COMMERCIAL/RESIDENTIAL PROPERTIES
245 - 267 ROCHESTER STREET, 27 & 29 BALSAM STREET
OTTAWA, ONTARIO
K1R 7M9

Phase II
Environmental Site Assessment

PREPARED FOR:
Carl Madigan
3N Group Holdings Inc.
1769 St Laurent Boulevard
Ottawa, Ontario
K1G 3V4

Rubicon Job Number • R63048.12
Report Revised Date • June 6, 2025

Rubicon ENVIRONMENTAL (2008) INC.

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Rubicon Environmental (2008) Inc.

June 6, 2025

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3N Group Holdings Inc.
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Ottawa, Ontario

Job #: R63048.12

Phase II – Environmental Site Assessment
Commercial /Residential Properties
245 - 267 Rochester Street, 27 & 29 Balsam Street, Ottawa, Ontario, K1R 7M9

Dear Client,

Please find enclosed the results for the above-mentioned investigation conducted on your behalf.

Please feel free to contact me at 519-924-0003 if you require any additional information.

Sincerely,

RUBICON ENVIRONMENTAL (2008) INC.

Paul Rew, P. Eng., QP

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1.0 EXECUTIVE SUMMARY

Rubicon Environmental (2008) Inc. (Rubicon) was retained by Mr. Carl Madigan on behalf of 3N Group Holdings Inc. to conduct a groundwater sampling program and Phase II Environmental Site Assessment (ESA) at the vacant former residential and commercial properties located at 245, 247, 249, 261, 263, 265, 267 Rochester Street, 27 & 29 Balsam Street, Ottawa, Ontario (hereinafter referred to as the "Subject Property").

The environmental assessment aimed to evaluate both surface and subsurface groundwater conditions in the vicinity of identified Areas of Potential Environmental Concern (APECs) and former Patterson monitoring wells, addressing potential data gaps. No soil was present on-site at the time of the investigation. The assessment was carried out in compliance with O. Reg. 153/04, as amended in 2011 and 2019. The purpose of the investigation was to update groundwater conditions in preparation for filing a Record of Site Condition with the Ministry of the Environment, Conservation and Parks (MECP) to confirm the suitability of on-site groundwater for residential land use.

The Subject Property was assessed using Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Groundwater Condition from the Ministry of Environment, Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), hereinafter referred to as MECP Table 7 Site Condition Standards. Based on Rubicon's evaluation, two (2) Areas of Potential Environmental Concern (APECs) were identified on the Subject Property. These include:

APEC #1: Associated with the historical use of dry-cleaning equipment from 1920 to 1926 and 1965 to 1982. This area encompasses the southwest corner of the Subject Property, where the former buildings at 263 & 267 Rochester Street were located.

APEC #2: Associated with a historical oil corporation that operated at 263 Rochester Street. This area encompasses the location of the former building at 263 Rochester Street.

Three contaminants of potential concern (COPCs) were identified at the Site with respect to these two APECs: Petroleum Hydrocarbons (PHC F1-F4), Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and Volatile Organic Compounds (VOCs). These COPCs were identified using the Method Groups outlined in the "Protocol for the Assessment of Properties under Part XV.1 of the Environmental Protection Act" (March 9, 2004, as amended on July 1, 2011).

On June 5 and June 18, 2024, using a Solinst 101 Water Level Meter - P7 Probe with PVDF flat tape, groundwater levels were measured and samples collected from seven (7) on-site monitoring wells (EX-MW1, EX-MW2, MW3, EX-MW4, MW5, EX-MW6, EX-MW7). Samples were analyzed for pH, VOCs, and PHC F1-F4. An additional duplicate sample and a trip blank were submitted for laboratory analysis. The analytical results were compared to the MECP Table 7 O. Reg. 511/09 criteria for residential land use, Shallow Soils in a Non-Potable Groundwater Condition, with coarse textured soil. The analytical results indicated that all tested parameters met the applicable MECP criteria.

Additionally, a Phase II ESA drilling program was conducted on August 15, 2024, to address potential data gaps from historical monitoring wells at BH2, BH3, and BH15. Three (3) boreholes were advanced on-site to a maximum depth of 6.00 m below grade level (mbgl) and developed as monitoring wells to assess groundwater conditions in the vicinity of the APECs identified in the previous Phase I ESA. Field testing was conducted using an RKI Eagle, calibrated against hexane gas. Although the wells were installed, they were unable to be sampled as no soil or groundwater was encountered, despite penetrating fractured limestone and constructing the wells in a manner similar to the former Patterson

wells.

Based on the results of the Phase II ESA, the Subject Property complies with the applicable Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Groundwater Condition, designated for Residential Land Use with Coarse Textured Soil, as outlined in the Ministry of Environment, Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), referred to as the MECP Table 7 Site Condition Standards.

Rubicon Environmental (2008) Inc. has determined that no environmental concerns were identified within the areas assessed that would require further investigation at this time. Groundwater was not encountered within the newly installed monitoring wells BH2, BH3, and BH15. Given the inaccessibility of groundwater and the lack of evidence indicating groundwater rebound or contamination, Rubicon recommends proceeding with excavation through the fractured limestone. Should groundwater accumulate during excavation activities, Rubicon suggests collecting samples at various depths to evaluate groundwater quality as excavation progresses.

2.0 INTRODUCTION

2.1 Site Description

Rubicon Environmental (2008) Inc. was retained by Mr. Carl Madigan on behalf of 3N Group Holdings Inc. to undertake a Phase II Environmental Site Assessment (ESA) at the commercial/residential properties located at 245 – 267 Rochester Street, 27 & 29 Balsam Street in Ottawa, Ontario. (also referred to as 'subject property or Record of Site Condition Property'). The Phase II ESA investigation was completed on-site to assess the groundwater pertaining to any Areas of Potential Environmental Concerns (APEC) on the Phase Two Property and addressing historical and present data gaps.

The subject property is located on the northeast corner of the intersection between Balsam Street and Rochester Street in Ottawa/ ON. The total the area of the RSC site encompasses approximately 2,000.0 m². The municipal address is: 245 – 267 Rochester Street, and 27 - 29 Balsam Street in Ottawa, Ontario, K1R 7M9.

27 Balsam Street, Ottawa, Ontario: PT LT 259, PL 16 , BEING THE W1/2, S/T N329529 ; OTTAWA/NEPEAN

PIN: 04108-0280 (LT)

245 – 247 Rochester Street, Ottawa, Ontario: LT 210, PL 14 ; OTTAWA/NEPEAN

PIN: 04108-0263 (LT)

249 Rochester Street, Ottawa, Ontario: PT LT 260, PL 16 , PART 1 , 4R1493 , T/W N631371 ; OTTAWA/NEPEAN

PIN: 04108-0281 (LT)

261 Rochester Street, Ottawa, Ontario: PT LT 260, PL 16 , PART 2 , 4R1493 ; OTTAWA/NEPEAN ; OTTAWA/NEPEAN

PIN: 04108-0282 (LT)

265/267 Rochester Street, Ottawa, Ontario: PT LT 261, PL 16 , AS IN NS1464 ; OTTAWA/NEPEAN

PIN: 04108-0283 (LT)

263 Rochester Street & 29 Balsam Street, Ottawa, Ontario: LT 261, PL 16 , EXCEPT NS1464 ; OTTAWA/NEPEAN

PIN: 04108-0284 (LT)

Contact information

Property owner: Carl Madigan on behalf of 3N Group Holdings Inc.
1769 St Laurent Boulevard, Ottawa, Ontario K1G 3V4

Authorized Person: Carl Madigan (Subject Property Owner), carlmadigan@ymail.com

Site Contact Person: Carl Madigan (Subject Property Owner), carlmadigan@ymail.com

2.2 Current and Proposed Future Uses

At the time of this investigation, the Phase II property is currently developed for residential land use, with no current site buildings and four (4) basement foundations left over from demolition. Based on the information gathered during this investigation the subject property was used for residential purposes since its initial development in 1855. From the city directory search, it was determined that most of the properties operated as commercial from the mid-1990s to early 2000s. It appears that the subject property switched back to residential use in 2011. The proposed development includes a nine-storey apartment building.

Rubicon Environmental (2008) Inc. was informed by the authorized individual that 245 – 267 Rochester Street and 27 – 29 Balsam Street, Ottawa Ontario is proposed to be a mixed use multi building commercial/residential property be constructed.

2.3 Applicable Site Condition Standard

The RSC subject property was assessed using the Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition from the Ministry of Environment Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), referred to as MECP Table 7 Site Condition Standards.

The following rationale was used to determine the applicable site condition standard for use at this site: **Under *Section 35: Non-potable and potable groundwater conditions*** of the regulation, the Subject Property meets the following conditions to warrant the use of non-potable groundwater criteria;

(a) the property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system, as defined in the *Safe Drinking Water Act, 2002*, and have no wells installed;

(b) the property is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of ground water, or

(c) the record of site condition does not specify agricultural or other use as the type of property use;

(d) The City of Ottawa is a single tier municipality. The City of Ottawa was not notified of designating the Subject Property with use non—potable Table 7 SCS.

(e) As a result of the above mentioned, a non-objection notification letter from the City of Ottawa has not been requested for use of shallow soils in a non-potable ground water site condition standards for the subject property.

Section 41: Site condition standards, environmentally sensitive areas of the regulation, does **not** apply to the Subject Property due to the following conditions;

(a) the property is **not**,

(i) within an area of natural significance,

(ii) includes or is adjacent to an area of natural significance or part of such an area, or

(iii) includes land that is within 30 metres of an area of natural significance or part of such an area;

(b) the soil at the property does **not** have a pH value as follows:

(i) for surface soil, less than 5 or greater than 9,

(ii) for sub-surface soil, less than 5 or greater than 11; or

Not Applicable as no soil was obtained from the RSC subject property.

Section 43.1: Site condition standards, shallow soil property or water body of the regulation does apply to the Subject Property for the following conditions;

(a) the property is a shallow soil property; or

(b) the property does **not** include all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body. O. Reg. 511/09, s. 21.

(c) In this section,

"shallow soil property" means a property of which 1/3 or more of the area consists of soil equal to or less than 2 metres in depth beneath the soil surface, excluding any non-soil surface treatment such as asphalt, concrete or aggregate;

"soil" means, for the purposes of the definition of shallow soil property, unconsolidated naturally occurring mineral particles and other naturally occurring material resulting from the natural breakdown of rock or organic matter by physical, chemical, or biological processes that are smaller than 2 millimetres in size or that pass the US #10 sieve and includes a mixture of soil and rock if less than 50 per cent by mass of the mixture is rock. O. Reg. 511/09, s. 21.

Property Use: Current property use is commercial/residential. The proposed property use will be commercial/residential.

Soil Texture Criteria: No particle size analysis was completed for the Subject Property as no soil was present on the RSC subject property, therefore the coarse textured soil standard will apply;

Refer to Appendix 3 - Laboratory Certificates of Analysis.

"coarse textured soil" means soil that contains more than 50 per cent by mass of particles that are 75 micrometres or larger in mean diameter;

"medium and fine textured soil" means soil that contains 50 per cent or more by mass of particles that are smaller than 75 micrometres in mean diameter. O. Reg. 153/04, s. 42 (2); O. Reg. 511/09, s. 19.

Rubicon Environmental (2008) Inc. (Rubicon) was retained by Mr. Carl Madigan on behalf of 3N Group Holdings Inc. to undertake a Phase II Environmental Site Assessment (ESA) at the commercial/residential properties located at 245 – 267 Rochester Street, 27 & 29 Balsam Street, Ottawa, Ontario. (hereby referred to as the 'Subject Property').

The environmental assessment was conducted to fully evaluate groundwater conditions in the vicinity of the Areas of Potential Environmental Concern (APECs) identified in the Phase One ESA, addressing both historical and current data gaps. The investigation was carried out in accordance with O. Reg. 153/04 (as amended in 2011 and 2019). The primary objective of this investigation was to support the filing of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MECP), to determine if the groundwater on-site is suitable for Residential Land Use.

3.0 BACKGROUND INFORMATION

3.1 Physical Setting

The subject property is located on the northeast corner of the intersection between Balsam Street and Rochester Street in Ottawa/ ON. The municipal address is: 245 – 267 Rochester Street, and 27 - 29 Balsam Street in Ottawa, Ontario, K1R 7M9.

The total the area of the RSC site encompasses approximately 2,000.0 m². The subject property contained the exposed basement foundation and bedrock. Following the demolition work, no basements were backfilled, leaving limited soils in the former parking lot along the eastern portion of the subject property.

No water bodies or areas of natural significance were identified within the Phase one study area.
All properties within the Phase I study area are serviced with municipal water supply by the City of Ottawa.

Based on a topographic survey of 245 – 267 Rochester Street, and 27 – 29 Balsam Street the topography of the subject property is generally flat.

3.2 Past Investigations

Rubicon Environmental (2008) Inc. determined that information and data contained within the following previous ESA investigations were relied upon for the purpose of providing additional site condition information as part of the current Phase II ESA investigation.

A report entitled, '*Phase II – Environmental Site Assessment, 247 – 267 Rochester Street and 27 Balsam Street, Ottawa, Ontario'*, *dated March, 2011*, completed by Patterson Group Inc. The following is a summary of the conclusions:

A Phase II Environmental Site Assessment was conducted at the properties located at 245, 247, 249, 261, 263-267 Rochester Street and 27 Balsam Street, Ottawa Ontario. The purpose of the investigation was to assess potential VOC contamination from a former dry cleaners located at 267 Rochester Street. The Phase II Investigation was conducted over the period of September 2009 to November 2010, which consisted of ten (10) boreholes, instrumented with groundwater monitoring wells on the subject site.

The groundwater levels were measured on November 2, 2009 and were found to be present at depths ranging from 1.5 and 2.8 m below the existing grade, with the exception of BH6, which was cored 10.6 m into the bedrock and had a groundwater level approximately 9.0 m below surface grade. Groundwater levels were resampled on November 1, 2010 and were found to be present at depths ranging from 3.3 to 4.9 m below surface grade.

Patterson Group collected a total of fourteen (14) groundwater samples obtained from the ten (10) monitoring wells and were submitted for testing of volatile organic compounds (VOCs). The analytical test results identified the presence of a number of VOC parameters from boreholes BH1, BH3, BH8 & BH9 that exceed the MOE Table 1 Standards. The final groundwater samples from BH1, BH3, BH8 and BH9 displayed exceedances for one or more VOC concentrations comparing to MOE Table 1 Standards. The rest of the groundwater samples taken from the other boreholes do not indicate any presence of VOC concentrations in excess of the MOE Table 1 Standards, with the exception of BH2 with an exceedance for Chloroform. Patterson Group states that "Chloroform was detected in most of the initial groundwater samples and is expected to be present as a result of the use of city water used as core water during the drilling program. The observed concentrations of chloroform were less than that which are typically found in municipal tap water."

Patterson Group concluded that the site had been impacted by former on-site dry-cleaning operations. The VOC impacted groundwater appears to rely in the southwest area of the subject property. Tetrachloroethylene (PCE) and trichloroethylene (TCE) were the identified contaminants of concern. The former dry-cleaning operation at 267 Rochester Street is suspected to be the source of contamination.

Patterson Group recommends "that a remediation program be conducted on the subject property to clean up the VOC contaminated groundwater.

A report entitled, '*245, 247, 249, 261, 263-267 Rochester Street & 27 Balsam Street – Offsite Groundwater Delineation Program'*, *dated April 23, 2013*, completed by Paterson Group was requested, and received as per the freedom of information request and is summarized as below:

An off-site groundwater delineation program was conducted for properties located at 245, 247, 249, 261, 263-267 Rochester Street, and 27 Balsam Street in Ottawa, Ontario. This site, situated in a primarily residential neighbourhood, includes six one- or two-story residential/commercial buildings. Notably, a portion of the site at 267 Rochester Street previously housed a dry cleaner from 1964 to 1984. A Phase II Environmental Site Assessment (ESA) conducted in 2011 by Paterson found VOC-contaminated groundwater that exceeded MOE standards.

The purpose of the current investigation was to assess the groundwater condition in the right-of-way areas adjacent to Rochester and Balsam Streets. The field program, conducted on February 28 and March 1, 2013, involved drilling one borehole on Balsam Street and two on Rochester Street, with each borehole equipped with groundwater monitoring wells. Boreholes were drilled to depths of 6.2 to 6.4 meters, passing through asphaltic concrete, fill material, and grey limestone bedrock. Soil and rock core samples were collected, sealed, and analyzed. Groundwater levels were measured on March 8, 2013, indicating a regional flow direction to the northwest, with localized flow influenced by a natural trough in the groundwater regime.

Laboratory analysis by Paracel Laboratories revealed that groundwater samples from BH11 and BH12 contained concentrations of tetrachloroethylene (PCE), trichloroethylene (TCE), and c-1,2-dichloroethylene exceeding MOE Table 7 standards. Chloroform was also detected, tfhese contaminants suggest that the former dry cleaner at 267 Rochester Street is a likely source. The contaminants were mostly contained within property boundaries but extended slightly into the road allowance.

