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PROJECT NO.: SM 177469-E July 24, 2017

LIV COMMUNITIES
1005 SKYVIEW ROAD – SUITE 301
BURLINGTON, ONTARIO
L7P 5B1

Attention: Andrew Mulder
Executive Director of Land Development

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
1085 CLEARVIEW AVENUE
BURLINGTON, ONTARIO

Dear Mr. Mulder,

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] were retained by LIV COMMUNITIES to undertake a Phase Two Environmental Site Assessment [ESA] on the above captioned property. Furthermore, it is our understanding that the Phase Two ESA is intended to support the filing of a Record of Site Condition [RSC]. In order to complete and file an RSC the subject property will either need to meet the applicable Ontario Regulation 153/04 [as amended] soil and groundwater standards or be subjected to some level of Risk Assessment activities.

Our fieldwork, laboratory testing and interpretation in connection with the assessment activities has been finalised and our comments and recommendations, based on our findings, are presented in the following paragraphs.

The subject property is herein referred to as the *Site*.

1.0 INTRODUCTION

1.1 SITE DESCRIPTION

The Site is comprised of a roughly rectangular shaped parcel of land on the east side of Clearview Avenue between Masonry Court and Queen Mary Avenue in the city of Burlington, Ontario. For descriptive purposes, Clearview Avenue has been designated as having a north-south alignment.

At the time of this Report the Site was occupied by a single storey community use building located toward the northwest corner of the Site. The remainder of the Site was comprised primarily of an asphaltic concrete covered parking lot structure with some landscaped areas around the perimeter of the Site.

The Site was bound to the north by Masonry Court, to the east and south by residential properties, and to the west by Clearview Avenue.

The parcel of land described above comprise the Phase Two ESA property and are hereinafter referred to as the "Site".

The legal description of the Site is "Lots 26, 27 & 28, Plan PF753; Lots 64, Plan PF665; Burlington".

The geographic coordinates of the Site using a hand held global positioning unit are [NAD 83] 17T 592450E/ 4797650N.

Refer to Drawing No.: 1, Appendix 'A' for a general site location drawing.

1.2 PROPERTY OWNERSHIP

SOIL-MAT ENGINEERS were retained by LIV COMMUNITIES to undertake the Phase Two ESA activities on the Site in support of the redevelopment of the Site. The contact information for LIV COMMUNITIES is provided below:

LIV COMMUNITIES
1005 Skyview Road – Suite 301
Burlington, Ontario
L7P 5B1

Point of Contact: Mr. Andrew Mulder [amulder@livhere.ca]

A previous Phase One ESA report prepared for the Site by this Office indicated that the Site was owned by "Hamilton Area Meeting Rooms Association" at the time of the title search in September 2016 [refer to SOIL-MAT ENGINEERS' Report No.: SM 166997-E, dated November 23, 2016.

1.3 CURRENT AND PROPOSED FUTURE USES

The Site was most recently used for commercial purposes and the intended future use of the site is a residential development. The change in land use from a commercial use to a residential use will trigger a mandatory RSC filing under Ontario Regulation 153/04 [as amended].

1.4 APPLICABLE SITE CONDITION STANDARDS

The following criteria was utilised to determine the appropriate site classification and Ontario Regulation 153/04 [as amended] soil and groundwater standards.

- Current land use: Commercial;
- Intended land use: Residential;
- Drinking Water Supply: Non-potable Ground Water;
- On-site Soil Texture: Coarse Grained Soils;
- Depth to Bedrock: greater than 8.2 metres;
- pH of soils on the Site: Within Standard range;
- Surface Water Body: None observed within 30 metres of the Site.

Based on the above, all soil and groundwater laboratory analytical test results were compared to the Table 3 Soil and Ground Water Standards for a Residential/Parkland/Institutional Property Use [RPI] in a non-potable groundwater condition from the Ministry of the Environment document "Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environment Protection Act, [2011], hereinafter referred to as the 'Table 3 RPI Standards'.

