Ministry of the Environment, Conservation and Parks
Drinking Water and Environmental Compliance Division
West Central Region

119 King Street West, 12th Floor
Hamilton, Ontario L8P 4Y7
Tel.: 905 521-7640
Fax: 905 521-7820

Ministère de l'Environnement de la Protection de la nature et des Parcs
Division de la conformité en matière d'eau potable et d'environnement
Direction régionale du Centre-Ouest

119 rue King Ouest, 12e étage
Hamilton (Ontario) L8P 4Y7
Tél.: 905 521-7640
Téléc.: 905 521-7820

Ontario

February 12, 2024

Ms. Beverly Hendry, CAO
Township of West Lincoln
318 Canborough Street
P.O. Box 400
Smithville, ON
L0R 2A0

Dear Ms. Hendry:

RE: Smithville PCB Site Remediation – 2022 and 2023 Site Operations Summary Report

Please find enclosed a copy of the annual report titled "*Smithville PCB Site (Former CWML Site), 2789 Thompson Road, Smithville Phase IV Bedrock Remediation Program, 2022 and 2023 Site Operations Summary Report*" prepared by the Ministry of the Environment, Conservation and Parks. The report is provided as part of the ministry's commitment to open communications with the Township of West Lincoln.

If you have any questions regarding the operations at the Smithville PCB Site, please contact me at (289) 244-2421.

Sincerely,

Jason Rice
Regional Engineer
West Central Region

Cc
Kim Groombridge, Ministry of the Environment, Conservation and Parks
Sam Sianas, Ontario Clean Water Agency
Brian Treble, Township of West Lincoln
Phill Lambert, Niagara Region
Joe Tonellato, Niagara Region
Jason Oatley, Niagara Region

Encl.

Smithville PCB Site (Former CWML Site)
2789 Thompson Road, Smithville
Smithville Phase IV Bedrock Remediation Program
2022 and 2023 Operations Summary Report

Prepared by: Ontario Ministry of the Environment, Conservation and Parks
West Central Region Office
12th Floor, 119 King Street West
Hamilton, Ontario L8P 4Y7
Telephone: 1-800-668-4557

February 12, 2024

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1. BACKGROUND

Chemical Waste Management Limited (CWML) was licensed in 1978 to operate a hazardous waste transfer site at 2789 Thompson Road in the Smithville industrial park. The facility received used electrical equipment and dielectric fluids containing polychlorinated biphenyls (PCBs) and chlorobenzene. The used equipment and waste liquids containing PCBs were stored at the site for export to the United States. The facility operated from 1978 to 1985 and received an estimated 434,000 litres of liquid waste. The site is referred to today as the Smithville PCB Site (site).

In 1980 the export of PCB waste to the United States was banned. The site was then used for temporary storage of PCB waste. In 1985, it was discovered that CWML's poor waste management practices led to waste liquids containing PCBs and other chlorinated organic contaminants seeping into the site soil, migrating into bedrock and contaminating groundwater. CWML declared bankruptcy in 1985 and the Ministry of the Environment, now the Ministry of Environment, Conservation and Parks (ministry) assumed control of the site. The ministry implemented emergency clean-up measures at the site and initiated a four-phase site clean-up and remediation program.

When it was discovered that the groundwater contamination was threatening the municipal drinking water supply, the municipal water supply well was shut down, and the ministry funded $3 million to construct a municipal water supply pipeline from Grimsby (Lake Ontario) to provide Smithville with a safe and reliable drinking water supply. The ministry obtained site ownership and constructed a groundwater pump and treatment system in 1989 to prevent further off-site migration of contaminated groundwater.

By 1993 the first three phases of the four-phase remediation program were completed and the primary goal of protecting human and environmental health and safety had been accomplished. The stored wastes, contaminated materials and surface soil impacts were destroyed using a temporary on-site incinerator that operated under a Certificate of Approval (Air). However, contamination remained in the bedrock and groundwater beneath the site and adjacent lands in the Smithville industrial park.