The redevelopment plan for the site involves removing bedrock to access and treat the underlying contaminated groundwater. This plan includes a comprehensive remedial action strategy to obtain a Record of Site Condition (RSC) from the MOE. Contaminated groundwater will be allowed to enter the deep excavation, treated, and then discharged according to the city's sewer requirements. Monitoring wells will continue to be used for future groundwater assessments, registered under Ontario Regulation 903. Post-remediation, natural attenuation will be monitored semi-annually to ensure effectiveness in reducing groundwater contamination. This ongoing monitoring aims to confirm that the remediation efforts are successful and sustainable over time.

A report entitled, '*245, 247, 249, 261, 263-267 Rochester Street & 27 Balsam Street – Groundwater Delineation Program'*, *dated June 25, 2013*, completed by Paterson Group was requested, and received as per the freedom of information request and is summarized as below:

The purpose of the current groundwater delineation program was to further investigate the groundwater conditions within the northern portion of the site, more specifically, within the property addressed 249 Rochester Street.

It was determined that the impacted VOC groundwater plume was mainly confined within the property boundaries and appeared to extend slightly within the road allowance at the intersection of Balsam and Rochester Streets.

The field program for the groundwater delineation program was conducted on May 22 and May 27, 2013 and consisted of two (2) boreholes drilled within the basement of 249 Rochester Street (BH14 and BH15). Both of the boreholes were instrumented with a groundwater monitoring well installation and were advanced using portable drilling equipment under full time supervision by personnel from Paterson's environmental division. The borehole locations are illustrated on Drawing PE1616-8, Test Hole Location Plan, appended to this report.

The boreholes were initially terminated on the bedrock surface at a maximum depth of 0.2 m below the basement floor slab. The boreholes were subsequently advanced to depths of 4.7 and 4.9 m below ground surface by means of coring the bedrock to intercept the groundwater table. Rock core samples were obtained from each of the boreholes.

The groundwater levels were measured in the monitoring wells installed in BH1, BH2, BH8, BH9, BH11, BH12, BH13,

BH14 and BH15 on June 25, 2013 and were found to range in depths from 2.4 to 4.8 m below the existing grade. It should be noted that the groundwater levels will fluctuate seasonally.

Based on the groundwater levels in the above noted boreholes, the regional groundwater flow direction appears to be in a north-westerly direction when applying triangulation methods. However, localized groundwater flow influence was noted in a northerly direction due to a natural troff within the groundwater regime.

Two (2) groundwater samples were obtained from the monitoring wells installed in BH14 and BH15 on June 3, 2013 and were submitted for volatile organic compounds (VOCs) analysis.

A groundwater delineation program was conducted at the properties addressed 245, 247,249, 261, 263-267 Rochester Street and 27 Balsam Street in the City of Ottawa, Ontario. The purpose of the current groundwater delineation program was to further investigate the groundwater conditions within the northern portion of the site, more specifically, within the property addressed 249 Rochester Street.

The field program was conducted on May 22 and May 27, 2013 and included the placement of two (2) boreholes within the basement of 249 Rochester Street. Both of the boreholes were instrumented with groundwater monitoring wells.

Two (2) groundwater samples were obtained from the monitoring wells and were submitted for analytical testing of volatile organic compounds (VOCs).

The analytical test results identified tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations in excess of the MOE Table 7 standards in groundwater Samples BH14-GW1 and BH15-GW1. It should be noted that the remaining VOC parameters had elevated detection limits due to the dilution required resulting from the high target analyte concentration.

A redevelopment of the subject site is being contemplated which will involve the removal of bedrock to access the underlying impacted groundwater. A full generic remedial action plan will be carried out for the purpose of obtaining and acknowledged RSC from the MOE. In doing so, the previously identified off-site impacted groundwater will be permitted to enter the deep excavation and will be treated prior to disposal to the sanitary sewer based on following the City's sewer discharge requirements. A remedial action plan for this approach was previously issued for the subject site.

The groundwater monitoring wells installed in BH14 and BH15 will be properly decommissioned prior to the re-development of the subject site. These monitoring wells will be registered with the MOE under Ontario Regulation 903 in the near future.

A report entitled, '*Supplementary Assessment of Soil Vapour, Rochester Street Right of Way, Ottawa, Ontario'*, *dated December 16, 2019*, completed by Malroz Engineering Inc. The following is a summary of the conclusions:

Malroz Engineering was retained by the City of Ottawa in order to conduct a soil vapour assessment within the Rochester Street right of way (ROW), between the intersection of Balsam Street and Willow Street in Ottawa, Ontario.

Malroz Engineering states that an inferred chlorinated solvent contaminant plume along the Rochester Street ROW was identified in a letter dated May 12, 2015. The source of the contamination appears to be the historic dry-cleaning operations. Data suggests that a groundwater contaminant plume comprising of toluene, tetrachloroethylene (PCE), trichloroethylene (TCE), dichloroethylene (DCE), vinyl chloride, and chloroform has migrated into the Rochester and Balsam Street ROWs.

Malroz conducted a preliminary soil vapour assessment in May 2018 which is considered to be Event #1. Four (4) soil vapour probes (SVPs) were installed along the Rochester Street ROW and soil vapour samples were collected from each probe. Results from the probes indicated measurable concentrations of toluene, chloroform, methylene chloride, PCE and TCE. However, reported concentrations of these contaminants were below calculated maximum acceptable vapour intrusion target levels (VITLs) for residential property use. Considering the variability of soil vapour data,

additional sampling was recommended to confirm the results from the preliminary soil vapour assessment."

Malroz completed two additional soil vapour sampling events at the subject site, once in April 2019, and once in July 2019. Results from April 2019 "indicated that measurable concentrations of PCE were reported at each of the SVPs and were below VITLs. However, concentrations of PCE at SVP102 were only slightly below (3-12 µg/m3) the corresponding VITL." Results from July 2019 "indicated that concentrations of PCE at SVP102 and SVP103 exceeded the VITL. Measurable concentrations of PCE were also reported at SVP101 and SVP104, however, the measured concentrations met the VITL. Given the exceedances of VITLs at SVP102 and SVP103 during July 2019, an additional sampling event was recommended in the fall of 2019 to confirm the results and to further assess seasonal and temporal variability."

Malroz recommended the following: that sub-slab vapour probes be installed in select buildings adjacent to the subject site, indoor air samples be taken within select residential buildings adjacent to the subject site, and that the groundwater impacts should be laterally and vertically delineated to evaluate the extent, magnitude and stability of the plume.

A report entitled, '*Air Quality Assessment, Residential Properties 246, 250 & 254 Rochester Street, Ottawa, Ontario*, K1R 7N1' *dated July 28, 2021*, completed by Rubicon Environmental (2008) Inc. The following is a summary of the conclusions:

Rubicon Environmental (2008) Inc. was retained by Mr. Carl Madigan to undertake an Air Quality Assessment at the properties located at 246, 250 & 254 Rochester Street, Ottawa Ontario. The air quality monitoring consisted of an initial meeting with the building management, an air sampling program to establish base line data with respect to Total Volatile Organic Compounds (TVOCs), as well as a provision of a summary report to document the findings.

The purpose of the air sampling program was to document the levels of basic air quality parameters in the site building at the time and place of the testing, as well as to assess the presence of elevated soil vapour concentrations and contaminants of concern by sampling the existing soil vapour probes present along Rochester Street.

The Air Sampling Program was conducted on June 21, 2021. In total, eight (8) air cannister samples were taken in a four (4) hour sampling period in order to ascertain the air quality parameters, presence of elevated soil vapour concentrations and contaminants of concern in the study area. Three (3) samples were taken inside the residential properties located at 246, 250 and 254 Rochester Street, one (1) sample was taken from outside, and four (4) additional samples were taken from the existing vapour probes on the Rochester ROW.

Eight (8) verification air samples were collected and analysed for permanent gases and VOCs. The subject property was assessed using the List of Ambient Air Quality Criteria (AAQCs) from Ontario's Ambient Air Quality Criteria set by the Ministry of Environment, Conservation and Parks. The analytical results for all of the samples submitted were below the applicable site standard, apart for several exceedances for chloroform. Rubicon also compared the results to a study done on Canada's air quality as well as multiple other air quality documents, which indicates that the levels of Chloroform are regular indoor air quality concentrations. None of the potential contaminants of concern which included; toluene, tetrachloroethylene (PCE), trichloroethylene (TCE) dichloroethylene (DCE), vinyl chloride, and chloroform were present at concentrations greater than the typical site condition standards.

Based on the findings in the Air Quality Assessment, Rubicon states that the subject meets the applicable list of Ambient Air Quality Criteria (AAQCs) from Ontario's Ambient Air Quality Criteria set by the Ministry of the Environment, Conservation and Parks. It is the opinion of Rubicon that there are no known environmental conditions within the areas investigated on the subject property to warrant further environmental investigation at this time.

A letter entitled, '*Conditions and Report Letter, Commercial/Residential Property 245 – 247, & 261 – 263 Rochester Street, 27 & 29 Balsam Street, Ottawa, Ontario*,' *dated October 27, 2022*, completed by Rubicon Environmental (2008) Inc. The following is a summary of the conclusions:

The Conditions & Removal status report was written with respect to the subject properties located at 245 – 247, & 261 – 263 Rochester Street, 27 & 29 Balsam Street, Ottawa Ontario. Rubicon Environmental (2008) Inc. was contracted in April 2021 to undergo a remedial environmental site assessment prior to the redevelopment of a mixed commercial and residential building of nine (9) storeys with an underground parking garage, commercial floor level

and 8 residential storeys.

The contaminants of concern on the eastern portion of the subject properties were related to the former asphalt once located above the granular A and gravel, the contaminants are BTEX, PHC and PAHs. The contaminants of concern located in the southwestern portion of the subject property pertains to the dry-cleaning chemicals used when the southern building was used as a dry cleaning facility. The contaminants of concern identified are Dichloroethylene 1,1 (cis and trans), - Tetrachloroethylene, Trichloroethylene.

Rubicon Environmental (2008) Inc. retained the services of Canadian Environmental Drilling and Contractors Inc. (CEDC), to complete the borehole drilling program on February 7, 2022. A truck mounted rig equipped with a combination of solid stem augers and split spoon samplers were utilized by Sonic Soil Sampling to complete the boreholes.

All four (4) representative soil samples, one (1) duplicate and one (1) trip blank selected for laboratory analysis were placed in dedicated sterile sample jars using a dedicated sterile T-Core soil sampler, all provided in advance by the laboratory, and placed in ice packed coolers at a temperature of approximately 3-10 degrees Celsius.

On October 10, 2022, excess soil was excavated to limestone bedrock stockpiled for transport to be used as recycled asphalt/granular A, as per MTO guidelines for parking and driveways. The minimal soil collected from west of the subject property and the minor amounts of soil on the east of the subject property excavated with a maximum depth of 0.60 mbgl. excess soil was excavated to limestone bedrock stockpiled by 3N Group Holdings Inc. and for removal on October 24, 2022, by Robert Gourlay, transporting 66 MT to 64 Banks Street, in Ottawa. The soil weigh ticket is in the report – Solid Transport Ticket.

From August 2021 to September 2022, approximately 4,000 L was purged from the eight (8) wells into four (4) – 1,000 L totes. Following the approximate 4,000 L of groundwater purged, Rubicon took confirmatory groundwater samples following preliminary and intermediate water samples through the purging of the contaminant plume from August 2021 and September 2022. The four (4) – 1,000 L water totes is subject to further testing to determine if the purged groundwater is subject to removal.

On October 3, 2022, all eight (8) groundwater monitoring wells ((EX-MW1, EX-MW2, EX-MW4, EX-MW5, EX-MW6, EX-MW7, MW3 & MW5) were measured, sampled and submitted for the following: VOCs and PHCs (F_1-F_4).

The subject property was assessed using the Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition, for residential land use, coarse textured soil from the Ministry of Environment (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), referred to as MECP Table 7 SCS.

The laboratory analytical results for all the soil samples analyzed showed that each of the locations and depths of samples submitted were below the applicable site conditions standards. None of the potential contaminants of concerns which included: VOCs and Petroleum Hydrocarbons (PHC F1-F4) were present at concentrations greater than the applicable site condition standard.

Rubicon concludes that based on the soil removal and the current groundwater conditions the subject property does not exhibit VOC groundwater impairment as a result of the remedial activities from August 2021 to October 2022. The four (4) – 1,000 L totes are subject to environmental testing to determine the removal. Rubicon recommends one (1) final water sampling program once fractured bedrock has exposed sufficient water for due diligence during construction. The subject property is suitable for redevelopment.

A report entitled, '*Geotechnical Investigation, Residential Properties 245 – 267 Rochester Street, 27 & 29 Balsam Street, Ottawa, Ontario K1R 7M9*,' *dated October 17, 2022*, completed by Rubicon Environmental (2008) Inc. The following is a summary of the conclusions:

Rubicon Environmental (2008) Inc. was retained by Mr. Carl Madigan to undertake a Geotechnical Investigation at the vacant former residential properties located at 245, 247, 249, 261, 263, 265, 267 Rochester Street, 27 & 29 Balsam Street in Ottawa, Ontario. The investigation was conducted in reference to the Geotechnical Investigation and Reporting Guidelines for Development Applications.

The understood proposed development on the site was to construct a one structure with one level of underground parking. The proposed building will consist of one underground level of parking, ground floor retail and eight floors of residential above the retail floor. The proposed development is to be municipally serviced. The subject property currently consists of four exposed basements and limestone bedrock.

The purpose of the geotechnical investigation was to address the following terms of reference:

- *Determine the bearing value of the bedrock for design of the footings;*
- *Provide recommendations for pavement structures, and;*
- *Comment on the geotechnical considerations relating to the construction of the project.*

The Geotechnical Investigation fieldwork was conducted on February 7, 2022. In total, six (6) boreholes were drilled to determine the bedrock bearing value. Six (6) boreholes were advanced to a maximum depth of 3.00 m below existing grade to confined bedrock as per Table 2 of the guideline. The borehole locations were conducted for general site coverage of the proposed development taking into consideration existing site features. The Standard Penetration test (SPT) was conducted in conjunction with the recovery of the split-spoon samples, the N value recorded was over 30.

No subsoil was encountered on site at the time of the investigation, as the soil was stockpiled on site to be removed to a licensed facility. Limestone bedrock was identified on site from the Ottawa formation.

Based on the borehole data, it is evident that the proposed 9 storey structure can be supported on conventional spread footings. He recommended safe net bearing value for the designs on the sound limestone is 2,500 KPa.

Based on the findings of this report, from a geotechnical perspective, the subject site is considered suitable for the proposed development. The proposed mid-rise buildings are anticipated to be founded on spread footings placed directly on a clean, surface sounded bedrock bearing space.

A report entitled, '*Phase II – Environmental Site Assessment, 247 – 267 Rochester Street and 27 & 29 Balsam Street, Ottawa, Ontario'*, *dated June 16, 2023*, completed by Rubicon Environmental (2008) Inc. The following is a summary of the conclusions:

Rubicon Environmental (2008) Inc. (Rubicon) was retained by Mr. Carl Madigan on behalf of 3N Group Holdings Inc. to undertake a Phase II Environmental Site Assessment (ESA) at the vacant former residential and commercial properties located at 245, 247, 249, 261, 263, 265, 267 Rochester Street, 27 & 29 Balsam Street, Ottawa, Ontario. (Hereby referred to as the 'Subject Property').

The environmental assessment was completed to ascertain and fully explore surficial and subsurface groundwater conditions in the vicinity of the APECs identified in the Phase One. No soil was identified on site at the time of this investigation. The investigation was completed in accordance with O. Reg 153/04 (as amended 2011, 2019). The current investigation was conducted for the purpose of filing a record of site condition with the MECP (Ministry of the Environment Conservation and Parks) in order to determine if the groundwater on site is suitable for Residential Land Use.

The subject property was assessed using the Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition from the Ministry of Environment Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), referred to as MECP Table 7 Site Condition Standards. Based on Rubicon's evaluation, two (2) Areas of Potential Environmental Concern was identified on the subject property. The APEC's identified on site included the following:

APEC #1 is due to the historic use of dry-cleaning equipment from 1920 to 1926 and 1965 to 1982. APEC #1 is considered to encompass the southwest corner of the subject property, where the buildings of 263 & 267 Rochester

Street buildings were formerly located.

APEC #2 is due to the historical oil corporation that existed at 263 Rochester Street. APEC #2 is considered to encompass the area where the building of 263 Rochester Street was located.

The three (3) contaminants of potential concern (COPC) were identified at the Site with respect to the two (2) areas of potential environmental concern: Petroleum Hydrocarbons (PHC F1-F4), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), Volatile Organic Compounds (VOC's), identified on the Subject Property. These contaminants of potential concern were identified using the Method Groups as outlined in the, Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011.
The Phase II ESA drilling investigation was conducted on February 7th and April 22nd, 2022. In total, two (2) boreholes were advanced on-site to a maximum depth 5.11m below grade level (mbgl) and developed as monitoring wells, to ascertain the groundwater conditions, in the vicinity of the APECS identified in the previous Phase One ESA. Field-testing was also conducted using an RKI Eagle calibrated against hexane gas. Two (2) boreholes were advanced as monitoring wells but were unable to be sampled as no soil was encountered; the ground consisted of non fractured limestone. A total of eight (8) verification groundwater samples, one (1) duplicate sample and one (1) trip blank were submitted for laboratory analysis.