2.0 BACKGROUND INFORMATION

2.1 PHYSICAL SETTING

At the time of this Report no construction activities were underway.

The Site was bound to the north by Masonry Court, to the east and south by residential properties, and to the west by Clearview Avenue.

The topography of the Site is relatively flat and even.

2.2 PAST INVESTIGATIONS

A Phase One Environmental Site Assessment was previously prepared by SOIL-MAT ENGINEERS under our Project No.: SM 166997-E, dated November 23, 2016.

Upon completion of the Phase One ESA Report, two [2] potential contaminating activities [PCAs] were identified in connection with the Site. The PCAs are identified in table format on the following page:

PCA Number	PCA Description
12	Concrete, Cement and Lime Manufacturing
30	Importation of Fill Material of Unknown Quality

Based on the above, SOIL-MAT ENGINEERS was retained to undertake Phase Two ESA activities to assess the potential adverse impact(s) to the soil and groundwater medium as a result of the noted PCAs.

The primary area of potential environmental concern [APEC] associated with the PCAs was noted to be the northwest corner of the Site where a former concrete plant was situated up-gradient and around Borehole No. 4, just southeast of the centre point of the Site where fill material was observed.

Previous background laboratory analytical test results reported in our Phase One ESA will are also incorporated into this Phase Two ESA.

The fieldwork included the advancement of six [6] sampled boreholes on the Site to depths ranging between 3.7 to 8.2 metres below ground surface.

3.0 SCOPE OF THE INVESTIGATION

3.1 OVERVIEW OF SITE INVESTIGATION

The Phase Two ESA fieldwork programme was carried out on May 8, 2017 and included the advancement of six [6] boreholes, identified as Borehole Nos. 201 through 206, within the Site boundaries to assess potential environmental impact, if any, to the Site as a result of the above noted PCAs.

To achieve the above, twelve [12] discrete soil samples were selected from Borehole Nos. 202 through 206, inclusive, for submission to AGAT Laboratories Limited, [AGAT], [an accredited Canadian Environmental Laboratory] for analytical testing of the contaminants of concern [COCs]. In this case, the COCs were identified as metals and inorganics and petroleum hydrocarbons [PHCs].

Previous environmental soil sampling on September 26, 2016 included securing two [2] discrete soil samples and a duplicate sample from Borehole No. 1 [referred to as BH 201 in this report] for metals and inorganics, petroleum hydrocarbons [PHCs], volatile organic compounds [VOCs] and polycyclic aromatic hydrocarbons [PAHs].

In addition to the above, a groundwater monitoring well was installed in Borehole Nos. 201, 202 and 205 to allow for the collection of groundwater samples for laboratory analytical testing for the parameters listed above.

The laboratory analytical test results were interpreted from an environmental point-of-view and were compared to the applicable Ontario Regulation 153/04 [as amended] soil and groundwater standards for the Site.

3.2 MEDIA INVESTIGATED

The Phase Two ESA investigated potential impacts to the surface and subsurface soil and groundwater mediums. The COC grouping was determined based on the previous site use. As previously noted, the COC groupings were limited to PHCs, PAHs, VOCs and Metals.

3.3 DEVIATIONS FROM SAMPLING AND ANALYSIS PLAN

No deviations from the Phase Two ESA sampling plan were encountered.

3.4 IMPEDIMENTS

SOIL-MAT ENGINEERS did not encounter any physical impediments on the Site and were not denied access to any parts of the Phase Two ESA property.

4.0 INVESTIGATION METHOD

4.1 GENERAL

The Phase Two ESA included securing both soil and groundwater samples.

Professional care was exercised during the retrieval of each sample, the placement of each sample in the appropriate sample jar, the labeling of the field samples and associated chain of custody and in the delivery of the samples to the testing laboratory.