In 1994, the ministry and the Township of West Lincoln (Township) agreed to work co-operatively in the search for a solution to remediate the subsurface. The Minister appointed a six-member Managing Board of Directors (Board) with an equal number of representatives from the public, elected municipal council and ministry. The Board examined a long list of subsurface remediation technologies and conducted extensive investigations of the site geology, hydrogeology and issues associated with contaminant transport in bedrock.

Between 1995 and 1999, the site and adjacent lands underwent extensive characterization work, including numerous hydraulic tests, tracer tests, bedrock geological properties studies and dense non-aqueous phase liquid (DNAPL) physical and chemical characterization. The Board took almost eight years and spent close to $6 million to arrive at today's understanding of the

site and the assessment and selection of remedial options for the dissolved phase groundwater impacts in bedrock.

In 2001, the Board issued the remediation recommendations report. The Board reported the only suitable measure was to contain the bedrock contamination. There was no proven or economically viable mass removal or reduction technologies suitable for application in the fractured bedrock at the Smithville PCB Site. The Board was confident the groundwater pump and treatment technology was the best option, as it was technically sound, environmentally safe and fiscally responsible. The groundwater pump and treatment system was effectively managing the contamination and protecting the public health, safety and the environment. The Board recommended that the ministry continue to utilize the groundwater pump and treat technology to manage the subsurface contamination. The Board was dissolved in 2002 and the ministry remained responsible for the Site remediation and monitoring program.

Between 1985 and 2023, the ministry spent approximately $71.4 million managing the Smithville PCB Site and implementing the four-phase remediation program. The ministry continues to manage the site, subsurface groundwater contamination in bedrock to ensure the continued protection of public health, safety and the environment. The ministry is committed to keeping West Lincoln informed of site remedial activities by providing annual operations summary reports to the Township.

2. INTRODUCTION

The ministry continues to manage the Smithville PCB site and the associated groundwater collection and treatment (pump and treat) system to ensure the continued protection of public health, safety and the environment. The Ontario Clean Water Agency (OCWA), under contract to the ministry, is responsible for the day-to-day operations of the groundwater pump and treatment system, waste management, management of on-site facilities, maintenance of the on and off-site groundwater monitoring network and the collection and analysis of groundwater monitoring and treatment system samples.

This report summarizes the Phase IV program activities and site operations for the period of 2022 and 2023.

3. SITE OPERATIONS

3.1 Groundwater Pump and Treatment System

Groundwater remediation involves the collection and treatment of contaminated groundwater from shallow bedrock at the Smithville PCB Site. Contaminated groundwater is collected through a series of eight recovery wells (RWS1 to RWS8) that have been in operation since 1989, in accordance with the current Permit To Take Water (PTTW) Number 6567-AZGL95

issued June 11, 2018. The groundwater recovery wells are located along the east side of the site; and, on the Township-owned properties located to the east and south sides of the site. The purpose of the groundwater pump and treatment system is to control further migration of contaminated groundwater in bedrock from the source area, collect and treat the dissolved contaminants (PCBs) which have migrated into the shallow bedrock aquifer. Groundwater extraction wells impose a hydraulic capture zone around the contaminated groundwater source area at the site to prevent lateral migration of the contaminants beyond the source area.

The contaminated groundwater is conveyed through an above ground pipe network to the raw water storage tanks located in the on-site treatment building. The groundwater treatment system is owned and operated by Sanexen Environmental (an OCWA subcontractor) and consists of the following equipment:

- One pressurized sand filter to remove the organics;
- Two cotton media filters to treat hydrophobic chemicals such as the PCBs; and,
- Two granular activated carbon filters for final treatment of the contaminated water.

Following treatment, the water is collected in the storage tanks located inside the on-site treatment building and tested for total PCBs prior to batch discharge to the Township's sanitary sewer in accordance with the Region of Niagara's Sewer Use By-law.

Since the operation of the groundwater collection and treatment system began in 1989, the treatment system was designed to treat groundwater from the site to less than 1.0 micrograms per liter or parts per billion (μg/L or ppb) total PCBs prior to discharge to the municipal sanitary sewer. In addition, starting in 2021 batch discharges of treated water from the site are to be in accordance with Niagara Region's site-specific Batch Discharge Permit (effective January 11, 2021). Niagara Region's Batch Discharge Permit issued on April 7, 2022 revoked the previous permit, allowing discharge to the sanitary sewer if the treated water grab sample result for total PCBs does not exceed 0.10 μg/L.