On October 3, 2022, with the use of a Solinst 101 Water Level Meter - P7 Probe with PVDF flat tape, all eight (8) groundwater monitoring wells onsite (EX-MW1, EX-MW2, EX-MW4, EX-MW5, EX-MW6, EX-MW7, MW3 & MW5) were measured and sampled. Samples were analyzed for pH, VOCs and PHC F1-F4. The analytical results were compared to Table 7 O. Reg.511/09 criteria for residential land use, Shallow Soils in a Non-Potable Ground Water Condition, with coarse textured soil. The groundwater sample analytical results from each well showed that the parameters tested for, met the applicable MECP criteria on and downgradient of the subject property and therefore no upgradient investigation is recommended.

Prior to and post the Phase II ESA investigations, a full depth excavation was conducted, environmentally incident free on to install upgraded municipal services adjacent to the subject property. The service trench was carefully excavated, exposing the non-fractured bedrock and allowing for the removal of soils, along the full length of the property line with Rochester Street. The City of Ottawa contractor, when replacing the services in the trench, used imported engineered fill. The work was performed adjacent to the road, along the property line, adhering to safety protocols and minimizing any potential disruptions to the surrounding area. The execution of this activity was carried out to the satisfaction of the Ministry of Environment (MOE), as no comments or outstanding orders were made

regarding impacted soils. As a result of the trenchwork completed in the Rochester Right of Way adjacent to the subject property, any previously detected soil vapours, would have significantly vented. The excavation activity has lowered the historical environmental risk in the northern area of the subject property. Moving forward during construction, due diligent groundwater sampling is recommended to compare the results against the current O.Reg 511/09 residential land use standards. It is worth noting that no soil was identified on the site, further emphasizing the importance of assessing the groundwater quality in relation to applicable regulations.

Based on the findings of the Phase II ESA, the subject property meets the applicable Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition for Residential Land use, Non – Potable Groundwater Condition, Coarse Textured Soil from the Ministry of Environment (MECP) document "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), referred to as MECP Table 7 Site Condition Standards. As a result of the findings of the Phase II ESA, it is the opinion of Rubicon Environmental (2008) Inc. that there are no known environmental conditions within the areas investigated on the subject property to warrant further environmental investigation at this time. However a due diligent groundwater sampling is recommended for two seasons to monitor the subject property as per the request of the city.

Rubicon's Evaluation of the Background Information

Based on Rubicon's evaluation of the available background data for the subject property, we recommend an additional water sampling program and a Phase II ESA to address data gaps from former monitoring wells related to historical plume boundaries. Specifically, further investigation is required for BH2, BH3, and BH15, as noted in the 2013 Patterson reports. Additionally, the last groundwater samples were taken over six months ago, requiring testing.

4.0 SCOPE OF THE INVESTIGATION

4.1 Overview of Site Investigation

Based on the findings of the Phase I ESA investigation completed by Rubicon Environmental (2008) Inc., a judgemental sampling approach was implemented based on the potentially contaminating activities and areas of environmental concerns identified on the Subject Property, updating the previous groundwater results and addressing historical and present data gaps. The Phase II ESA investigation completed on the Subject Property included the advancement of three (3) boreholes (BH2, BH3 and BH15) to a maximum depth of 6.00 mbgl (meters below grade level) and the installation of three (3) groundwater monitoring wells. The locations of the boreholes/groundwater monitoring wells were strategically placed to update groundwater conditions and address any potential data gaps which may be present on, in or under the RSC Phase II Subject Property. Refer to Figure 5 – Site Investigation.

4.2 Media Investigated

Groundwater media were deemed relevant to the Phase II ESA based on the potentially contaminating activities, the areas of environmental concerns and potential contaminants of concern including; Petroleum Hydrocarbons (PHC F_1-F_4), Benzene, Toluene, Ethylbenzene and Volatile Organic Compounds (VOC's). identified on the Subject Property.

4.3 Phase One Conceptual Site Model

The following outlines the key findings pertaining to the property as part of the Phase One ESA report completed by Rubicon Environmental (2008) Inc. Based on the findings of the Phase One ESA completed by Rubicon Environmental (2008) Inc. potentially contaminating activities (PCA's) were identified on the Subject Property and surrounding that are outlined in the following table; also refer to Figure 4 and Figure 5 for an illustration of the PCA's pertaining the Subject Property.

Potentially Contaminating Activities Directly Contributing to APEC on the Subject Property (Conveyance lands)

Note: PCA # - as per Clause 16 (2) (a) of Schedule D, Table 2 - Refer to Figure 3

PCA #	Historic or Current Source (Address)	Activity Description	Date	PCA's	Rationale
1	On Site - Historic 263 & 267 Rochester Street, Ottawa ON	Historical Dry Cleaner Operations (Chinese Dry Cleaners & Minelli's Dry Cleaning)	1920-1926 1965 - 1982	(37) – Operations of Dry-Cleaning Equipment (where chemicals are used)	From the information gathered during the Phase One Investigation, more specifically the city directory search, it appears that there was a dry cleaner operating at 263 and 267 Rochester Street from 1920 to 1926, and 1965 to 1982, respectively. The 2011 Patterson Group Phase II was made available for this time. The review documented groundwater VOC exceedances related to dry cleaning detergent chemicals. The exceedances were found to be present at depths ranging from 1.5 and 2.8 m below the existing grade, with the exception of BH6, which consisted of 3.30 - 9.00 m below surface .There was further ESA investigated in 2013 but not available at this time. Due to the historical documentation and former exceedances, the PCA is considered an APEC.
2	On Site – Historical 263 Rochester Street, Ottawa ON	Historical Oil Corporation (Sleiman Oil Corporation)	2006 - 2007	(28) – Gasoline and Associated Products Storage in Fixed Tanks	From the information gathered during the Phase One Investigation, more specifically the city directory search, it appears that there was an oil corporation operating at 263 Rochester Street from 2006 - 2007. As there was no documentation of the quality of the soil or groundwater available for review, due diligent soil and groundwater sampling is recommended for comparison to current O.Reg 511/09 residential land use standards. Due to the historical documentation of this PCA to exist on the Subject Property, it is considered an APEC.

TABLE OF AREAS OF POTENTIAL ENVIRONMENTAL CONCERN"

(Refer to clause 16(2) (a), Schedule D, O. Reg. 153/04)

Refer to Figure 6 for the location of areas of potential environmental concern.

Areas of Potential Environmental Concern (APECs)	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity (PCA)	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1 Historic Dry Cleaning Operations (Related to PCA #1)	Southwest corner of the subject property; where the site building for 263 & 267 Rochester Street were previously located.	(37) – Operations of Dry-Cleaning Equipment (where chemicals are used)	On-site	VOCs	Soil Groundwater
APEC #2 Historic Oil Corporation	Southwest corner of the subject property; where the site building for 263 Rochester Street was previously located.	(30) Importation of fill material of unknown quality	On-site	PHCs (F_1 – F_4) BTEX	Soil Groundwater

The three (3) contaminants of potential concern were identified at the Site with respect to the two (2) areas of potential environmental concern: Petroleum Hydrocarbons (PHC F_1-F_4), Volatile organic compounds (VOCs) and BTEX (Benzene, Toluene, Ethylbenzene and Xylene).

4.4 Deviations from Sampling and Analysis Plan

No deviations from the sampling and analysis plan were necessary during the completion of the Phase II ESA on the Subject Property. Refer to Appendix 5 – Field Sampling and Analysis Plan.

4.5 Impediments

Bedrock was encountered during the Phase II Investigation at the surface level of the subject property, therefore, site access restrictions were encountered during the completion of the Phase II ESA on the Subject Property, specifically in regards to obtaining soil samples.

5.0 INVESTIGATION METHOD

5.1 General

The Phase II ESA investigation was conducted in accordance with the criteria meeting O. Reg. 153/04, as amended by O. Reg. 511/09.

Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition from the Ministry of Environment Conservation and Parks (MECP) document “Soil, Ground Water and Sediment Standards Use Under Part XV.1 of the Environmental Protection Act” (April 15, 2011), referred to as MECP Table 7 Site Condition Standards.

All Chemical analyses were conducted by ALS Environmental Laboratories of Waterloo, Ontario. ALS Environmental Laboratories is a member of the Canadian Association for Laboratory Accreditation Inc. (CALA) and meets the requirements of Section 47 of O.Reg. 153/04 certifying that the analytical laboratory be accredited in accordance with the International Standard ISO/IEC 17025 and with standards developed by the Standards Council of Canada. Deviations from the standard operating procedures, outlined in the above-mentioned methods were not necessary.

5.2 Drilling and Excavating

(i) Rubicon Environmental (2008) Inc. retained the services of Dedicated Drilling, 50 Grant Timmins Drive, Unit 3Kingston, Ontario K7L 4V4, to complete the borehole drilling program and installation of groundwater monitoring wells at the subject property on August 15, 2024.

(ii) A *K40 LTD Access* drill rig equipped with a combination of solid stem augers with repeated drilling and hallow stem augers split spoon samplers was utilized by Dedicate drilling to complete the boreholes.

(iii) All equipment that came into contact with subsurface conditions (augers and split spoon samplers) during the drilling program was thoroughly cleansed with 'Alconox' powder mixed with water by the licensed drillers between each sampling interval to prevent possible cross contamination.

(iv) Soil samples were collected at 0.75 m intervals using a 76 cm long, 5 cm diameter split spoon sampler.

5.3 Soil Sampling

(i) Soil samples were collected at 0.75 m intervals using a 76 cm long, 5 cm diameter split spoon sampler. All field screening soil samples were collected with the use of dedicated nitrile gloves and were placed in 1 litre dedicated sterile bags as part of the field sampling procedure. All representative soil samples selected for laboratory analysis were placed in dedicated sterile sample jars using a dedicated sterile T-Core soil sampler, all provided in advance by the laboratory, and placed in ice packed coolers at a temperature of approximately 3-10 degrees Celsius.

(ii) A geological description of the historical soil samples encountered within the overburden investigated is generally characterized as follows (from surface: ~ 66.4 m.a.s.l. grey limestone bedrock 61.39 m.a.s.l). Refer to Appendix 2 – Borehole Logs.

5.4 Field Screening Measurements

Headspace vapours from each sample were tested for petroleum vapour concentrations using an RKI Eagle 2 portable VOC detector, calibrated with hexane. The RKI Eagle 2 was calibrated on June 5th and August 15th, 2024. As part of the field screening process, all bedrock and groundwater samples were also assessed for olfactory and visual signs of impairment, such as petroleum odours and staining. No deviations from standard operating procedures were required for the field screening methods, except for the omission of soil sampling.

5.5 Groundwater: Monitoring Well Installation

The installation of three (3) groundwater monitoring wells at the Subject Property was completed on August 15, 2024, by Dedicated Drilling. The wells were installed in compliance with Ontario Regulation 903 under the Environmental Protection Act (EPA), as amended. The wells were constructed using 2-inch Schedule 40 PVC pipe with slotted screens placed in the suspected groundwater table region. Silica sand was packed around the screens, and a bentonite seal was installed above the filter pack to grade, preventing surface water infiltration into the monitoring wells. None of the well screens extended deeper than 3.00 meters. (Refer to Table 8 and Appendix 2 for Borehole Logs.)

The groundwater monitoring wells were strategically placed to evaluate key areas around the original contamination source, addressing both historical and current data gaps. Boreholes BH2, BH3, and BH15 were drilled to replace former Patterson Group monitoring wells of the same designations, which were buried or destroyed during site demolition. Previous Patterson Group reports had identified peak contamination at these locations. Rubicon attempted to relocate, rehabilitate, and reinstall the wells where feasible or replace them when rehabilitation was not possible according to the original Patterson well construction specifications.

5.6 Groundwater: Field Measurement of Water Quality Parameters

The headspace vapours of each sample were tested for petroleum and VOC vapour concentrations using a RKI Eagle 2 portable handheld VOC instrument, calibrated against hexane. The RKI Eagle 2 was calibrated on June 5, and August 15, 2024. As part of the field investigation method, all monitoring wells were examined for VOC vapour concentrations prior to groundwater sampling. No VOC vapour concentrations were detected in the monitoring wells. Rubicon conducted weekly site visits until the week of September 24, 2024, and BH2, BH3 and BH15 were found dry. With the use of disposal paper pH indicator slips, the average pH levels recorded for the groundwater monitoring wells were recorded on June 5 - June 8, 2024, as follows: 7.18. The temperature on the groundwater was also recorded on June 5, 2024, as follows: ±2.6˚C to ±2.9˚C.

5.7 Groundwater: Sampling

Rubicon conducted a groundwater sampling to sample seven (7) well water where three (3) volumes were purged from each of the groundwater monitoring wells with the use of dedicated disposable bailers. All purged groundwater was placed in sealed containers. On June 5, 2024, with the use of peristaltic low flow pump, Spectra Field Pro, and waterra tubing.

Groundwater samples were collected from each of the installed groundwater monitoring wells as well as the existing monitoring (Patterson Wells) wells onsite (EX-MW1, EX-MW2, MW3, EX-MW4, MW5, EX-MW6, EX-MW7) including one (1) duplicate and one (1) trip blank samples. All representative groundwater samples collected for laboratory analysis were placed in specified sampling bottles/vials provided by the laboratory and placed in ice packed coolers at a temperature of approximately 3-10 degrees Celsius.

From the Patterson Group Reports the existing wells were renamed for this investigation as follows:

Monitoring Well ID (Rubicon)	**Former Monitoring Well ID (Patterson)**
EX-MW1 (64.31)	BH1
EX-MW2 (64.63)	BH8
EX-MW3 (64.55)	BH14
EX-MW4 (66.48)	BH4
EX-MW5 (66.82)	BH9
EX-MW7 (66.76)	BH6
BH2 (64.76)	BH2
BH15 (64.55)	BH15
BH3 (66.80)	BH3

In previous investigations, BH2, BH3, BH7, BH10, and BH15 could not be located or were damaged and thus unsampled. Borehole BH3, which had shown previous exceedances, was particularly affected by damage. Despite this, the wells were not re-drilled, as the known southwest groundwater flow would direct potential contaminants towards other wells. However, Rubicon conducted a drilling program to reconstruct BH2, BH3, and BH15, where the highest concentrations and plume limits were recorded, to assess groundwater conditions and address data gaps.

However, following the drilling program on August 15, 2024 Rubicon conducted weekly site visits until the week of September 24, 2024 and BH2, BH3 and BH15 were found dry. No groundwater data was able to be obtained from BH2, BH3, and BH15.

5.8 Sediment Sampling

Sediment sampling was not completed as part of the Phase II ESA investigation on the subject property.

5.9 Analytical Testing

The chemical analyses of all soil and groundwater samples were completed by ALS, a member of the Canadian Association for Laboratory Accreditation Inc. (CALA) and meet the requirements of Section 47 of O.Reg. 153/04 certifying that the analytical laboratory be accredited in accordance with the International Standard ISO/IEC 17025 and with standards developed by the Standards Council of Canada.

5.10 Residual Management Procedures

All residual limestone clippings from each borehole advanced, all purged groundwater volumes, and all fluids from equipment cleaning, sample prep, remediation were placed in portable storage containment and removed by Dedicated Drilling.

5.11 Elevation Surveying

Elevations were obtained from a survey provided to Rubicon Environmental (2008) Inc. by the authorized individual, completed by Farley, Smith & Denis Surveying Ltd., Ontario Land Surveyors, on May 11, 2022. Benchmark elevations are identified to be an elevation of 66.40 metres based on a concrete pin utility pole. Bearings are derived from the Can-Net Real Time Network and referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) And – 83 (Original). Bearing notes as follows: bearing comparisons, rotation of 0°03'25" counter – clockwise was applied to bearings on P3, P4, P6, P7 & P8. Bearing comparisons, a rotation of 0°02'00" counter – clockwise was applied to bearings on P5.

Refer to Appendix 4.

5.12 Quality Assurance and Quality Control Measures

(i) Description of sample containers and preservation.

For groundwater samples submitted for chemical analyses:

Parameter	Container / Field Preservative Information
BTEX, PHCs (F_1) and VOCs	2 x 40 ml glass vials with no headspace, field preservative $NaHSO_4$
PHCs (F_2-F_4)	2 x 100 ml amber glass bottle, Teflon lined lid, field preservative $NaHSO_4$

No deviation from the sampling and analysis plan was necessary. Refer to Appendix 5 – Sampling Plan. Each sample selected for analysis were placed in the laboratory provided containers/vials/jars and labelled according to the borehole/monitoring well location and/or split spoon sample ID, as per the proposed investigation and analysis plan.

(ii) All equipment that came into contact with subsurface conditions (augers and split spoon samplers) during the drilling program was thoroughly cleansed with 'Alconox' powder mixed with water by the licensed drillers between each sampling interval to prevent possible cross contamination.

All field screening soil samples were collected with the use of dedicated nitrile gloves and were placed in 1 litre dedicated sterile bags as part of the field sampling procedure. All representative soil samples selected for laboratory analysis were placed in dedicated sterile sample jars using a dedicated sterile T-Core soil sampler, all provided in advance by the laboratory, and placed in ice packed coolers at a temperature of approximately 3-10 degrees Celsius.

All groundwater samples were collected with the use of dedicated peristaltic low flow pump, Spectra Field Pro. All representative groundwater samples collected for laboratory analysis were placed in specified sampling bottles/vials provided by the laboratory and placed in ice packed coolers at a temperature of approximately 3-10 degrees Celsius.