As our standard operating procedures dictate unusual field observations, such as visual or olfactory evidence of a suspected impact, a deviation from SOIL-MAT ENGINEERS' field sampling and handling protocols or incident on the testing laboratories' side was documented either on our field borehole logs or in-house copy of the sample Certificate of Analysis.

4.2 DRILLING AND EXCAVATING

Tri-Phase Group were retained by SOIL-MAT ENGINEERS for the physical advancement of the boreholes and installation of the groundwater monitoring wells. It is noted that Tri-Phase Group is a registered water well contractor for the installation and abandonment of groundwater monitoring wells under Ontario Regulation 903.

The boreholes were advanced using a truck mounted drill rig under the direction of SOIL-MAT ENGINEERS. Soil samples were secured at roughly 0.60 metre intervals via split spoon samplers to the termination of each borehole. The split spoon samples were driven in general accordance with the Standard Penetration Test [SPT] method.

Each split-spoon sampler was thoroughly washed with non-phosphate detergent then rinsed with water before the collection of each subsequent sample to minimise the potential for cross-contamination between samples. The boreholes were advanced on the Site using hollow stem augers.

A 50-millimetre diameter groundwater monitoring well was installed at Borehole Nos. 201, 202 and 205 upon the completion of drilling activities. The groundwater monitoring wells were installed in accordance with *Regulation 903 [Wells]* under the Ontario Water Resources Act. The monitoring wells were outfitted with flush mount protective casings and secured with a lock.

A water well record was submitted to the Ministry of the Environment upon completion of drilling activities. It is the responsibility of the Site owner to ensure the groundwater monitoring well is maintained in an appropriate, safe and secure condition as per the Regulation and to arrange for the monitoring well to be abandoned in accordance with the Regulation when it is no longer in use.

A site plan drawing illustrating the borehole and groundwater monitoring well locations is included in Appendix 'A' for reference [refer to Drawing No.: 1].

4.3 SOIL SAMPLING

The soil samples were examined in the field for visual and olfactory evidence of potential impacts such as unusual staining and/or odours, etc., and were split into two separate samples, including the following:

- One half of the sample was sealed in sampling jars for submission to AGAT for analytical testing, and;
- One half of the sample was sealed in a plastic sampling bag for further characterisation in SOIL-MAT ENGINEERS' in-house soils laboratory.

The soil samples that were delivered to AGAT were sealed in pre-cleaned sample jars, with preservatives were required, as provided by the laboratory.

The samples were delivered to AGAT's depot location in Stoney Creek, Ontario in coolers to maintain a temperature range between the applicable 0°C to 10°C [the average recorded temperature range was 6.5 °C].

A copy of SOIL-MAT ENGINEERS borehole logs is included in Appendix 'B' for reference.

4.4 FIELD SCREENING MEASUREMENTS

All of the Phase Two ESA soil samples were examined in the field for visual and olfactory evidence of potential PHC impact(s), such as unusual staining and/or odours, etc.

No hand held field screening units were utilised during the collection of the confirmatory soil samples.

4.5 GROUNDWATER MONITORING WELL INSTALLATION

Tri-Phase Group were retained by SOIL-MAT ENGINEERS for the physical drilling and construction of the groundwater monitoring wells.

The boreholes were advanced using a truck mounted drill rig under the direction of SOIL-MAT ENGINEERS and were advanced using hollow stem augers.

A 50-millimetre diameter groundwater monitoring well was installed at Borehole Nos. 201, 202 and 205 upon the completion of drilling activities. The groundwater monitoring wells were installed in accordance with *Regulation 903 [Wells]* under the Ontario Water Resources Act.

A water well record was submitted to the Ministry of the Environment upon completion of drilling activities. It is the responsibility of the Site owner to ensure the groundwater monitoring well is maintained in an appropriate, safe and secure condition as per the Regulation and to arrange for the monitoring well to be abandoned in accordance with the Regulation when it is no longer in use.

