x 1.875 h	3.375 w x 2.375 h	3.375 w x 4.875 h	6.875 w x 4.875 h	6.875 w x 10 h	8.25 w x 10.75 h

- **SEE ABOVE** diagram for specific size and layout for your advertisement submission.
- **FULL COLOUR** available for Inside Covers & Full Pages **ONLY.**
- **INSIDE COVERS REQUIRE BLEEDS*** they must extend 1/4" (.25) beyond the 8.25 x10.75 image area with crop marks to indicate.

OUTPUT

Any advertisement submitted must be in one of the following formats:

Platforms: **PC or MAC acceptable output options:**
- ❑ **CD media disk or DVD (Mailed)**
- ❑ **Zip File (5mb max) Emailed**

Applications: **Adobe Photoshop or Adobe Illustrator**

File Formats: **.pdf, .jpg, .eps, .png, .psd, .ai** (please ensure all images & fonts are submitted separately for .psd and .ai files).

Size: **300 dpi or higher resolution, saved at 100% size as** (according to the ad dimensions listed above).

NOTE: *Please ensure a copy of the ad is supplied either by email or mailed.*

REMINDER

If you wish to have your CD/DVD or artwork returned, please specify in writing with your invoice or via email.

If you are supplying a hard copy of your business card or logo do **NOT** bend, fold or staple. Please indicate changes to business card if applicable.

If your advertisement is emailed, please enter your **company name** and **account #** in the **subject line**, attach the ad copy and email to **graphics@imedianorthside.com**.

In the event **NO** ad copy is received, a generic advertisement will be created for you. This will include your business name, address and telephone number.

For general inquiries, contact us at **1-800-267-1266.** For technical advice concerning your advertisement, please email **graphics@imedianorthside.com**.

IMPORTANT

HAVE YOU REMEMBERED TO ENCLOSE?

❑ ***Artwork*** ❑ ***Account #*** ❑ ***Payment***

iMEDIA NORTHSIDE INC

AORS

PROMOTING **KNOWLEDGE**. PURSUING **EXCELLENCE**.

FOR IMMEDIATE RELEASE

Royal Lafleur Steps Down After 27 Years of Service on the AORS Board of Directors

Nipissing, ON – The Association of Ontario Road Supervisors (AORS) announces that Royal Lafleur is stepping down from his position as the AORS Representative for the Nipissing Road Association after an incredible 27 years of dedicated service on the Board of Directors. His tenure is marked by unwavering commitment to AORS and his exceptional career in public works, serving the Municipality of St. Charles for 35 years, retiring as the Director of Public Works in 2020.

The Nipissing Road Association encompasses the following municipalities: City of North Bay, Municipality of Calvin, Municipality of Callander, Municipality of East Ferris, Municipality of French River, Municipality of Markstay-Warren, Municipality of St-Charles, Municipality of West Nipissing, Town of Mattawa, Township of Bonfield, and Township of Papineau-Cameron. Throughout his tenure, Royal has been a steadfast advocate for municipal public works, representing the interests of these communities with professionalism and dedication.

“On behalf of the entire AORS Board, I want to express our deepest gratitude to Royal for his many years of exemplary service,” said AORS President Joe Reid, CRS-S. “Royal’s dedication to AORS and to the advancement of public works in Ontario has left a lasting impact. His leadership and commitment have not only strengthened our organization but have also significantly benefited the municipalities he represented. We wish him all the best as he steps down from his role and look forward to his continued friendship and guidance.”

Royal’s contributions to AORS have been instrumental in fostering collaboration among municipalities and improving the standards and practices of public works across the province. His legacy will continue to inspire current and future members of the organization.

The AORS Board of Directors and the Nipissing Road Association thank Royal Lafleur for his exceptional service and wish him well in all his future endeavors.

ABOUT AORS

The Association of Ontario Road Supervisors (AORS) is a professional association that supports public works professionals across Ontario. AORS provides training, certification, and advocacy to advance the standards of public works and municipal operations in the province.

MEDIA CONTACT

Kelly Elliott, Marketing and Communications Specialist, kellyelliott@aors.on.ca

THE CORPORATION OF THE TOWNSHIP OF BONFIELD

BY-LAW NO. 2025-08

Being a By-Law to Confirm the Proceedings Of Council

WHEREAS it is the desire of Council to confirm all Proceedings and By-Laws:

NOW THEREFORE the Council of the Corporation of the Township of Bonfield **ENACTS AS FOLLOWS**:

1. **THAT** the Confirmatory Period of this By-Law shall be for all Regular Council and Special Meetings from January 14, 2025 to January 28, 2025 inclusive.

2. **THAT** all By-Laws passed by the Council of the Township of Bonfield during the period mentioned in Section 1 are hereby ratified and confirmed.

3. **THAT** all resolutions passed by the Council of the Township of Bonfield during the period mentioned in Section 1 are hereby ratified and confirmed.

4. **THAT** all other proceedings, decisions and directions of the Council of the Township of Bonfield during the period mentioned in Section 1 are hereby ratified and confirmed.

READ A FIRST, SECOND, AND THIRD TIME AND FINALLY PASSED THIS 28th DAY OF JANUARY 2025.

_____
MAYOR

_____
CLERK