(iii) All non-dedicated sampling and monitoring equipment was cleaned following each use. One (1) trip blank was

submitted for laboratory analysis (VOC/F1 parameters) for each groundwater laboratory submission. For every ten (10) groundwater samples submitted for laboratory analysis, one (1) duplicate soil and groundwater was submitted. Calibration checks on field instruments were conducted regularly to ensure accuracy of measurements.

(iv) No deviation from the procedures set out in the quality assurance and quality control programs set out in the sampling and analysis plan was necessary.

6.0 REVIEW AND EVALUATION

6.1 Geology

Based on the historical sub surface investigations conducted by Patterson Group, the overburden on the Subject Property is characterized and consistent as follows (from surface: ~ 66.4 m.a.s.l. grey limestone bedrock to depth 61.39 m.a.s.l.

As no particle size analysis was able to be completed for the Subject Property the more conservative coarse textured soil standard will apply.

The sites are located in a physiographic region known as the Limestone Plain (Physiography of Southern Ontario, Chapman and Putnam, 1984). The terrain of the subject property is generally flat.

“Quaternary Geology of Ontario, Southern Sheet” Map 2556, shows the sites to be within an area known as Bedrock: undifferentiated igneous and metamorphic rock, exposed at surface or covered by a discontinuous, thin layer of drift.

“Bedrock Geology of Ontario, Southern Sheet” Map 2544, shows that the bedrock in the area of the sites is comprised of Middle Ordovician: limestone, dolostone, arkose and sandstone of the Ottawa Gp.; Simcoe Gp.; and Shadow lake Formation. Refer to Appendix 6.

The mapping available as Figure 4. Drift Thickness Trend, Ottawa-Hull, Ontario & Quebec Natural Resources Canada indicated that bedrock in the general area of the subject property is approximately 1-5 m below grade.

Based on elevation marked on a survey of the subject property the subject property ranges is relatively flat for 66.4 masl. Appendix 4.

No other aquifer was investigated on the Subject Property, as no known releases, potentially migrating contaminates, or potentially contaminating activities were identified that could potentially result in an impact beyond the shallow sub-surface groundwater table.

6.2 Groundwater: Elevations and Flow Direction

During the groundwater sampling program, seven (7) groundwater monitoring wells located on the Subject Property at 245–267 Rochester Street and 27 & 29 Balsam Street, Ottawa, Ontario, were utilized to interpret the groundwater flow direction.

As part of the Phase II ESA, the screened intervals for the newly installed monitoring wells (BH2 and BH15) were set from approximately 1.50 meters to a maximum depth of 4.50 meters below grade, while BH3 had a screened interval from approximately 3.00 meters to 6.00 meters below grade. These depths were determined based on prior groundwater data from investigations at 245–267 Rochester Street to ensure interception of the shallow aquifer, which was encountered at depths of approximately 2.50 to 4.50 meters below grade during the Phase II ESA.

On June 5 – June 8 2024, using a Solinst 101 Water Level Meter with a P7 Probe and PVDF flat tape, the depth to groundwater in each monitoring well was recorded as follows: EX-MW1 at 1.98 meters below grade level (mbgl), EX-MW2 at 1.50 mbgl, MW3 at an unknown depth (omitted value), EX-MW4 at 1.33 mbgl, MW5 at 1.70 mbgl, EX-MW6 at 4.37 mbgl, and EX-MW7 at 2.14 mbgl. The relative elevations of the monitoring wells ranged from 64.31 meters above

sea level (masl) to 66.82 masl.

From August 15 to September 24, 2024, no groundwater or groundwater measurements were obtained from BH2, BH3, and BH15, as these newly drilled wells were reported dry.

No free-phase product was detected in any of the groundwater monitoring wells investigated as part of the groundwater sampling program and Phase II ESA. The groundwater flow direction was calculated to be towards the southwest. This calculation was based on groundwater contour modeling in a two-dimensional setting using data from all available O. Reg. 903-compliant monitoring wells on the Subject Property. (Refer to Figure 6 for the groundwater flow direction.) Temporal variability in the groundwater flow direction is expected given the site conditions encountered.

The Subject Property is currently vacant, with no buildings present. However, underground utilities, including Bell, hydroelectric, municipal water, storm sewers, and natural gas services, are available. Based on the recorded depth to groundwater on the Subject Property (ranging from 1.50 to 4.37 mbgl in October 2022) and the estimated depth of buried utilities (ranging from 0.61 to 2.33 mbgl), there is low potential for interaction between buried utilities and the water table. Although there remains a potential for interaction between the water table and the utilities, which could provide distribution pathways, it is Rubicon's opinion that this interaction poses a low risk. This is due to the fact that no contaminants were detected in the subsurface soil or groundwater at concentrations exceeding the applicable site condition standards.

6.3 Fine-Medium Soil Texture

Based on a historic site condition reported by Patterson Group, the field observations and particle size analysis completed for the subject property the coarse textured soil was used in determining the applicable site condition standards. Due to the consistency of the underlying sub-surface soils encountered in all boreholes advanced on the Subject Property, no soil sample was able to be submitted for particle size analysis. Therefore, the more conservative coarse-grained textured has been applied.

6.4 Soil: Field Screening

No soil was encountered during the Phase II Site Investigation; therefore, no headspace vapor readings were able to be obtained.

6.5 Soil Quality

The location of borehole locations and the depths are presented in Appendix 2 - Borehole Logs.

Soil samples were unable to be taken as no soil was present; the ground consisted of exposed bedrock. The location of the boreholes are presented in Figure 5 – Site Investigation and Appendix 2 - Borehole Logs.

6.6 Groundwater Quality

The locations of the groundwater monitoring wells, and groundwater sample locations are outlined in Figure 2.

The Subject Property was assessed using the Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition from the Ministry of Environment Conservation and Parks (MECP) document "Soil, Ground Water and Sediment Standards Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), referred to as MECP Table 7 Site Condition Standards.

The laboratory analytical results for all the groundwater samples analyzed showed that each of the samples submitted were below the applicable site conditions standards.

None of the potential contaminants of concerns which included Petroleum Hydrocarbons (PHC F_1-F_4), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) and Volatile Organic Compounds (VOC's) were present at concentrations greater than the applicable site condition standard at any of the sampling locations. Refer to Table 5 – 7. Note BH2, BH3 and BH15 were dry and unable to sample from August 15 – September 24, 2024 despite water striking at around

2.70 m bgl.

6.7 Sediment Quality

Sediment sampling and / or investigation was not part of the Phase II ESA.

6.8 Approximate Depth to Bedrock

The mapping available as Figure 4. Drift Thickness Trend, Ottawa-Hull, Ontario & Quebec Natural Resources Canada indicated that bedrock in the general area of the subject property is approximately surface level.

6.9 Approximate Depth to Water Table

As part of the Phase II ESA, the measured depth to groundwater onsite was recorded between 1.46 m to 4.38 m below ground surface (bgs). The relative elevations range between 61.97 – 65.02 m asl.

6.10 Imported Soil

No fill material of any quality was located on the Subject Property at this time. This area was investigated and found to consist of bedrock from 0.30 m to 1.57mbgl. No contaminants were present at concentrations greater than the applicable site condition standard. Therefore, this PCA is no longer considered an APEC on the Subject Property.

6.11 Proposed Building and/or Structures

Rubicon Environmental (2008) Inc. was informed by the authorized individual that 245 – 267 Rochester Street, & 27 – 29 Balsam Street is proposed to be a multi-unit commercial/residential property to be constructed with underground parking.

Based on the notion that the lands will be used for commercial residential purposes, it is the opinion of Rubicon that a Record of Site Condition is required to be filed, as per O. Reg. 153/04.

6.12 Contaminants Present at Concentrations Greater than the Applicable Site Condition Standard

No contaminants were present at concentrations greater than the applicable site condition standard on or downgradient of the subject property.

6.13 Updated Site visit and inspection

On May 28, 2025, Rubicon Environmental (2008) Inc. conducted a site visit to assess the condition of the ground surface, monitoring wells, and the overall state of the subject property. The inspection covered the entirety of the property boundaries.

At the time of the visit, the ground surface predominantly comprised exposed bedrock and fragmented rock, indicative of recent excavation activity. Based on visual comparison with site conditions observed during our previous Environmental Site Assessment (ESA) conducted in June 2024, the area has undergone alteration. The exposed rock surface appears to have been mechanically hoe-rammed and excavated since the prior assessment to a maximum depth of 10 ft.

No evidence of environmental impairment—such as petroleum staining, chemical spills, or surface residue—was observed on the exposed ground. The site appeared free of surface debris and soil contamination indicators.

It is noted that groundwater monitoring wells originally installed from 2011 through subsequent environmental investigations appear to have been fully removed, likely during the recent rock removal activities. The removal was presumably completed using hoe-ramming equipment to full installation depths.

Based on visible construction activity and site layout, preparations for the excavation and forming of basement-level foundations appear to be underway. Site management practices, including material stockpiling, equipment staging, and erosion control, reflect appropriate best management practices (BMPs).

7.0 Laboratory Analysis

ALS Environmental, Mississauga Ontario, conducted the Chemical analysis. ALS Environmental is a member of the Canadian Association for Laboratory Accreditation Inc. (CALA) and meets the requirements of Section 47 of O. Reg. 153/04 certifying that the analytical laboratory be accredited in accordance with the International Standard ISO/IEC 17025 and with standards developed by the Standards Council of Canada. Refer to the attached certificate of analysis. Appendix 2 contains all laboratory Certificates of Analysis.

7.1 Soil Chemical Analysis

Soil samples were unable to be taken as no soil was present; the ground consisted of exposed bedrock. The location of the boreholes are presented in Figure 5 – Site Investigation and Appendix 2 - Borehole Logs.

7.2 Groundwater Chemical Analysis

The locations of the groundwater monitoring wells, and groundwater sample locations are outlined in Figure 2.

The Subject Property was assessed using the Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition from the Ministry of Environment Conservation and Parks (MECP) document “Soil, Ground Water and Sediment Standards Use Under Part XV.1 of the Environmental Protection Act” (April 15, 2011), referred to as MECP Table 7 Site Condition Standards.

The laboratory analytical results for all the groundwater samples analyzed showed that each of the samples submitted were below the applicable site conditions standards.

None of the potential contaminants of concerns which included Petroleum Hydrocarbons (PHC F_1-F_4), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) and Volatile Organic Compounds (VOC’s) were present at concentrations greater than the applicable site condition standard at any of the sampling locations. Refer to Table 5 – 7. Note BH2, BH3 and BH15 were dry and unable to sample from August 15 – September 24, 2024, despite water striking at around 2.70 m bgl.

8.0 Discussions and Recommendations

The recent results indicate that groundwater contains non-detectable levels of contaminants, making further borehole investigations redundant and inefficient. Rubicon has therefore recommended transitioning to a targeted excavation approach to expose bedrock veins and stratigraphy, allowing for more precise and incremental groundwater sampling.

The current groundwater sampling program has confirmed non-detectable contaminant levels in both initial and verification samples. Historical data from prior groundwater monitoring wells—many of which are now destroyed or unidentifiable, including newly installed dry wells BH2, BH3, and BH15—support the conclusion that the site's groundwater quality remains stable. Given these findings, drilling additional boreholes into bedrock would be both limited in effectiveness and inefficient.

Despite constructing the monitoring wells in line with the former Patterson methodology and past groundwater data, drilling in bedrock carries limitations. Additional borehole drilling may fail to intersect critical veins or stratigraphic features that govern groundwater flow, potentially leading to incomplete or unrepresentative sampling. This could result in the oversight of localized contamination or failure to capture the true groundwater conditions. Furthermore, drilling into bedrock is resource-intensive, requiring substantial time and financial investment. Given the non-detectable levels of contaminants found so far, drilling efforts to date have not yielded meaningful groundwater data.

To overcome these limitations, excavation to bedrock is proposed at depths between 1.50 meters and 3.00 meters below grade level (mbgl). This approach offers several advantages:
- Excavation enables direct observation and groundwater sampling within bedrock veins and stratigraphy, ensuring accurate identification of key groundwater pathways.
- Sampling from exposed bedrock features will provide more representative and reliable groundwater quality data.
- Targeted excavations can be strategically placed near former well sites, particularly those that are destroyed or unidentifiable, helping to verify historical data and confirm present groundwater conditions.

The proposed excavation will be conducted as follows:
1. Excavations will reach depths of 1.50 mbgl to 3.00 mbgl to breach fractured bedrock.
2. Priority will be given to key locations, especially those correlating with former well sites, with a focus on the northern and western portions, including historically unidentifiable wells like BH10 and BH5.
3. Sampling procedures will involve collecting water samples from exposed bedrock veins and analyzing them for contaminants to confirm the findings from previous sampling programs.

The shift from borehole drilling to a targeted excavation approach is justified by current groundwater sampling results and the inherent limitations of bedrock drilling. Excavating to bedrock will improve the accuracy and representativeness of groundwater sampling, providing a cost-effective and efficient method for thorough site investigation while avoiding unnecessary duplication of efforts.

By adopting this strategy, Rubicon can effectively monitor groundwater quality, address any residual concerns, and ensure full compliance with environmental standards.

9.0 CONCLUSIONS

Rubicon Environmental (2008) Inc. (Rubicon) was retained by Mr. Carl Madigan on behalf of 3N Group Holdings Inc. to undertake a Phase II Environmental Site Assessment (ESA) and groundwater sampling program at the vacant former residential and commercial properties located at 245, 247, 249, 261, 263, 265, 267 Rochester Street, and 27 & 29 Balsam Street, Ottawa, Ontario (hereinafter referred to as the "Subject Property").

The assessment aimed to evaluate both surface and subsurface groundwater conditions near the Areas of Potential Environmental Concern (APECs) identified in the previous Phase I ESA, as well as to address historical and current data gaps. Two APECs were identified, associated with the historical use of dry-cleaning equipment and an oil corporation, primarily located at 263 and 267 Rochester Street. The contaminants of potential concern (COPCs) identified at the site included Petroleum Hydrocarbons (PHC F1-F4), Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and Volatile Organic Compounds (VOCs).

The environmental investigation was conducted in compliance with O. Reg. 153/04 (as amended in 2011 and 2019), in preparation for filing a Record of Site Condition with the Ministry of the Environment, Conservation and Parks (MECP) to determine the suitability of groundwater for residential land use. The site was assessed against MECP Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Groundwater Condition for residential land use, with coarse-textured soils.

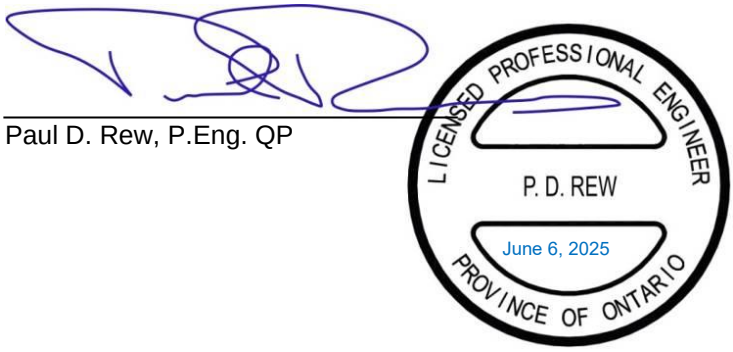
On June 5 and 18, 2024, groundwater samples were collected from seven on-site monitoring wells (EX-MW1, EX-MW2, MW3, EX-MW4, MW5, EX-MW6, EX-MW7) and analyzed for pH, VOCs, and PHC F1-F4. All analytical results met the applicable MECP criteria. Additionally, a Phase II ESA drilling program on August 15, 2024, addressed historical data gaps from monitoring wells BH2, BH3, and BH15, although groundwater was not encountered during drilling due to fractured limestone at depth.

Based on the findings of the Phase II ESA, the subject property complies with the MECP Table 7 Generic Site Condition Standards for Shallow Soils in a Non-Potable Groundwater Condition designated for Residential Land Use. Given the absence of groundwater within the newly installed wells and the lack of evidence suggesting groundwater rebound or contamination, no further environmental investigation is warranted at this time. However, should groundwater be encountered during future excavation activities, it is recommended that groundwater samples be collected at varying depths to assess quality.

Rubicon Environmental (2008) Inc. concludes that the Subject Property meets the applicable environmental standards for residential land use.

Respectfully submitted,

RUBICON ENVIRONMENTAL (2008) INC.



Paul D. Rew, P.Eng. QP

10.0 REFERENCES

Google Maps URL: http://maps.google.ca/maps

Ministry of Northern Development and Mines *"Bedrock Geology of Ontario, Southern Sheet, Map 2544"*

Ontario Geological Survey, *"Quaternary Geology of Ontario. 1991. Map 2556"*

Ontario Ministry of the Environment, Ontario Regulation 153/04, as amended by Ontario Regulation 511/09.

Topographic Map referenced from Natural Resources Canada:
http://www.atlas.nrcan.gc.ca/site/english/toporama/index.html

Phase II – Environmental Site Assessment 247-267 Rochester Street and 27 Balsam Street Ottawa, Ontario. Dated March, 2011. Completed by Paterson Group Inc.

Supplementary Assessment of Soil Vapour Rochester Street Right of Way, Ottawa Ontario K1R 7N1. Dated July 28, 2019. Completed by Malroz Engineering Inc.