4.6 GROUNDWATER FIELD MEASUREMENT OF WATER QUALITY PARAMETERS

No hand held field screening units were utilised during the collection of the groundwater samples. The samples were delivered immediately to AGAT upon retrieval from the monitoring well and were subjected to AGAT's QA procedure which included a temperature reading upon their receipt.

In each case, the groundwater samples were delivered to AGAT's depot location in Stoney Creek, Ontario and maintained a temperature range between the applicable 0°C to 10°C [the average recorded temperature range was 8.4 °C].

4.7 GROUNDWATER SAMPLING

Three [3] well volumes were purged from each groundwater monitoring well prior to the collection of the groundwater samples. The monitoring wells were then allowed to recharge back to recorded static groundwater levels prior to the physical sample collection.

The monitoring wells installed on the Site during this Phase Two ESA were equipped with dedicated sampling equipment, including a 25-millimetre diameter water bailer for sample collection for the PHC parameters and a high density 10-millimetre diameter tubing outfitted with a Waterra foot-valve pump.

Professional care was exercised during the retrieval of each sample, the placement of each sample in the appropriate sample jar, the labeling of the field samples and associated chain of custody and in the delivery of the samples to the testing laboratory.

As our standard operating procedures dictate unusual field observations, such as visual or olfactory evidence of a suspected impact, a deviation from SOIL-MAT ENGINEERS' field sampling and handling protocols or incident on the testing laboratories' side was documented either on our field borehole logs or in-house copy of the sample certificate of analysis.

There were no deviations recorded during the Phase Two ESAs.

4.8 SEDIMENT SAMPLING

Sediment sampling was not conducted as part of this Phase Two ESA.

4.9 ANALYTICAL TESTING

All laboratory analytical work was performed by AGAT Laboratories Limited [AGAT] in Mississauga, Ontario. AGAT is a member of the Canadian Association for Laboratory Accreditation [CALA] and meets the requirements of Section 47 of the RSC Regulation.

4.10 RESIDUE MANAGEMENT PROCEDURES

The residue soil generated during advancement of the boreholes on the Site was collected and placed in steel 45-gallon drums for off-site disposal.

Purged groundwater was stored on-site until the results of the laboratory analytical testing demonstrated that the groundwater met the applicable SCS at which time the groundwater was discarded across the surface soil in the vicinity of each groundwater sampling point.

4.11 ELEVATION SURVEYING

All boreholes and groundwater monitoring wells were surveyed by a staff member of SOIL-MAT ENGINEERS to facilitate site relative survey information. The top of the manhole located northwest of the entrance to 1085 Clearview avenue on the east side of the street was used as a temporary benchmark. This benchmark is identified on Drawing No.: 1, Appendix 'A' and was assigned an elevation of 100.00 metres.

4.12 QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

QA/QC was maintained during the field program through equipment decontamination and sampling procedures, as outlined in the "*MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" (May, 1996).

Standard QA/QC protocols were followed for bottle preparation, sample collection and transportation, as outlined by MOE guidance documents, including the MOE's 2011 "*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act*".

In addition to these field-based measures, extensive QA/QC procedures were carried out by the analytical laboratories, including:

- Lab blanks;
- Spikes;
- Matrix blanks; and
- Instrument blanks and assessments of instrument tuning and performance.

Based on the evaluation of the sampling and analytical procedures used, the following data quality statements can be made:

- The data are adequate for the RSC objectives and approach utilized; and,
- Soil and groundwater analytical data were of an acceptable quality for comparison to 2011 MOE SCS as defined by *O.Reg.153/04, as amended,* for current investigations.

5.0 REVIEW AND EVALUATION

5.1 GEOLOGY

A copy of SOIL-MAT ENGINEERS' borehole logs are presented in Appendix 'B' for reference.

In summary, the Phase Two ESA revealed the following Site stratigraphy:

PAVEMENT STRUCTURE

All boreholes were advanced through the existing pavement structure. The pavement structure generally consisted of 50 millimetres of asphaltic concrete over 125 to 150 millimetres of compact granular base.