Raw (Pre-Treated) Water Concentrations

As of 2019, raw (pre-treated) water samples are collected from each of the eight recovery wells (RWS1 to RWS8) for PCB analysis on an annual basis. In previous years, the raw water samples were collected on a quarterly basis.

The annual groundwater samples were collected from the eight recovery wells in the spring (April or May) of 2022 and 2023. The concentration of total PCBs in groundwater samples collected from the eight recovery wells ranged from 0.17 to 39 μg/L or ppb. The average concentration of total PCBs for the samples collected from the eight recovery wells in 2022 and 2023 was 9.0 and 4.3 μg/L, respectively. The PCB concentrations are similar to sampling data from recent years. The concentration of total PCBs in the groundwater samples collected from the eight recovery wells in 2022 and 2023 for each of the eight recovery wells is provided in **Table 1**.

Treated Water Concentrations

Treated groundwater from the on-site treatment system is stored in the above ground storage tanks located inside the treatment building and sampled for total PCBs prior to batch discharge to the municipal sanitary sewer in accordance with the Region of Niagara's Sewer Use By-law and the new Batch Discharge Permit established for the site in January 2021. Niagara Region's Batch Discharge Permit issued on April 7, 2022 (which revoked the permit issued in 2021), allows discharge to the sanitary sewer if the treated water grab sample result for total PCBs does not exceed 0.10 μg/L, or as approved on a case-by-case basis by Niagara Region. On behalf of the ministry, OCWA samples the treated water and reports the monthly sanitary sewer discharge volumes in a letter to the Township on a quarterly basis.

During the period of 2022 and 2023, a total of 10,019,000 litres and 10,053,000 litres, respectively of groundwater was collected from the eight recovery wells, treated on-site and batch discharged to the municipal sanitary sewer system following testing for total PCBs. The 2022 total treated discharge volume was a decrease of 2.2 percent to the 2021 discharge volume of 10,242,000 litres. The 2023 total treated discharge volume was an increase of 0.3 percent to the 2022 discharge volume of 10,019,000 litres.

In 2022, total PCBs were either below (not detected) or detected at the laboratory method detection limit of 0.01 μg/L in 38 of the 47 treated water samples (81 percent of the samples). Total PCBs were detected above 0.01 μg/L in 9 treated water samples ranging from 0.03 to 0.04 μg/L. **Table 2** provides a summary of the monthly PCB concentrations for treated effluent discharges, and the total monthly volume of treated effluent in 2022.

In 2023, total PCBs were either below (not detected) or detected at the laboratory method detection limit of 0.01 μg/L in 42 of the 47 treated water samples (89 percent of the samples). Total PCBs were detected above 0.01 μg/L in 5 treated water samples ranging from 0.02 to 0.04 μg/L. **Table 3** provides a summary of the monthly PCB concentrations for treated effluent discharges, and the total monthly volume of treated effluent in 2023.

All samples for the 47 treated water batches in 2022 and 2023 met the original treatment criteria of less than 1.0 ug/L (in place since the beginning of the groundwater collection and treatment system operation in 1989), and met Niagara Region's Batch Discharge Permit of 0.10 μg/L. Treated water from the site was conveyed to the Niagara Region's Baker Road wastewater treatment plant.

The volume of groundwater recovered and treated will continue to be monitored and reported to the Township and Niagara Region in 2024.

3.2 Groundwater Monitoring Program

The Smithville PCB Site groundwater monitoring program was first developed in 1988, prior to the operation of the groundwater pump and treatment system. The primary objective was to

protect human health (i.e. users of private domestic wells at the time) and to determine and monitor the extent of the groundwater contamination.