Air Quality Assessment Residential Properties 246, 250 & 254 Rochester Street, Ottawa Ontario K1R 7N1. Dated July 28, 2021. Completed by Rubicon Environmental (2008) Inc.

Phase II – Environmental Site Assessment 247-267 Rochester Street and 27 & 29 Balsam Street Ottawa, Ontario. Dated June 16, 2023. Completed by Rubicon Environmental (2008) Inc.

11.0 LIMITATIONS

1. This assessment was conducted in accordance with generally accepted engineering standards. It is possible that materials other than those described in this report are present at the site. The client acknowledges that no assessment can necessarily identify the existence of all contaminants, potential contaminants, or environmental conditions;

2. This report was prepared for the sole and exclusive use of Mr. Carl Madigan on behalf of 3N Group Holdings Inc., Rubicon Environmental (2008) Inc. accepts no responsibility or liability for any loss, damage, expense, fine or any other claim of any nature or type, including any liability or potential liability arising from its own negligence, for any use of this report or reliance on it, in whole or in part, by anyone other than Mr. Carl Madigan on behalf of 3N Group Holdings Inc.;

3. There is no representation, warranty or condition, express or implied, by Rubicon Environmental (2008) Inc. or its officers, directors, employees or agents that this assessment has identified all contaminants, potential contaminants or environmental conditions at the site or that the site is free from contamination, potential contaminants or environmental conditions other than those noted in this report;

4. This assessment has been completed from information and documentation described in this report as well as the results of limited chemical analysis of soil samples collected from accessible locations on the date(s) specified. We have assumed that any such information and documentation is accurate and complete. We can accept no responsibility or liability for any errors, deficiencies or inaccuracies in this report arising from errors or omissions in the information and documentation provided by others;

5. This assessment was based on information and the results of investigation(s) obtained on the date(s) specified. Rubicon Environmental (2008) Inc. accepts no responsibility or liability for any changes or potential changes in the condition of the site subsequent to the date of our investigation(s);

6. The conditions between sampling locations have been inferred, to the best of our ability, based on the conditions observed at sampling locations. Conditions between and beyond sampling locations may vary. This assessment pertains, only, to the site specifically described in this report and not to any adjacent or other property;

7. This assessment does not include, nor is it intended to include, any opinion regarding the suitability of any structure on the site for any particular function, the integrity of the on-site buildings or the geotechnical conditions on the site, with the exception of how they may identify with environmental concerns. Inspections of buildings do not include compliance with building, gas, electrical or boiler codes, or any other federal, provincial or municipal codes not associated with environmental concerns. Should concerns regarding any parameters other than environmental concerns arise as a result of our investigation(s), they should be addressed by appropriately qualified professionals; and,

8. This report is not to be reproduced or released to any other party, in whole or in part, without the express written consent of Rubicon Environmental (2008) Inc.

FIGURES

R63048	NAME	DATE
DRAWN BY:	NP	October 2024
CHECKED BY:	PDR	October 2024
27, 29 Balsam Street, & 245 - 267 Rochester Street, Ottawa, ON		

Rubicon Environmental (2008) Inc.

Figure 1: Site Location

Legend

RSC Phase One and Phase Two Subject Property

RSC Phase One and Phase Two Study Area

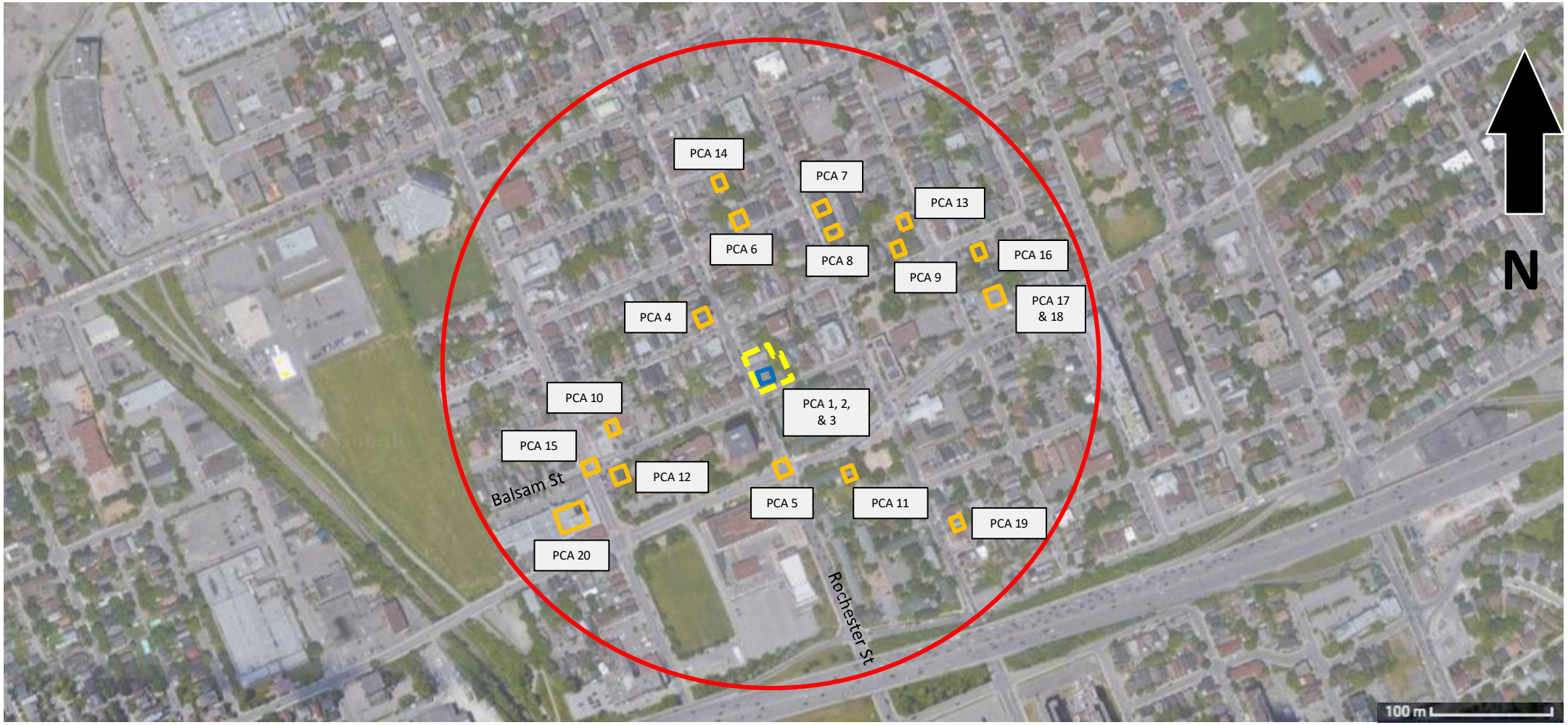
Monitoring Well ID (Rubicon)	Former Monitoring Well ID (Patterson)
EX-MW1 (64.31)	BH1
EX-MW2 (64.63)	BH8
EX-MW3 (64.55)	BH14
EX-MW4 (66.48)	BH4
EX-MW5 (66.82)	BH9
EX-MW7 (66.76)	BH6
BH2 (64.76)	BH2
BH15 (64.55)	BH15
BH3 (66.80)	BH3

R63048	NAME	DATE
DRAWN BY:	NP	October 2024
CHECKED BY:	PDR	October 2024
27, 29 Balsam Street, & 245 - 267 Rochester Street, Ottawa / ON		

Rubicon Environmental (2008) Inc.

Figure 2: Site Plan

Legend
Phase Two, & RSC Property
Site Building
2024 Drilling boreholes



R63048	NAME	DATE
DRAWN BY:	NP	October 2022
CHECKED BY:	PDR	October 2022
27, 29 Balsam Street, & 245 - 267 Rochester Street, Ottawa, ON		

Rubicon Environmental (2008) Inc.

Figure 3: PCAs - Study Area

Legend
- RSC Phase One, Phase Two Subject Property
- RSC Phase One, Phase Two Study Area
- Contributing PCAs
- Non-Contributing PCAs

R63048	NAME	DATE
DRAWN BY:	AA	October 2022
CHECKED BY:	PDR	October 2022

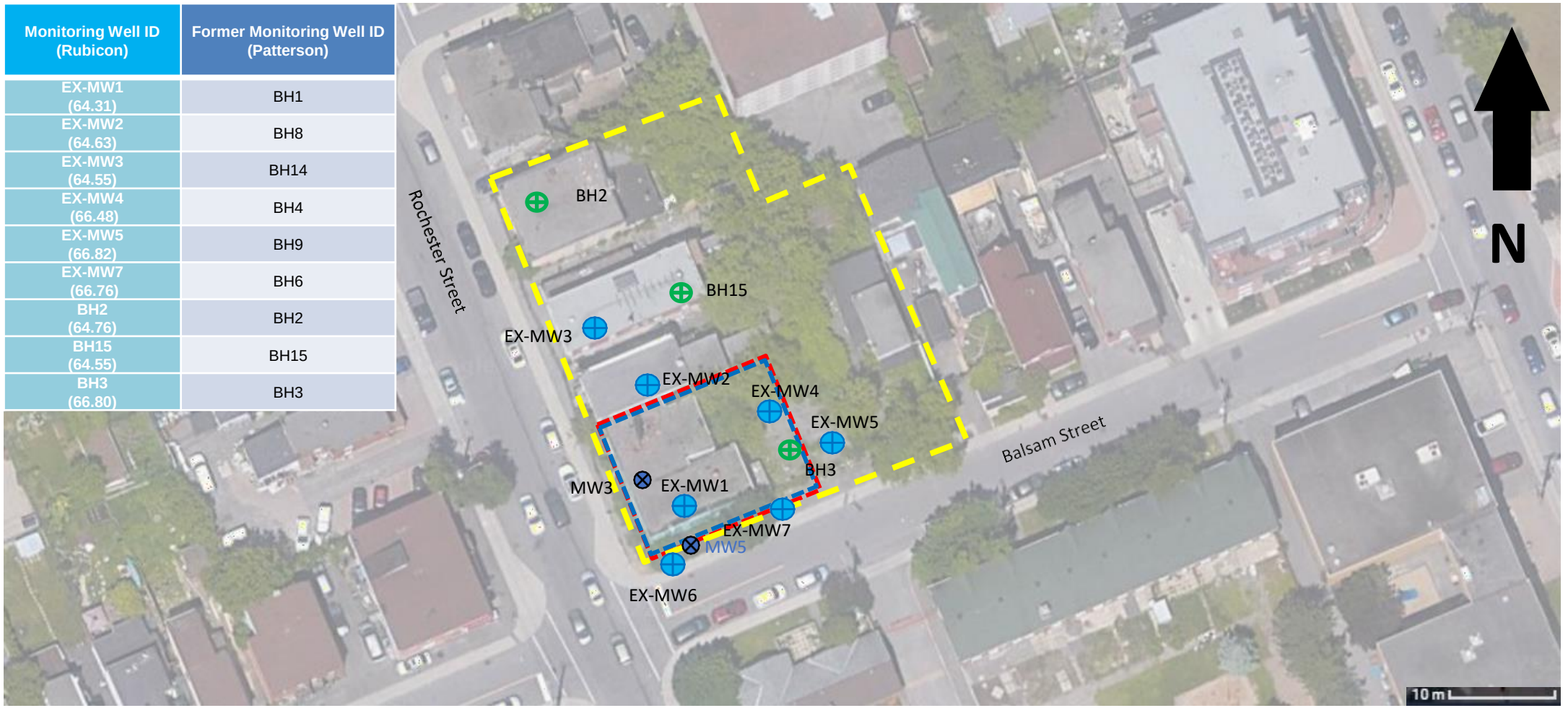
27, 29 Balsam Street, & 245 - 267 Rochester Street, Ottawa / ON

Rubicon Environmental (2008) Inc.

Figure 4: APECs

Legend
RSC Phase One, Phase Two Subject Property

Monitoring Well ID (Rubicon)	Former Monitoring Well ID (Patterson)
EX-MW1 (64.31)	BH1
EX-MW2 (64.63)	BH8
EX-MW3 (64.55)	BH14
EX-MW4 (66.48)	BH4
EX-MW5 (66.82)	BH9
EX-MW7 (66.76)	BH6
BH2 (64.76)	BH2
BH15 (64.55)	BH15
BH3 (66.80)	BH3



R63048	NAME	DATE
DRAWN BY:	AA	October 2022
CHECKED BY:	PDR	October 2022

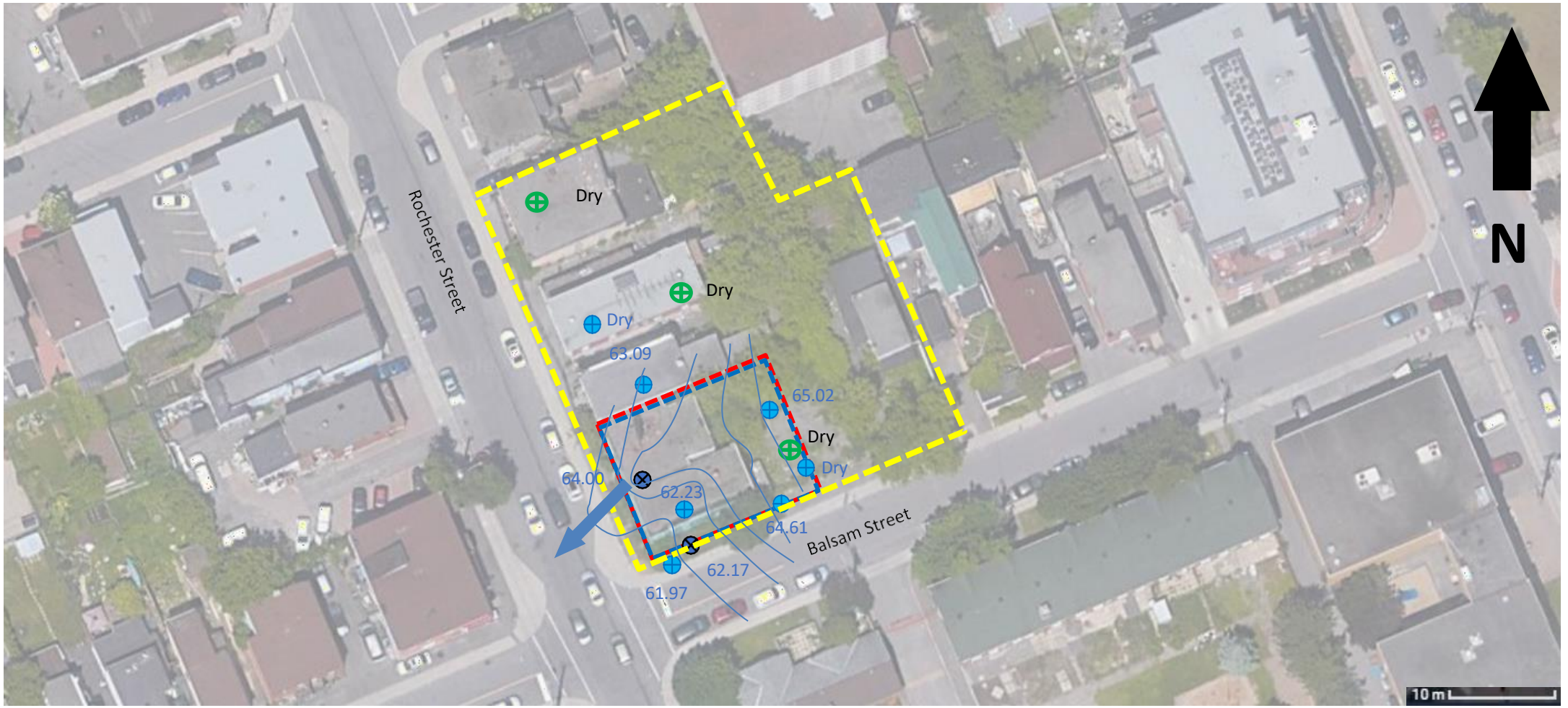
27, 29 Balsam Street, & 245 - 267 Rochester Street, Ottawa / ON

Rubicon Environmental (2008) Inc.

Figure 5: Site Investigation

Legend

- RSC Phase One, Phase Two Subject Property
- Installed wells Rubicon 2024
- Existing wells (Patterson 2011)
- Installed wells Rubicon 2022



R63048	NAME	DATE
DRAWN BY:	JG	October 2022
CHECKED BY:	PDR	October 2022
27, 29 Balsam Street, & 245 - 267 Rochester Street, Ottawa / ON		

Rubicon Environmental (2008) Inc.