SILTY SAND FILL

Sand fill was encountered beneath the pavement structure in Borehole Nos. 204, 205 and 206. This fill was brown in colour, medium in gradation , contained trace to some gravel and trace silt and was generally in a loose to very loose state. The fill deposit was proven to a depth of approximately 1.3 to 3.0 metres beneath the existing pavement surface where encountered.

SAND

Native brown sand was encountered beneath the pavement structure and/or fil material at all borehole locations. The sand was medium in gradation, contains trace to some gravel and trace silt and is generally in a compact state. The sand was proven to depths of 4.9 to 5.2 metres in Borehole Nos. 201, 202 and 205 and to termination in Borehole Nos. 203, 204 and 206 at depths of 3.7 to 5.2 metres.

CLAYEY SILT

Native clayey silt was encountered beneath the sand in Borehole Nos. 201, 202 and 205. The clayey silt was reddish brown in colour, contained trace to some sand and gravel, and was generally firm to stiff in consistency. The clayey silt was proven to determination where encountered in the boreholes.

5.2 GROUNDWATER ELEVATIONS AND FLOW DIRECTIONS

All boreholes were recorded as 'dry' upon completion of drilling activities. It is noted that insufficient time would have passed for the static groundwater level to stabilize in the open boreholes. Groundwater monitoring wells were installed in Borehole Nos. 201, 202 and 205 for future monitoring of the static groundwater level and environmental sampling of the on-site groundwater. The results of these readings are outlined in the table on the following page:

TABLE A
SUMMARY OF GROUNDWATER LEVELS

Borehole No.	Surface Elevation (m)	May 17, 2017		May 26, 2017		July 11, 2017	
		Depth [m]	Elev. [m]	Depth [m]	Elev. [m]	Depth [m]	Elev. [m]
BH-#201	99.11	4.20	94.91	4.33	94.78	-	-
BH-#202	99.20	4.30	94.90	4.32	94.88	-	-
BH-#205	98.98	4.45	94.53	4.45	94.53	4.70	94.27

Based on the groundwater readings the static groundwater level is estimated at a depth of approximately 4.0 to 5.0 metres below grade, although seasonal fluctuations must be expected.

Based on the ground water contours extrapolated from the recorded static ground water levels on the Site the ground water flow direction through the Site is to the south-southeast. It is noted that the survey information is site relative and not geodetic.

5.3 GROUNDWATER HYDRAULIC GRADIENTS

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded during the Phase Two ESA. Based on these recordings, the distance between the monitoring wells and the depth of well installation the horizontal hydraulic gradient is estimated as 0.00691.

5.4 SOIL TEXTURE

SOIL-MAT ENGINEERS' borehole logs indicate that the surface and subsurface soil consists primarily of sands as the predominant soil type.

5.5 SOIL QUALITY –SOIL SAMPLING

In total, twelve [12] soil samples were secured from the Site to assess potential impacts on the Site. Two [2] discrete soil samples including one duplicate were taken previously from Borehole No. 1 [BH 201] and will be included in this study. The secured soil samples were submitted to AGAT for laboratory analytical testing as described in the summary table below:

TABLE B
SUMMARY OF ANALYTICAL TESTING – SOIL [TABLE 3 RPI]

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 3 RPI Site Condition Standards
BH1 SS5	6.1 – 6.6	Metals, PHCs, VOCs and PAHs	Clayey Silt	No exceedances reported
BH1 SS6	7.6 – 8.1	Metals, PHCs, VOCs and PAHs	Clayey Silt	No exceedances reported

TABLE B CONTINUED
SUMMARY OF ANALYTICAL TESTING – SOIL [TABLE 3 RPI]