At one time there was a total of 122 groundwater monitoring wells (prior to the Phase IV Bedrock Remediation Program) established in 74 boreholes at 60 different drilling locations on and around the Smithville PCB Site. The boreholes and monitoring wells have been used to gather information on the geology, hydrogeology, contaminant distribution and /or performance of the groundwater pump and treatment system. Included in the 122 groundwater monitoring wells are the eight recovery wells (RWS1 to RWS8) used for the collection of contaminated groundwater from the shallow bedrock.

Groundwater monitoring wells are arranged in "rings" used to track contaminant trends and migration of the dissolved-phase contaminant plume from the site. The monitoring well rings were designed to monitor the contaminant plumes in the shallow (Upper Eramosa) and deep (Vinemount) bedrock aquifers. A review of past reports and data reveals that the dissolved-phase contaminant plume extends to most of the inner ring monitors for both aquifers. Monitoring of “inner ring” wells continues to track contaminant trends in the impacted area. The outer-most monitoring ring is intended to act as an "early warning system" to protect potential receptors downgradient of the Site.

There are currently 75 groundwater monitoring wells on and around the Smithville PCB Site. Refinements to the performance monitoring program have been implemented over the years based on groundwater monitoring data and contaminant trend analysis. The ministry’s 2021 and 2023 groundwater monitoring programs included 9 monitoring wells near the site and all 8 groundwater recovery wells. These wells are currently sampled by OCWA on an annual basis to confirm the containment of the DNAPL dissolved phase plume at the site. The ministry’s 2022 groundwater monitoring program included samples from wells on both the annual program as well as the wells on the biennial (every two years) program. The 2024 groundwater monitoring program will include samples from wells on both the annual program and the wells on the biennial program.

The groundwater monitoring data generally indicates the site-specific contaminants (PCBs and select chlorinated VOCs) in groundwater monitoring wells located upgradient and downgradient of the DNAPL source area have decreased significantly since 1988 and the groundwater plumes of dissolved phase contaminants are generally either stable or shrinking. This progress may be due to the combined effects of the groundwater pump and treatment system and natural attenuation processes.

In addition to the current groundwater monitoring program on and around the Smithville PCB Site, the ministry historically sampled select nearby domestic wells in West Lincoln to confirm that the contamination associated with the Smithville PCB Site is not migrating and impacting drinking water quality. None of the chemical parameters attributed to the contamination from the Smithville PCB Site have ever exceeded the Ontario Drinking Water Quality (ODWQ) Standards for samples collected from any of the domestic wells.

Over time, the domestic well sampling in West Lincoln has been reduced due to the on-going operation of the pump and treatment system, the collection of data from the groundwater monitoring network at the site and surrounding area, abandonment of nearby domestic wells by private landowners, and accessibility to private properties that the wells are located. Of the list of historical private wells near the site, only one domestic private well site was accessible for sampling in 2018 and the results confirmed that the well water quality is unaffected by the subsurface contamination at the Smithville PCB Site. The property owner decommissioned the well in 2018 as part of the property re-development. No domestic well water samples were collected since 2018.

3.3 Monitoring Well Inspections

OCWA conducts regular inspections of all the groundwater monitoring wells associated with the Smithville PCB Site to ensure they remain secure and damage free. No significant repairs were required for the groundwater monitoring wells in 2022 and 2023.

From time to time, the ministry receives requests from property owners to conduct alterations to ministry monitoring wells located on their property in the Smithville industrial park. The ministry received no property owner requests in 2022 and 2023.

3.4 500-Metre Exclusion Zone

The ministry's interests related to the Smithville PCB Site, including the on-going remediation and monitoring of groundwater impacts in a portion of the Smithville industrial park are protected through Section 6.10.4 Employment Area Policies, subsection (g) of the Township's Official Plan, as follows:

> *"All designated employment lands within 500 metres of the intersection of Spring Creek Road and Thompson Road, as shown on the land use plan shall be subject to the following provision: drilling, vibration, blasting, bedrock excavation and taking of groundwater shall be restricted and may only be undertaken subject to a professional assessment of such activities and the approval of the Ministry of Environment."*

In 1997, the 500-metre groundwater extraction exclusion zone from the intersection of Spring Creek Road and Thompson Avenue was implemented for the Smithville PCB site through an amendment to the Official Plan.