Figure 6: Groundwater Flow Direction October (2022)

Legend

RSC Phase One, Phase Two Subject Property

Groundwater Contour

Groundwater Flow Direction

TABLES

TABLE 1: SOIL AND GROUNDWATER FIELD SAMPLING OBSERVATIONS AND ANALYSIS PLAN

BOREHOLE ID (Max Depth)	SOIL SAMPLE ID	SOIL SAMPLE DEPTH (Mbgl)	RATIONALE/COMMENTS
BH2 (66.80)	*N/A*	N/A	• Located within APEC 1 • Soil sample unable to be retrieved due to the ground consisting of bedrock.
BH3 (66.76)	*N/A*	N/A	• Located within APEC 1 • Soil sample unable to be retrieved due to the ground consisting of bedrock.
BH15 (64.55)	*N/A*	N/A	• Located within APEC 1 • Soil sample unable to be retrieved due to the ground consisting of bedrock.
Groundwater			
Monitoring well	**GW Sampling ID**	**Depth (m)**	**Rationale/Comments**
EX-MW1 (64.31)	*EX-MW1*	3.73	• Located within APEC 1 & APEC 2 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs
EX-MW2 (64.63)	*EX-MW2*	4.52	• Located within APEC 1 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs • Duplicated submitted.
EX-MW3 (64.55)	*EX-MW3*	4.88	• Located within APEC 1 • No significant well vapour readings using field instruments (< 5 ppm) • Wells were identified to be dry.
EX-MW4 (66.8)	*EX-MW4*	6.29	• Located within APEC 1 & APEC 2 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs
EX-MW5 (66.82)	*EX-MW5*	4.33	• Located within APEC 1 • No significant well vapour readings using field instruments (< 5 ppm) • Wells were identified to be dry.
EX-MW6 (66.35)	*EX-MW6*	5.81	• Located within APEC 1 & APEC 2 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs
EX-MW7 (66.63)	*EX-MW7*	5.97	• Located within APEC 1 & APEC 2 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs
MW3 (66.28)	*MW3*	6.00	• Located within APEC 1 & APEC 2 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs
MW5 (66.39)	*MW5*	5.98	• Located within APEC 1 & APEC 2 • No significant well vapour readings using field instruments (< 5 ppm) • Groundwater sample analyzed for PHCs & VOCs
BH2 (66.80)	BH2	4.50	• Located within APEC 1 • No significant well vapour readings using field instruments (< 5 ppm) • Wells were identified to be dry.
BH3 (66.76)	BH3	6.00	• Located within APEC 1 • No significant well vapour readings using field instruments (< 5 ppm) • Wells were identified to be dry.
BH15 (64.55)	BH15	4.50	• Located within APEC 1 • No significant well vapour readings using field instruments (< 5 ppm) • Wells were identified to be dry.
Trip Blank	-	-	• Trip Blank submitted with Groundwater Laboratory Submission

*****Refer to Appendix 3 - Borehole Logs

TABLE 2: SUMMARY OF GROUNDWATER LEVELS AND OBSERVATIONS

Monitoring Well ID (Surface Elevation m.a.s.l.)	Former Monitoring Well ID (Patterson)	Well Construction	Screen Elevation (*suspected)	Depth to water table (mbgl)	Water table elevation[1]
EX-MW1 (64.31)	BH1	Suspected Screen: 3.00 m Total: 3.73 m	63.58– 60.58* Masl	2.03– June 2024	62.28 – June 2024
EX-MW2 (64.63)	BH8	Suspected Screen: 3.00 m Total: 4.52 m	63.11 – 60.11* Masl	1.54 – June 2024	63.09 – June 2024
EX-MW3 (64.55)	BH14	Suspected Screen: 3.00 m Total: 4.88 m	59.67 – 62.67 * masl	Dry	-
EX-MW4 (66.48)	BH4	Suspected Screen: 3.00 m Total: 6.29 m	63.19 – 60.19* Masl	1.46 – June 2024	65.02 – June 2024
EX-MW5 (66.82)	BH9	Suspected Screen: 3.00 m Total: 4.33 m	62.49 – 65.49* masl	Dry	-
EX-MW6 (66.35)		Suspected Screen: 3.00 m Total: 5.81 m	63.54 – 60.54* Masl	4.38- June 2024	61.97 – June 2024
EX-MW7 (66.76)	BH6	Suspected Screen: 3.00 m Total: 5.97 m	63.79 – 60.79* Masl	2.15 – June 2024	64.61 – June 2024
MW3 (66.28)	-	Riser: 2.00 m Screen: 3.00 m Total: 5.00 m	66.28 – 63.28 Masl	2.28 – June 2024	64.00 – June 2024
MW5 (66.39)	-	Riser: 2.11 m Screen: 3.00 m Total: 5.11 m	66.39 – 63.41 masl	4.22 – June 2024	62.17 – June 2024
BH2 (64.76)	BH2	Riser: 1.50 Screen: 3.00 Total: 4.50	63.26 – 60.26 masl	Dry	-
BH15 (64.55)	BH15	Riser: 1.50 Screen: 3.00 Total: 4.50	63.05 – 60.05 masl	Dry	-
BH3 (66.80)	BH3	Riser: 3.00 Screen: 3.00 Total: 6.00	63.80 – 60.80 masl	Dry	-

TABLE 3: GROUNDWATER CHEMICAL ANALYSIS – VOC/BTEX/PHC (F_1-F_4)/pH

Parameter	2011 MECP Table 7 Residential Coarse	EX-MW1	EX-MW2	EX-MW2 – Dup	MW3	EX-MW4	(MW5)	EX-MW6	EX-MW7	TRIP BLANK
Date of Collection		June 5, 2024	June 5, 2024	June 5, 2024	June 18, 2024	June 5, 2024	June 5, 2024	June 18, 2024	June 5, 2024	June 5, 2024
Date Reported		June 17, 2024	June 17, 2024	June 17, 2024	June 25, 2024	June 17, 2024	June 17, 2024	June 25, 2024	June 17, 2024	June 17, 2024
Sampling Depth (mbgl)		-	-	-		-	-	-		-
Analytical report reference number		ZJQ562	ZJQ562	ZJQ562	ZMP362	ZJQ562	ZJQ562	ZMP362	ZJQ562	ZJQ562
Acetone	100000(U)	<20	<20	<20	<20	<20	<20	<20	<20	<20
Benzene	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	67000(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	0.89(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	0.2(U)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	140(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	2(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	65000(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dibromoethane	0.2(U)	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichlorobenzene	150(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	7600(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	3500(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	11(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethylene	1.6(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	1.6(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride	26(U)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	0.58(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichloropropene (cis & trans)	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethyl Benzene		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
n-Hexane		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	54(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MTBE	21000(U)	<20	<20	<20	<20	<20	<20	<20	<20	<20
Styrene	5200(U)	<20	<20	<20	<20	<20	<20	<20	<20	<20
1,1,1,2-Tetrachloroethane	15(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	43(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	1.1(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	320(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	23(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	0.5(U)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (Total)	72	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
F1 (C6 – C10)	420	<25	<25	<25	<25	<25	<25	<25	<25	
F2 (C10 – C16)	150	<100	<100	<100	<100	<100	<100	<100	<100	
F3 (C16 – C34)	500	<250	<250	<250	<250	<250	<250	<250	<250	
F4 (C34 – C50)	500	<250	<250	<250	<250	<250	<250	<250	<250	

All values in ug/g – ppm – parts per million MDL – method detection limit. D- Duplicate Sample *MOE O. Reg. – Table 7: Generic Site Condition Standards for Shallow Soils in a Non-Potable Ground Water Condition, Residential property use, and coarse textured soil criteria applied.
Orange – MDL exceeds applicable SCS
Red – Measured Conc. exceeds applicable SCS

Table 4: Groundwater Monitoring Well Construction Details

Monitoring Well ID	Construction Details	Elevation (m asl.) at Well Location
BH2	-Installed August 15, 2024, as part of the Sampling Plan -Developed using 2", Schedule 40 PVC pipe with slotted screen in the suspected region of the groundwater table. Silica sand was positioned around the screen with a bentonite seal located above the filter pack to grade to prevent surface water from entering the monitoring well and a flush mount cap. -Riser: 1.50 m, Screen: 3.00 m Total Depth: 4.50 m -Well constructed as per O.Reg. 903, and O.Reg. 153/04 criteria.	64.76
BH3	-Installed August 15, 2024, as part of the Sampling Plan -Developed using 2", Schedule 40 PVC pipe with slotted screen in the suspected region of the groundwater table. Silica sand was positioned around the screen with a bentonite seal located above the filter pack to grade to prevent surface water from entering the monitoring well and a flush mount cap. -Riser: 3.00 m, Screen: 3.00 m Total Depth: 6.00 m -Well constructed as per O.Reg. 903, and O.Reg. 153/04 criteria.	66.80
BH15	-Installed August 15, 2024, as part of the Sampling Plan -Developed using 2", Schedule 40 PVC pipe with slotted screen in the suspected region of the groundwater table. Silica sand was positioned around the screen with a bentonite seal located above the filter pack to grade to prevent surface water from entering the monitoring well and a flush mount cap. -Riser: 1.50 m, Screen: 3.00 m Total Depth: 4.50 m -Well constructed as per O.Reg. 903, and O.Reg. 153/04 criteria.	64.55

APPENDIX 1
PHOTOGRAPHS

Conducting BH15 on what was once 249 Rochester Street.

BH15 completed

Conducting BH3 stick up on the subject property

Drilling equipment utilized from dedicated drilling

Conducting BH2 in restoration.

APPENDIX 2
LABORATORY CERTIFICATES OF ANALYSIS

Your Project #: R63048
Your C.O.C. #: 995313-01-01

Attention: Juan Gomez

Rubicon Environmental (2008) Inc.
60 Toronto Street
Flesherton, ON
CANADA N0C 1E0

Report Date: 2024/06/17
Report #: R8194810
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4H1882
Received: 2024/06/06, 13:34

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum	7	N/A	2024/06/12		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	7	2024/06/11	2024/06/11	CAM SOP-00316	CCME PHC-CWS m
Volatile Organic Compounds and F1 PHCs	6	N/A	2024/06/10	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds and F1 PHCs	1	N/A	2024/06/11	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: R63048
Your C.O.C. #: 995313-01-01

Attention: Juan Gomez

Rubicon Environmental (2008) Inc.
60 Toronto Street
Flesherton, ON
CANADA N0C 1E0

Report Date: 2024/06/17
Report #: R8194810
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4H1882
Received: 2024/06/06, 13:34

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Nazeema Rahaman, Project Manager
Email: Nazeema.Rahaman@bureauveritas.com
Phone# (905)817-5806

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		ZJQ562	ZJQ563	ZJQ564	ZJQ565	ZJQ566		
Sampling Date		2024/06/05 12:00	2024/06/05 12:15	2024/06/05 12:30	2024/06/05 12:45	2024/06/05 01:00		
COC Number		995313-01-01	995313-01-01	995313-01-01	995313-01-01	995313-01-01		
	UNITS	EX -MW1	EX MW2	EX MW2-DUP	MW5	EX MW4	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/L	ND	ND	ND	ND	ND	0.50	9440397
Volatile Organics								
Acetone (2-Propanone)	ug/L	ND	ND	ND	ND	ND	10	9443086
Benzene	ug/L	ND	ND	ND	ND	ND	0.17	9443086
Bromodichloromethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Bromoform	ug/L	ND	ND	ND	ND	ND	1.0	9443086
Bromomethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Carbon Tetrachloride	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Chloroform	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Dibromochloromethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Dichlorodifluoromethane (FREON 12)	ug/L	ND	ND	ND	ND	ND	1.0	9443086
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND	0.20	9443086
1,2-Dichloroethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,1-Dichloroethylene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
cis-1,2-Dichloroethylene	ug/L	ND	ND	ND	ND	ND	0.50	9443086
trans-1,2-Dichloroethylene	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	0.20	9443086
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	0.30	9443086
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	0.40	9443086
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Ethylene Dibromide	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Hexane	ug/L	ND	ND	ND	ND	ND	1.0	9443086
Methylene Chloride(Dichloromethane)	ug/L	ND	ND	ND	ND	ND	2.0	9443086
Methyl Ethyl Ketone (2-Butanone)	ug/L	ND	ND	ND	ND	ND	10	9443086
Methyl Isobutyl Ketone	ug/L	ND	ND	ND	ND	ND	5.0	9443086
Methyl t-butyl ether (MTBE)	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Styrene	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,1,1,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Tetrachloroethylene	ug/L	ND	ND	ND	ND	ND	0.20	9443086

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		ZJQ562	ZJQ563	ZJQ564	ZJQ565	ZJQ566		
Sampling Date		2024/06/05 12:00	2024/06/05 12:15	2024/06/05 12:30	2024/06/05 12:45	2024/06/05 01:00		
COC Number		995313-01-01	995313-01-01	995313-01-01	995313-01-01	995313-01-01		
	UNITS	EX -MW1	EX MW2	EX MW2-DUP	MW5	EX MW4	RDL	QC Batch
Toluene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
1,1,1-Trichloroethane	ug/L	ND	ND	ND	ND	ND	0.20	9443086
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Trichloroethylene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Trichlorofluoromethane (FREON 11)	ug/L	ND	ND	ND	ND	ND	0.50	9443086
Vinyl Chloride	ug/L	ND	ND	ND	ND	ND	0.20	9443086
p+m-Xylene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
o-Xylene	ug/L	ND	ND	ND	ND	ND	0.20	9443086
Total Xylenes	ug/L	ND	ND	ND	ND	ND	0.20	9443086
F1 (C6-C10)	ug/L	ND	ND	ND	ND	ND	25	9443086
F1 (C6-C10) - BTEX	ug/L	ND	ND	ND	ND	ND	25	9443086
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	88	91	90	90	89		9443086
D4-1,2-Dichloroethane	%	110	115	115	113	115		9443086
D8-Toluene	%	90	89	89	90	89		9443086

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		ZJQ567	ZJQ568		
Sampling Date		2024/06/05 01:15	2024/06/05		
COC Number		995313-01-01	995313-01-01		
	UNITS	EX MW7	VOC TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	ND	ND	0.50	9440397
Volatile Organics					
Acetone (2-Propanone)	ug/L	ND	ND	10	9443086
Benzene	ug/L	ND	ND	0.17	9443086
Bromodichloromethane	ug/L	ND	ND	0.50	9443086
Bromoform	ug/L	ND	ND	1.0	9443086
Bromomethane	ug/L	ND	ND	0.50	9443086
Carbon Tetrachloride	ug/L	ND	ND	0.20	9443086
Chlorobenzene	ug/L	ND	ND	0.20	9443086
Chloroform	ug/L	ND	ND	0.20	9443086
Dibromochloromethane	ug/L	ND	ND	0.50	9443086
1,2-Dichlorobenzene	ug/L	ND	ND	0.50	9443086
1,3-Dichlorobenzene	ug/L	ND	ND	0.50	9443086
1,4-Dichlorobenzene	ug/L	ND	ND	0.50	9443086
Dichlorodifluoromethane (FREON 12)	ug/L	ND	ND	1.0	9443086
1,1-Dichloroethane	ug/L	ND	ND	0.20	9443086
1,2-Dichloroethane	ug/L	ND	ND	0.50	9443086
1,1-Dichloroethylene	ug/L	ND	ND	0.20	9443086
cis-1,2-Dichloroethylene	ug/L	ND	ND	0.50	9443086
trans-1,2-Dichloroethylene	ug/L	ND	ND	0.50	9443086
1,2-Dichloropropane	ug/L	ND	ND	0.20	9443086
cis-1,3-Dichloropropene	ug/L	ND	ND	0.30	9443086
trans-1,3-Dichloropropene	ug/L	ND	ND	0.40	9443086
Ethylbenzene	ug/L	ND	ND	0.20	9443086
Ethylene Dibromide	ug/L	ND	ND	0.20	9443086
Hexane	ug/L	ND	ND	1.0	9443086
Methylene Chloride(Dichloromethane)	ug/L	ND	ND	2.0	9443086
Methyl Ethyl Ketone (2-Butanone)	ug/L	ND	ND	10	9443086
Methyl Isobutyl Ketone	ug/L	ND	ND	5.0	9443086
Methyl t-butyl ether (MTBE)	ug/L	ND	ND	0.50	9443086
Styrene	ug/L	ND	ND	0.50	9443086
1,1,1,2-Tetrachloroethane	ug/L	ND	ND	0.50	9443086
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	0.50	9443086

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		ZJQ567	ZJQ568		
Sampling Date		2024/06/05 01:15	2024/06/05		
COC Number		995313-01-01	995313-01-01		
	UNITS	EX MW7	VOC TRIP BLANK	RDL	QC Batch
Tetrachloroethylene	ug/L	ND	ND	0.20	9443086
Toluene	ug/L	ND	ND	0.20	9443086
1,1,1-Trichloroethane	ug/L	ND	ND	0.20	9443086
1,1,2-Trichloroethane	ug/L	ND	ND	0.50	9443086
Trichloroethylene	ug/L	ND	ND	0.20	9443086
Trichlorofluoromethane (FREON 11)	ug/L	ND	ND	0.50	9443086
Vinyl Chloride	ug/L	ND	ND	0.20	9443086
p+m-Xylene	ug/L	ND	ND	0.20	9443086
o-Xylene	ug/L	ND	ND	0.20	9443086
Total Xylenes	ug/L	ND	ND	0.20	9443086
F1 (C6-C10)	ug/L	ND	ND	25	9443086
F1 (C6-C10) - BTEX	ug/L	ND	ND	25	9443086
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	90	93		9443086
D4-1,2-Dichloroethane	%	114	126		9443086
D8-Toluene	%	88	80		9443086

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		ZJQ562	ZJQ563	ZJQ564	ZJQ565	ZJQ566		
Sampling Date		2024/06/05 12:00	2024/06/05 12:15	2024/06/05 12:30	2024/06/05 12:45	2024/06/05 01:00		
COC Number		995313-01-01	995313-01-01	995313-01-01	995313-01-01	995313-01-01		
	UNITS	EX -MW1	EX MW2	EX MW2-DUP	MW5	EX MW4	RDL	QC Batch
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	ND	ND	ND	ND	ND	100	9446249
F3 (C16-C34 Hydrocarbons)	ug/L	ND	ND	ND	ND	ND	200	9446249
F4 (C34-C50 Hydrocarbons)	ug/L	ND	ND	ND	ND	ND	200	9446249
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes	Yes		9446249
Surrogate Recovery (%)								
o-Terphenyl	%	98	100	99	99	97		9446249

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas ID		ZJQ567		ZJQ568		
Sampling Date		2024/06/05 01:15		2024/06/05		
COC Number		995313-01-01		995313-01-01		
	UNITS	EX MW7	QC Batch	VOC TRIP BLANK	RDL	QC Batch
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/L	ND	9447686	ND	100	9446249
F3 (C16-C34 Hydrocarbons)	ug/L	ND	9447686	ND	200	9446249
F4 (C34-C50 Hydrocarbons)	ug/L	ND	9447686	ND	200	9446249
Reached Baseline at C50	ug/L	Yes	9447686	Yes		9446249
Surrogate Recovery (%)						
o-Terphenyl	%	105	9447686	98		9446249

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	24.0°C

Revised report:Sample ID changes as directed by client (2024/06/17)

Results relate only to the items tested.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9443086	4-Bromofluorobenzene	2024/06/10	98	70 - 130	112	70 - 130	91	%		
9443086	D4-1,2-Dichloroethane	2024/06/10	100	70 - 130	93	70 - 130	99	%		
9443086	D8-Toluene	2024/06/10	101	70 - 130	111	70 - 130	92	%		
9446249	o-Terphenyl	2024/06/11	103	60 - 130	102	60 - 130	97	%		
9447686	o-Terphenyl	2024/06/11	111	60 - 130	107	60 - 130	106	%		
9443086	1,1,1,2-Tetrachloroethane	2024/06/10	108	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	1,1,1-Trichloroethane	2024/06/10	102	70 - 130	85	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	1,1,2,2-Tetrachloroethane	2024/06/10	118	70 - 130	107	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	1,1,2-Trichloroethane	2024/06/10	102	70 - 130	91	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	1,1-Dichloroethane	2024/06/10	107	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	1,1-Dichloroethylene	2024/06/10	99	70 - 130	85	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	1,2-Dichlorobenzene	2024/06/10	102	70 - 130	88	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	1,2-Dichloroethane	2024/06/10	99	70 - 130	80	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	1,2-Dichloropropane	2024/06/10	104	70 - 130	85	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	1,3-Dichlorobenzene	2024/06/10	103	70 - 130	90	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	1,4-Dichlorobenzene	2024/06/10	114	70 - 130	101	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	Acetone (2-Propanone)	2024/06/10	102	60 - 140	83	60 - 140	ND, RDL=10	ug/L	3.6	30
9443086	Benzene	2024/06/10	98	70 - 130	82	70 - 130	ND, RDL=0.17	ug/L	NC	30
9443086	Bromodichloromethane	2024/06/10	113	70 - 130	91	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	Bromoform	2024/06/10	102	70 - 130	96	70 - 130	ND, RDL=1.0	ug/L	NC	30
9443086	Bromomethane	2024/06/10	106	60 - 140	87	60 - 140	ND, RDL=0.50	ug/L	NC	30
9443086	Carbon Tetrachloride	2024/06/10	100	70 - 130	83	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Chlorobenzene	2024/06/10	107	70 - 130	102	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Chloroform	2024/06/10	111	70 - 130	90	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	cis-1,2-Dichloroethylene	2024/06/10	111	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	cis-1,3-Dichloropropene	2024/06/10	103	70 - 130	86	70 - 130	ND, RDL=0.30	ug/L	NC	30
9443086	Dibromochloromethane	2024/06/10	105	70 - 130	96	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	Dichlorodifluoromethane (FREON 12)	2024/06/10	81	60 - 140	73	60 - 140	ND, RDL=1.0	ug/L	NC	30
9443086	Ethylbenzene	2024/06/10	87	70 - 130	85	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Ethylene Dibromide	2024/06/10	111	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	F1 (C6-C10) - BTEX	2024/06/10					ND, RDL=25	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9443086	F1 (C6-C10)	2024/06/10	82	60 - 140	92	60 - 140	ND, RDL=25	ug/L	NC	30
9443086	Hexane	2024/06/10	90	70 - 130	78	70 - 130	ND, RDL=1.0	ug/L	NC	30
9443086	Methyl Ethyl Ketone (2-Butanone)	2024/06/10	108	60 - 140	88	60 - 140	ND, RDL=10	ug/L	NC	30
9443086	Methyl Isobutyl Ketone	2024/06/10	96	70 - 130	79	70 - 130	ND, RDL=5.0	ug/L	NC	30
9443086	Methyl t-butyl ether (MTBE)	2024/06/10	102	70 - 130	87	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	Methylene Chloride(Dichloromethane)	2024/06/10	114	70 - 130	92	70 - 130	ND, RDL=2.0	ug/L	NC	30
9443086	o-Xylene	2024/06/10	83	70 - 130	79	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	p+m-Xylene	2024/06/10	90	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Styrene	2024/06/10	102	70 - 130	96	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	Tetrachloroethylene	2024/06/10	101	70 - 130	95	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Toluene	2024/06/10	93	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Total Xylenes	2024/06/10					ND, RDL=0.20	ug/L	NC	30
9443086	trans-1,2-Dichloroethylene	2024/06/10	105	70 - 130	87	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	trans-1,3-Dichloropropene	2024/06/10	105	70 - 130	96	70 - 130	ND, RDL=0.40	ug/L	NC	30
9443086	Trichloroethylene	2024/06/10	106	70 - 130	90	70 - 130	ND, RDL=0.20	ug/L	NC	30
9443086	Trichlorofluoromethane (FREON 11)	2024/06/10	97	70 - 130	82	70 - 130	ND, RDL=0.50	ug/L	NC	30
9443086	Vinyl Chloride	2024/06/10	94	70 - 130	80	70 - 130	ND, RDL=0.20	ug/L	NC	30
9446249	F2 (C10-C16 Hydrocarbons)	2024/06/11	110	60 - 140	102	60 - 140	ND, RDL=100	ug/L	NC	30
9446249	F3 (C16-C34 Hydrocarbons)	2024/06/11	112	60 - 140	110	60 - 140	ND, RDL=200	ug/L		
9446249	F4 (C34-C50 Hydrocarbons)	2024/06/11	108	60 - 140	104	60 - 140	ND, RDL=200	ug/L		
9447686	F2 (C10-C16 Hydrocarbons)	2024/06/11	111	60 - 140	106	60 - 140	ND, RDL=100	ug/L	NC	30
9447686	F3 (C16-C34 Hydrocarbons)	2024/06/11	118	60 - 140	115	60 - 140	ND, RDL=200	ug/L	NC	30
9447686	F4 (C34-C50 Hydrocarbons)	2024/06/11	110	60 - 140	107	60 - 140	ND, RDL=200	ug/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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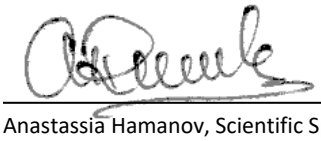
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

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NONT-2024-06-488

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#35249 Rubicon Environmental (2008) Inc.	Company Name:	Rubicon Environmental (2008) Inc.	Quotation #:	C35977
Attention:	Accounts Payable	Attention:	Juan Gomez	P.O. #:	
Address:	60 Toronto Street	Address:		Project:	R630148
	Flesherton ON N0C 1E0			Project Name:	
Tel:	(519) 924-0003 Fax:	Tel:	Fax:	Site #:	
Email:	admin@rubiconenviro.com	Email:	juangomez@rubiconenviro.com	Sampled By:	

Bottle Order #: 995313

COC #: C#995313-01-01

Project Manager: Nazeema Rahamim

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)			Other Regulations		Special Instructions
☑ Table 1	☑ Res/Park	☐ Medium/Fine	☐ CCME	☐ Sanitary Sewer Bylaw	
☑ Table 2	☐ Ind/Comm	☐ Coarse	☐ Reg 558	☐ Storm Sewer Bylaw	
☐ Table 3	☐ Agri/Other	☐ For RSC	☐ MISA	Municipality	
☑ Table 6			☐ PWQO	☐ Reg 406 Table	
			☐ Other		

Include Criteria on Certificate of Analysis (Y/N)?

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	O.Reg 153 VOCs by HS & F1-F4	BTEX	PHCs								# of Bottles	Comments
1	SP L09 # 137075	EX MW1	06/05/24	12:00	Water	✓	✓	✓									
2	" "	EX MW2		12:15		✓	✓	✓									
3	" "	EX MW2-DUP		12:30		✓	✓	✓									
4	" "	MW5		12:45		✓	✓	✓									
5	" "EX MW4	~~MW5~~		1:00		✓	✓	✓									
6	" "	EX MW7		1:15		✓	✓	✓									
7		VOC Trip Blank				✓											
8																	
9																	
10																	

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
	24/06/24	1:30	VIERAM	2024/06/06	13:36	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	05/26/23	Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Ice: No walk in

Bureau Veritas Canada (2019) Inc.

Your Project #: R63048
Your C.O.C. #: 997108-01-01

Attention: Juan Gomez

Rubicon Environmental (2008) Inc.
60 Toronto Street
Flesherton, ON
CANADA N0C 1E0

Report Date: 2024/06/25
Report #: R8207262
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4I5813
Received: 2024/06/18, 14:37

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum	2	N/A	2024/06/24		EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2024/06/21	2024/06/21	CAM SOP-00316	CCME PHC-CWS m
Volatile Organic Compounds and F1 PHCs	2	N/A	2024/06/21	CAM SOP-00230	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: R63048
Your C.O.C. #: 997108-01-01

Attention: Juan Gomez

Rubicon Environmental (2008) Inc.
60 Toronto Street
Flesherton, ON
CANADA N0C 1E0

Report Date: 2024/06/25
Report #: R8207262
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4I5813
Received: 2024/06/18, 14:37

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Nazeema Rahaman, Project Manager
Email: Nazeema.Rahaman@bureauveritas.com
Phone# (905)817-5806

==========

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VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		ZMP362	ZMP363		
Sampling Date		2024/06/18 07:05	2024/06/18 07:20		
COC Number		997108-01-01	997108-01-01		
	UNITS	MW3	EXMW6	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	ND	ND	0.50	9464327
Volatile Organics					
Acetone (2-Propanone)	ug/L	ND	ND	10	9470330
Benzene	ug/L	ND	ND	0.17	9470330
Bromodichloromethane	ug/L	ND	ND	0.50	9470330
Bromoform	ug/L	ND	ND	1.0	9470330
Bromomethane	ug/L	ND	ND	0.50	9470330
Carbon Tetrachloride	ug/L	ND	ND	0.20	9470330
Chlorobenzene	ug/L	ND	ND	0.20	9470330
Chloroform	ug/L	ND	ND	0.20	9470330
Dibromochloromethane	ug/L	ND	ND	0.50	9470330
1,2-Dichlorobenzene	ug/L	ND	ND	0.50	9470330
1,3-Dichlorobenzene	ug/L	ND	ND	0.50	9470330
1,4-Dichlorobenzene	ug/L	ND	ND	0.50	9470330
Dichlorodifluoromethane (FREON 12)	ug/L	ND	ND	1.0	9470330
1,1-Dichloroethane	ug/L	ND	ND	0.20	9470330
1,2-Dichloroethane	ug/L	ND	ND	0.50	9470330
1,1-Dichloroethylene	ug/L	ND	ND	0.20	9470330
cis-1,2-Dichloroethylene	ug/L	ND	ND	0.50	9470330
trans-1,2-Dichloroethylene	ug/L	ND	ND	0.50	9470330
1,2-Dichloropropane	ug/L	ND	ND	0.20	9470330
cis-1,3-Dichloropropene	ug/L	ND	ND	0.30	9470330
trans-1,3-Dichloropropene	ug/L	ND	ND	0.40	9470330
Ethylbenzene	ug/L	ND	ND	0.20	9470330
Ethylene Dibromide	ug/L	ND	ND	0.20	9470330
Hexane	ug/L	ND	ND	1.0	9470330
Methylene Chloride(Dichloromethane)	ug/L	ND	ND	2.0	9470330
Methyl Ethyl Ketone (2-Butanone)	ug/L	ND	ND	10	9470330
Methyl Isobutyl Ketone	ug/L	ND	ND	5.0	9470330
Methyl t-butyl ether (MTBE)	ug/L	ND	ND	0.50	9470330
Styrene	ug/L	ND	ND	0.50	9470330
1,1,1,2-Tetrachloroethane	ug/L	ND	ND	0.50	9470330
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	0.50	9470330
Tetrachloroethylene	ug/L	ND	ND	0.20	9470330

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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VOLATILE ORGANICS BY GC/MS (WATER)

Bureau Veritas ID		ZMP362	ZMP363		
Sampling Date		2024/06/18 07:05	2024/06/18 07:20		
COC Number		997108-01-01	997108-01-01		
	UNITS	MW3	EXMW6	RDL	QC Batch
Toluene	ug/L	ND	ND	0.20	9470330
1,1,1-Trichloroethane	ug/L	ND	ND	0.20	9470330
1,1,2-Trichloroethane	ug/L	ND	ND	0.50	9470330
Trichloroethylene	ug/L	ND	ND	0.20	9470330
Trichlorofluoromethane (FREON 11)	ug/L	ND	ND	0.50	9470330
Vinyl Chloride	ug/L	ND	ND	0.20	9470330
p+m-Xylene	ug/L	ND	ND	0.20	9470330
o-Xylene	ug/L	ND	ND	0.20	9470330
Total Xylenes	ug/L	ND	ND	0.20	9470330
F1 (C6-C10)	ug/L	ND	ND	25	9470330
F1 (C6-C10) - BTEX	ug/L	ND	ND	25	9470330
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	94	91		9470330
D4-1,2-Dichloroethane	%	109	100		9470330
D8-Toluene	%	90	93		9470330

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		ZMP362	ZMP363		
Sampling Date		2024/06/18 07:05	2024/06/18 07:20		
COC Number		997108-01-01	997108-01-01		
	UNITS	MW3	EXMW6	RDL	QC Batch
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	ND	ND	100	9470186
F3 (C16-C34 Hydrocarbons)	ug/L	ND	ND	200	9470186
F4 (C34-C50 Hydrocarbons)	ug/L	ND	ND	200	9470186
Reached Baseline at C50	ug/L	Yes	Yes		9470186
Surrogate Recovery (%)					
o-Terphenyl	%	99	99		9470186

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	24.0°C

Sample(s) received at a temperature above 10 °C.

Results relate only to the items tested.