<u>Site Plan Application Reviews</u>

The ministry assists the Township with reviews of Site Plan Applications for properties located in or near the Smithville industrial park. The purpose of the ministry's review is to identify development restrictions for water taking and disturbance of bedrock to ensure that the development does not pose a risk to the groundwater contamination and the on-going pump and treatment system at the site.

The ministry has continued to support the Township with Site Plan Application reviews associated with properties in or near the Smithville Industrial Park in 2022 and 2023.

Smithville Master Community Plan

In 2023, the ministry supported Niagara Region and West Lincoln Township by providing environmental data (e.g., monitoring well stratigraphy logs, groundwater quality, etc.) associated with the Smithville PCB Site. Portions of the planned infrastructure work for the installation of a new watermain and sanitary sewer is proposed to be located in or near the 500-metre exclusion zone. The ministry's input on the project will continue into 2024.

3.5 PCB Storage Inventory & Site Inspections

The storage and off-site disposal of materials containing PCBs is done so in accordance with the Government of Canada's PCB Regulations (SOR/2008-273) and Ontario Regulation 362 *Waste Management – PCBs*. The PCB storage building at the site complies with the requirements for a PCB storage facility in Ontario.

The storage of materials contaminated or suspected to be contaminated with PCBs is limited to materials generated at the site as part of the on-going operation of the pump and treat system, such as groundwater pumps, rags, gloves, wastewater treatment filters and sludge. PCB solid waste is stored in a metal 45-gallon drum located inside the PCB storage building. The inventory of the on-site PCB storage building as of December 31, 2022 and December 31, 2023 is summarized in **Table 4**. The PCB inventory is updated and reported on a quarterly basis to the ministry's Niagara District Office. The PCB inventory and off-site destruction records are also reported by the ministry to the Government of Canada on an annual basis.

Access to the facility is restricted to authorized personal. The site is secured by a fenced perimeter and locked entrance gate. OCWA conducts monthly inspections to confirm the site is secure and that the integrity of the material storage containers has not been compromised. The inspections performed by OCWA during the 2023 and 2023 period confirmed that there were no breaches in containment or spills of stored materials or site security issues.

4. INITIATIVES TO IMPLEMENT BOARD RECOMMENDATIONS

In March of 2002, the Minister of the Environment wrote to the Chair of the Managing Board of Directors of Management of the Smithville Phase IV Bedrock Remediation Program (Board), accepting the Board's recommendations presented in the Phase IV Step 10 Recommendation Report (October 2001). The ministry continues forward with its commitments to implement the Board's recommendations, including:

- Monitoring research on remediating fractured bedrock sites to search for an eventual remedial solution;

- Considering research projects at the site to further site knowledge or to test new technically sound technologies; and,
- Optimizing the groundwater pump and treatment system.

4.1 Bedrock Research Studies

The ministry's Environmental Science and Standards Division (ESSD) provided $213,000 in funding to sponsor research projects from 2005 to 2011 on contamination and remediation in fractured rock. No further research studies were conducted by the ministry in 2022 and 2023.

4.2 Site Hydrogeologic Investigations

From 2005 to 2012, several hydrogeologic research investigations have been completed at the Smithville PCB Site:

1) In 2005, Queens University provided site hydrogeologic information in eight report deliverables, as per a previous agreement with the Phase IV Board. The deliverables included:
    a. Development of a groundwater flow model at the Smithville PCB site;
    b. Calibration of the model with site-specific data;
    c. Examination of the effects of groundwater pumping (water taking) near the pump and treatment system (in the vicinity of the DNAPL source zone);
    d. Evaluation of the hydraulic capture (source containment) of the pump and treatment system;
    e. Optimization of the groundwater monitoring well network;
    f. Assessment of the need for optimization of the groundwater capture zone; and,
    g. Assessment of impact of recharge above the former lagoons on the performance of the pump and treatment system (hydraulic containment).

2) In 2007 - 2012, the University of Waterloo completed a hydrogeologic study of the Smithville PCB Site to update our understanding of the contaminant source zone and depletion of contaminants over time at the site. The study included field sampling as well as source zone and contaminant transport modelling.

Hydrogeologic research investigations were not conducted at the Smithville PCB Site in 2022 or 2023.

4.3 Treatment System & Monitoring Programs

<u>Treatment Plant</u>

From 2010 to 2013, the ministry completed several phases of treatment plant optimizations, including the following construction projects:

1) Installation of new raw water treatment tanks in the warehouse, constructing secondary containment and piping structures for these tanks and some building repairs;
2) Installation of a new warehouse roof;
3) Building upgrades for new final treatment tanks and the upgrading of electrical services;
4) Installation of the new final treatment tanks; and,

5) Movement of the treatment plant inside the warehouse building and subsequent connection to the new final treatment tanks.

The demolition and removal of the old final treatment tanks, the old pump house and the cleanup of the old treatment building was completed in 2010. The office building relocation was completed in 2011. In September 2013, the remaining old treatment tanks were removed from the site. Groundwater treatment plant optimizations were not required at the Smithville PCB Site in 2022 or 2023.

Groundwater Monitoring

In 2012, seven unused groundwater monitoring wells on Township lands to the south of the Site, which is leased by the ministry, were decommissioned in accordance with Ontario Regulation 903 and removed from the monitoring program. An additional 17 groundwater monitoring wells in three geographic locations to the north, east and west of the site, were decommissioned in 2014-15.

The multi-level groundwater monitoring well systems (Westbay systems) included 11 monitoring wells installed in angled wellbores that were installed from 1995 to 1998 for the Phase IV Bedrock Remediation Program. Some of the Westbay wells were intended to provide regional background data for past research projects for the Smithville PCB Site and used for vertical characterization evaluations of the bedrock formations. One Westbay well (BH 64) was decommissioned as part of the ministry's risk management measures in January 2015 as the well integrity was compromised. The multi-level Westbay monitoring wells are not currently being used by the ministry.

In 2017-18, the ministry initiated a review of the groundwater monitoring program to assess opportunities for improvement and to provide recommendations for on-going monitoring for the Smithville PCB Site. Based on the evaluation, the ministry developed a new monitoring program that was first implemented in 2019 at the site and nearby properties in the Smithville industrial park. The monitoring program currently includes annual groundwater sampling for nine monitoring wells and the eight recovery wells; and, biennial groundwater sampling for 17 monitoring wells. Since the 2017-18 monitoring program review, the ministry has made some minor adjustments (e.g., switching sampling of select wells from biennial to annual frequency) based on the review of the groundwater data.

The ministry's groundwater monitoring program continues to provide information regarding contaminant plume migration and changes in chemical concentrations at appropriate monitoring locations, enabling to verify that contaminants are not endangering potential receptors.

4.4 Next Steps

Former Research Excavation Pit

There is an open excavation pit surrounded by a chain-link fence along the northern portion of the Smithville PCB Site. The excavation pit is located at the former location of CWML's stormwater lagoon. In 1991, PCB contaminated soil was excavated down to bedrock in the area where the excavation pit currently exists. The contaminated soil was incinerated on-Site and subsequently stockpiled on-Site. The excavation pit was used for hydrogeological studies in past years.

In 2017, the ministry initiated a review of past studies associated with the excavation pit. The ministry is considering backfilling the excavation pit. Currently, the excavation pit fills from groundwater and surface water inflow and is periodically pumped out and treated by the on-site groundwater treatment system.

The ministry collected surface soil samples from the on-site stockpiled soil for chemical analysis to evaluate the soil quality for possible re-use as backfill in the excavation pit. The findings of the soil sampling program were evaluated in 2018. Based on the 2017 soil sample data, the on-site soil piles are appropriate for use as backfill in the excavation pit; all of the samples collected from the post-incinerated soil piles are below appropriate generic soil standards (i.e. Ontario Regulation 153/04 generic soil standards for industrial property use). The ministry will be reviewing the on-going management of the excavation pit and potential for backfilling the pit.