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			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9470186	o-Terphenyl	2024/06/21	103	60 - 140	107	60 - 140	100	%		
9470330	4-Bromofluorobenzene	2024/06/21	102	70 - 130	103	70 - 130	93	%		
9470330	D4-1,2-Dichloroethane	2024/06/21	104	70 - 130	100	70 - 130	104	%		
9470330	D8-Toluene	2024/06/21	104	70 - 130	104	70 - 130	92	%		
9470186	F2 (C10-C16 Hydrocarbons)	2024/06/21	97	60 - 140	107	60 - 140	ND, RDL=100	ug/L	NC	30
9470186	F3 (C16-C34 Hydrocarbons)	2024/06/21	99	60 - 140	115	60 - 140	ND, RDL=200	ug/L	NC	30
9470186	F4 (C34-C50 Hydrocarbons)	2024/06/21	92	60 - 140	105	60 - 140	ND, RDL=200	ug/L	NC	30
9470330	1,1,1,2-Tetrachloroethane	2024/06/21	88	70 - 130	91	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	1,1,1-Trichloroethane	2024/06/21	91	70 - 130	95	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	1,1,2,2-Tetrachloroethane	2024/06/21	88	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	1,1,2-Trichloroethane	2024/06/21	90	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	1,1-Dichloroethane	2024/06/21	92	70 - 130	95	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	1,1-Dichloroethylene	2024/06/21	91	70 - 130	96	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	1,2-Dichlorobenzene	2024/06/21	86	70 - 130	92	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	1,2-Dichloroethane	2024/06/21	91	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	1,2-Dichloropropane	2024/06/21	86	70 - 130	90	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	1,3-Dichlorobenzene	2024/06/21	90	70 - 130	94	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	1,4-Dichlorobenzene	2024/06/21	93	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	Acetone (2-Propanone)	2024/06/21	95	60 - 140	97	60 - 140	ND, RDL=10	ug/L	NC	30
9470330	Benzene	2024/06/21	86	70 - 130	90	70 - 130	ND, RDL=0.17	ug/L	NC	30
9470330	Bromodichloromethane	2024/06/21	90	70 - 130	92	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	Bromoform	2024/06/21	87	70 - 130	89	70 - 130	ND, RDL=1.0	ug/L	NC	30
9470330	Bromomethane	2024/06/21	80	60 - 140	81	60 - 140	ND, RDL=0.50	ug/L	NC	30
9470330	Carbon Tetrachloride	2024/06/21	93	70 - 130	96	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	Chlorobenzene	2024/06/21	85	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	Chloroform	2024/06/21	91	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	cis-1,2-Dichloroethylene	2024/06/21	92	70 - 130	95	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	cis-1,3-Dichloropropene	2024/06/21	87	70 - 130	89	70 - 130	ND, RDL=0.30	ug/L	NC	30
9470330	Dibromochloromethane	2024/06/21	88	70 - 130	91	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	Dichlorodifluoromethane (FREON 12)	2024/06/21	76	60 - 140	79	60 - 140	ND, RDL=1.0	ug/L	NC	30
9470330	Ethylbenzene	2024/06/21	84	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9470330	Ethylene Dibromide	2024/06/21	89	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	F1 (C6-C10) - BTEX	2024/06/21					ND, RDL=25	ug/L	NC	30
9470330	F1 (C6-C10)	2024/06/21	84	60 - 140	87	60 - 140	ND, RDL=25	ug/L	NC	30
9470330	Hexane	2024/06/21	95	70 - 130	103	70 - 130	ND, RDL=1.0	ug/L	NC	30
9470330	Methyl Ethyl Ketone (2-Butanone)	2024/06/21	100	60 - 140	102	60 - 140	ND, RDL=10	ug/L	NC	30
9470330	Methyl Isobutyl Ketone	2024/06/21	93	70 - 130	96	70 - 130	ND, RDL=5.0	ug/L	NC	30
9470330	Methyl t-butyl ether (MTBE)	2024/06/21	87	70 - 130	90	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	Methylene Chloride(Dichloromethane)	2024/06/21	90	70 - 130	92	70 - 130	ND, RDL=2.0	ug/L	NC	30
9470330	o-Xylene	2024/06/21	83	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	p+m-Xylene	2024/06/21	80	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	Styrene	2024/06/21	91	70 - 130	99	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	Tetrachloroethylene	2024/06/21	89	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	Toluene	2024/06/21	86	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	Total Xylenes	2024/06/21					ND, RDL=0.20	ug/L	NC	30
9470330	trans-1,2-Dichloroethylene	2024/06/21	89	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	trans-1,3-Dichloropropene	2024/06/21	90	70 - 130	91	70 - 130	ND, RDL=0.40	ug/L	NC	30
9470330	Trichloroethylene	2024/06/21	89	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30
9470330	Trichlorofluoromethane (FREON 11)	2024/06/21	95	70 - 130	98	70 - 130	ND, RDL=0.50	ug/L	NC	30
9470330	Vinyl Chloride	2024/06/21	88	70 - 130	92	70 - 130	ND, RDL=0.20	ug/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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NONT-2024-06-1712

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#35249 Rubicon Environmental (2008) Inc.	Company Name:	Rubicon Environmental (2008) Inc.	Quotation #:	C35977
Attention:	Accounts Payable	Attention:	Juan Gomez	P.O. #:	
Address:	60 Toronto Street	Address:		Project:	R63048
	Flesherton ON N0C 1E0			Project Name:	
Tel:	(519) 924-0003 Fax:	Tel:	Fax:	Site #:	
Email:	admin@rubiconenviro.com	Email:	juangomez@rubiconenviro.com	Sampled By:	

Bottle Order #: 997108

COC #: C#997108-01-01

Project Manager: Nazeema Rahaman

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☑ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☑ Table 6

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality
- ☐ PWQO ☐ Reg 406 Table
- ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)?

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 VOCs by HS & F1-F4									# of Bottles	Comments
1		mw3	18/6/24	7:05	Water		X										
2		Exmw6	↓	7:20	↓		X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
	24/06/17					

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
		Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

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NONT-2024-06-488

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#35249 Rubicon Environmental (2008) Inc.	Company Name:	Rubicon Environmental (2008) Inc.	Quotation #:	C35977
Attention:	Accounts Payable	Attention:	Juan Gomez	P.O. #:	
Address:	60 Toronto Street	Address:		Project:	RG 30148
	Flesherton ON N0C 1E0			Project Name:	
Tel:	(519) 924-0003 Fax:	Tel:	Fax:	Site #:	
Email:	admin@rubiconenviro.com	Email:	juangomez@rubiconenviro.com	Sampled By:	

Bottle Order #: 995313

COC #: C#995313-01-01

Project Manager: Nazeema Rahaman

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☑ Table 1 ☑ Res/Park ☐ Medium/Fine	☐ CCME ☐ Sanitary Sewer Bylaw	
☑ Table 2 ☐ Ind/Comm ☐ Coarse	☐ Reg 558. ☐ Storm Sewer Bylaw	
☐ Table 3 ☐ Agri/Other ☐ For RSC	☐ MISA Municipality	
☑ Table 6	☐ PWQO ☐ Reg 406 Table	
	☐ Other	

Include Criteria on Certificate of Analysis (Y/N)?

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☑

(will be applied if Rush TAT is not specified):

Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: Time Required: ☐

Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 VOCs by HS & F1-F4									# of Bottles	Comments
1	SP L09 #137075	MW1	06/05/24	12:00	Water		✓	BTEX	F1-F4	PHCs							
2	"	MW2		12:15			✓	✓	✓	✓							
3	"	MW2-DUP		12:30			✓	✓	✓	✓							
4	"	MW5		12:45			✓	✓	✓	✓							
5	"	MW5T		1:00			✓	✓	✓	✓							
6	"	MW7		1:15			✓	✓	✓	✓							
7		VOC Trip Blank	✓		✓		✓										
8																	
9																	
10																	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
	24/06/04	1:30	VIKRAM	2024/06/06	13:38	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	03/26/23	Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

IAT: No walk in

Bureau Veritas Canada (2019) Inc.

APPENDIX 3
BOREHOLE LOGS

LOG OF BH2

PROJECT NUMBER R63048
PROJECT NAME PII
CLIENT 3N Group Holdings
ADDRESS Rochester & Balsam Street, Ottawa
DRILLING DATE August 15, 2024

DRILL RIG K40 LTD Access drill rig
DRILLING METHOD Solid Auger, Split Spoon
TOTAL DEPTH 4.50 m
DIAMETER 2.5 inch spoon, 4 inch auger

LOGGED BY AP
CHECKED BY Paul Rew

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

COMMENTS

Depth (m)	PID	Samples	Sample Type	Analysis	Water	Well Installation	Material Description	Graphic Log	Moisture	Additional Observations	Depth
0.2	<5 ppm	SS1					- Concrete				0.2
0.4							- Crushed Stone				0.4
0.6							- Grey Limestone				0.6
0.8		SS2									0.8
1	<5 ppm										1
1.2											1.2
1.4											1.4
1.6		SS3									1.6
1.8	<5 ppm										1.8
2											2
2.2											2.2
2.4		SS4									2.4
2.6	<5 ppm										2.6
2.8											2.8
3		SS5									3
3.2											3.2
3.4	<5 ppm										3.4
3.6											3.6
3.8		SS6									3.8
4											4
4.2	<5 ppm										4.2
4.4					▽						4.4
4.6							Total depth 4.50 m				4.6
4.8							No water dry				4.8
5											5
5.2											5.2

produced by ESlog.ESdat.net on 09 Oct 2024

LOG OF BH3

PROJECT NUMBER R63048
PROJECT NAME PII
CLIENT 3N Group Holdings
ADDRESS Rochester & Balsam Street, Ottawa
DRILLING DATE August 15, 2024

DRILL RIG K40 LTD Access drill rig
DRILLING METHOD Solid Auger, Split Spoon
TOTAL DEPTH 4.50 m
DIAMETER 2.5 inch spoon, 4 inch auger

LOGGED BY AP
CHECKED BY Paul Rew

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

COMMENTS

Depth (m)	PID	Samples	Sample Type	Analysis	Water	Well Installation	Material Description	Graphic Log	Moisture	Additional Observations	Depth
0		SS1					- Concrete				0
0.5	<5 ppm						- Crushed Stone				0.5
1		SS2					- Grey Limestone				1
1.5	<5 ppm	SS3									1.5
2											2
2.5	<5 ppm	SS4									2.5
3		SS5									3
3.5	<5 ppm										3.5
4		SS6									4
4.5	<5 ppm	SS7									4.5
5											5
5.5	<5 ppm	SS8									5.5
6					▽		Total depth 6.00 m				6
6.5							No water dry				6.5

Disclaimer This bore log is intended for environmental not geotechnical purposes.

LOG OF BH15

PROJECT NUMBER R63048
PROJECT NAME PII
CLIENT 3N Group Holdings
ADDRESS Rochester & Balsam Street, Ottawa
DRILLING DATE August 15, 2024

DRILL RIG K40 LTD Access drill rig
DRILLING METHOD Solid Auger, Split Spoon
TOTAL DEPTH 4.50 m
DIAMETER 2.5 inch spoon, 4 inch auger

LOGGED BY AP
CHECKED BY Paul Rew

COMPLETION

CASING uPVC

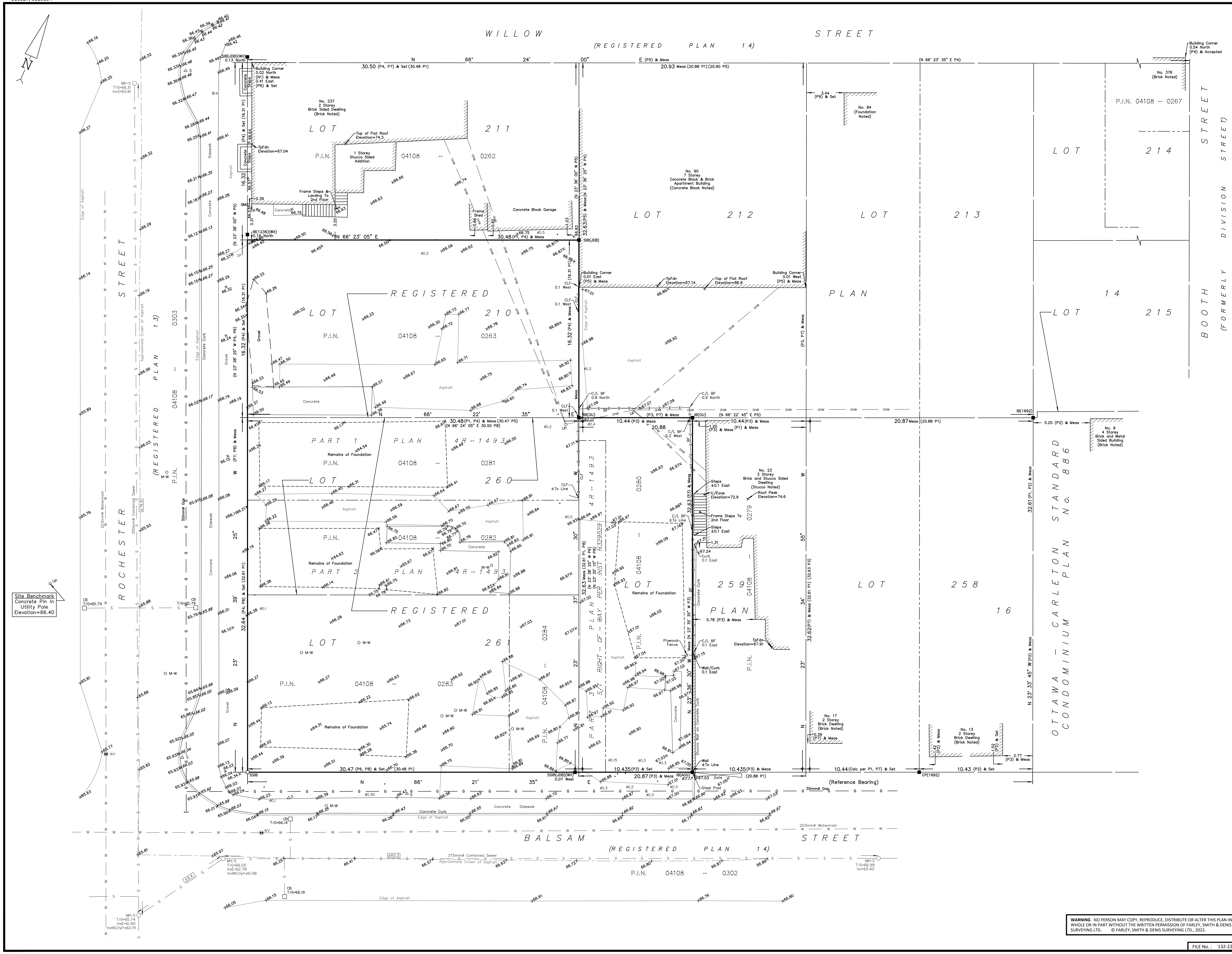
SCREEN uPVC Factory Slotted

COMMENTS

Depth (m)	PID	Samples	Sample Type	Analysis	Water	Well Installation	Material Description	Graphic Log	Moisture	Additional Observations	Depth
0.2	<5 ppm	SS1					- Organic Material				0.2
0.4							- Grey Limestone with shale partings				0.4
0.6											0.6
0.8		SS2									0.8
1	<5 ppm										1
1.2											1.2
1.4											1.4
1.6		SS3									1.6
1.8	<5 ppm										1.8
2											2
2.2											2.2
2.4		SS4									2.4
2.6	<5 ppm										2.6
2.8											2.8
3		SS5									3
3.2											3.2
3.4	<5 ppm										3.4
3.6											3.6
3.8		SS6									3.8
4											4
4.2	<5 ppm										4.2
4.4					▽						4.4
4.6							Total depth 4.50 m				4.6
4.8							No water dry				4.8
5											5
5.2											5.2

APPENDIX 4
SURVEY

366627, 5029894



TOPOGRAPHIC SKETCH OF

LOT 210
REGISTERED PLAN 14
LOTS 260 AND 261
AND PART OF LOT 259
REGISTERED PLAN 16
CITY OF OTTAWA

FARLEY, SMITH & DENIS SURVEYING LTD. 2022

Scale 1: 150

0 1.5 3 6 9 12 15 metres

Metric Note
Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.

Distance Note
Distances shown on this plan are ground distances and can be converted to grid distances by multiplying by the combined scale factor of 0.99994.

Bearing Note
Bearings and distances compiled from a plan by (1692) dated May 11, 2022 (File No. 132-22).

Elevation Notes
1. Elevations shown are geodetic and are referred to Geodetic Datum CGVD-1928 :1978. (Monument No. 197534238)
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

Utility Notes
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. Underground utility data derived from City of Ottawa utility sheet reference: E-10-21, E-10-25, 2621p&p1, 2621p&p2, 3067p&p2 & 3067p&p3.
4. Sanitary and storm sewer grades and inverts were derived from: Field measurement.
5. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

Note
Updated topographic information along Rochester Street September 27, 2022.

Notes & Legend

	Denotes	
Survey Monument Planted symbol	"	Survey Monument Planted
Survey Monument Found symbol	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
(Wit)	"	Witness
Meas	"	Measured
(P1)	"	Registered Plan 14
(P2)	"	Plan by (1692) dated December 3, 2020 (File No. 567-20)
(P3)	"	Plan by (1236) dated October 7, 1992 (Ref. No. 92-1146)
(P4)	"	Plan by (1236) dated October 7, 1992 (Ref. No. 92-1149)
(P5)	"	Plan by (990) dated May 31, 1989
(P6)	"	Plan by (725) dated September 10, 1985 (Ref. No. 635-85)
(P7)	"	Plan by (1287) dated August 1, 1985 (Job No. 526-85)
(P8)	"	Plan 4R-1493
(P9)	"	Plan by (AOG) dated September 2, 1980
(N1)	"	Notes by (857) dated September 23, 1980 (Job No. 7461)
MH-S	"	Maintenance Hole (Sanitary)
S	"	Underground Combination Sewer
W	"	Underground Water
G	"	Underground Gas
OHW	"	Overhead Wires
UP	"	Utility Pole
CB	"	Catch Basin
WV	"	Water Valve
SP	"	Water Stand Post
GM	"	Gas Meter
S	"	Sign
M-W	"	Monitoring Well
Ø	"	Diameter
CLF	"	Chain Link Fence
BF	"	Board Fence
Inv.	"	Invert
T/G	"	Top of Grate
T/P	"	Top of Pipe
U/Eave	"	Underside of Eave
TpFdn	"	Top of Foundation
C/L	"	Centreline
+65.00	"	Location of Elevations
+65.00	"	Top of Concrete Curb Elevation
Property Line symbol	"	Property Line
·	"	Deciduous Tree - The Symbol shown denotes location and trunk diameter only. Size of its' root system/overhead canopy may be smaller/larger than the symbol size depicted on this plan.

Site Area=1832.1 sq.m.

Caution
1. This is not a plan of survey and shall not be used except for the purpose indicated in the title block.
2. This sketch is protected by copyright.

FARLEY, SMITH & DENIS SURVEYING LTD.

ONTARIO LAND SURVEYORS
CANADA LAND SURVEYORS

Unit 275, 30 COLONNADE ROAD, OTTAWA, ONTARIO K2E 7J6
TEL. (613) 727-8226 E-mail: fsdsurveys@bellnet.ca

FILE No. : 132-22

TOPO 24X36

J:\2022\132-22_245-263 Rochester St & 27 Balsam St_topo\Final\132-22_245-263 Rochester St & 27 Balsam St_Lt210 RP14 & Lt259-261 RP16_T_F2.dwg