Table 1: 2022 and 2023 Groundwater Recovery Wells PCB Concentrations

Sample Dates	Recovery Well Names and PCB Concentrations (μg/L or ppb)								
	RWS1	RWS2	RWS3	RWS4	RWS5	RWS6	RWS7	RWS8	Average PCB Concentration
April 12 or 21, 2022	0.54	39	6.5	3.4	2.5	5.4	14	0.54	**9.0**
May 9, 10, 11 or 12, 2023	0.71	14	5.4	1.5	2.9	2.9	7.2	0.17	**4.3**

Note: As of 2019, the sampling frequency of the groundwater recovery wells RWS1 to RWS8 for total PCBs was changed from quarterly to annually.

Table 2: 2022 Treated Water Effluent Discharges

Quarter	Month	Treated Effluent Total PCB Concentration (μg/L or ppb)	Total Sanitary Sewer Discharge Volume (Litres)
1st	**January 2022**	<0.01 to 0.01	635,000
	February 2022	<0.01 to 0.03 (PCBs detected in 1 of 3 samples)	637,000
	March 2022	0.01 to 0.03 (PCBs detected in all 5 samples)	1,065,000
2nd	**April 2022**	<0.01 to 0.04 (PCBs detected in 3 of 4 samples)	851,000
	May 2022	<0.01 to 0.01	854,000
	June 2022	<0.01 to 0.03 (PCBs detected in 3 of 4 samples)	852,000
3rd	**July 2022**	<0.01 to 0.01	853,000
	August 2022	Non-detect (<0.01)	853,000
	September 2022	Non-detect (<0.01)	858,000
4th	**October 2022**	Non-detect (<0.01)	853,000
	November 2022	Non-detect (<0.01)	853,000
	December 2022	Non-detect (<0.01)	855,000
2022 Total Sanitary Discharge Volume (Litres)			**10,019,000**

Notes:
Analytical Method Reportable Detection Limit (RDL) is less than (<)0.01 μg/L.
Niagara Region's Batch Discharge Permit issued April 7, 2022 allows discharge to the sanitary sewer if the treated water grab sample result for total PCBs does not exceed 0.10 μg/L.

Table 3: 2023 Treated Water Effluent Discharges

Quarter	Month	Treated Effluent Total PCB Concentration (μg/L or ppb)	Total Sanitary Sewer Discharge Volume (Litres)
1st	January 2023	0.01 to 0.04	1,046,000
	February 2023	<0.01 to 0.01	857,000
	March 2023	<0.01 to 0.01	1,071,000
2nd	April 2023	<0.01 to 0.01	856,000
	May 2023	Non-detect (<0.01)	858,000
	June 2023	<0.01 to 0.02 (PCBs detected in 1 of 3 samples)	644,000
3rd	July 2023	Non-detect (<0.01)	642,000
	August 2023	Non-detect (<0.01)	858,000
	September 2023	Non-Detect (<0.01)	861,000
4th	October 2023	<0.01 to 0.01 (PCBs detected in 1 of 3 samples)	644,000
	November 2023	Non-Detect (<0.01)	855,000
	December 2023	Non-Detect (<0.01)	861,000
2023 Total Sanitary Discharge Volume (Litres)			**10,053,000**

Notes:
Analytical Method Reportable Detection Limit (RDL) is less than (<)0.01 μg/L.
Niagara Region's Batch Discharge Permit issued April 7, 2022 allows discharge to the sanitary sewer if the treated water grab sample result for total PCBs does not exceed 0.10 μg/L.

Table 4: 2022 and 2023 PCB On-Site Waste Storage Summary

Year	Storage Containers	Contents	Approximate Mass (kilograms)
2022 (as of December 31, 2022)	Quatrex storge container	Treatment system bag filters, plastic packaging & safety equipment (gloves, Tyvek suits)	None (0 kg)
	Metal drum	Treatment system waste sludge	None (0 kg)
	Metal drum	OCWA waste materials (plastic, nitrile gloves, rubber, paper, steel, wood, rope, well pumps, wire)	None (0 kg)
2023 (as of December 31, 2023)	-	None	None (0 kg)