Sample ID	Depth [m bgs]	Laboratory Analysis	Soil Description	Table 3 RPI Site Condition Standards
BH202 SS6	4.5 – 5.2	PHCs	Clayey Silt	No exceedances reported
BH203 SS3	1.5 – 2.1	Metals	Sand	No exceedances reported
BH203 SS5	3.0 – 3.6	PHCs	Sand	No exceedances reported
BH204 SS2	0.8 – 1.4	Metals	Sand Fill/Sand	Exceeds the Table 3 RPI SCSs in Metals as Sodium Adsorption Ratio [SAR] reported as 14.2ppm vs the Standard of 5ppm
BH204 SS3	1.5 – 2.1	Metals	Sand	Exceeds the Table 3 RPI SCSs in Metals as Sodium Adsorption Ratio [SAR] reported as 9.84ppm vs the Standard of 5ppm
BH205 SS2	0.8 – 1.4	Metals	Sand Fill	No exceedances reported
BH205 SS3	1.5 – 2.1	Metals	Sand Fill/Sand	No exceedances reported
BH205 SS6	4.6 – 5.2	PHCs	Sand	No exceedances reported
BH205 SS7	6.1 – 6.7	PHCs	Clayey Silt	No exceedances reported
BH205 SS8	7.6 – 8.2	PHCs	Clayey Silt	No exceedances reported
BH206 SS3	1.5 – 2.1	Metals	Sand Fill	Exceeds the Table 3 RPI SCSs in Metals as Sodium Adsorption Ratio [SAR] reported as 7.34ppm vs the Standard of 5ppm
BH206 SS4	2.3 – 2.9	Metals	Sand Fill	Exceeds the Table 3 RPI SCSs in Metals as Sodium Adsorption Ratio [SAR] reported as 11.5ppm vs the Standard of 5ppm and Electrical Conductivity [EC] reported as 1.12ppm vs the Standard of 0.7ppm
Dupe 1 [BH1 SS5]	6.1 – 6.6	Metals, PHCs, VOCs and PAHs	Clayey Silt	No exceedances reported
Notes: PHCs = Petroleum Hydrocarbons, PAHs = Polycyclic Aromatic Hydrocarbons, VOCs = Volatile Organic Compounds				

In most cases, the laboratory analytical test results for the submitted soil samples meet the applicable Table 3 [RPI] Standards for the select tested parameters, being less than the laboratory method detection limits in many cases.

Borehole No. 204 exceeded the Table 3 RPI Standards for the select parameter 'SAR' and Borehole No. 206 exceeded the Table 3 RPI Standards for the select parameters 'SAR' and 'EC'.

The AGAT Certificate of Analysis for the soil analytical data is contained in Appendix 'C' for reference.

5.6 SOIL QUALITY – IMPORTED FILL MATERIAL

Suspected fill material was encountered in Borehole Nos. 204, 205 and 206, extending to depths ranging between approximately 1.2 to 3 m bgs. The vertical extent of the elevated level of SAR and/or EC at borehole locations 'BH204' and 'BH206' has not been established at this time.

5.7 GROUNDWATER QUALITY

A groundwater sample was secured on May 26 and July 11 of 2017 from the three [3] existing monitoring wells installed on the Site.

A summary of the field samples and laboratory analytical test results is presented in Tables C and below:

TABLE C
SUMMARY OF ANALYTICAL TESTING – WATER [TABLE 3 NPGW]

Sample ID	Laboratory Analysis	Table 3 NPGW Exceedances
MW201 S1	Metals, PHCs, VOCs and PAHs	No exceedances reported
MW202 S1	Metals, PHCs & BTEX	No exceedances reported
MW205 S1	Metals, PHCs & BTEX	Exceeds the Table 3 NPGW in PHCs as Fraction 'F2', reported as 360ppm vs the Standard of 150ppm
MW205 S2	PHCs & BTEX	No exceedances reported
Dup 2 [MW201 S1]	Metals, PHCs, VOCs and PAHs	No exceedances reported
Notes: PHCs = Petroleum Hydrocarbons, PAHs = Polycyclic Aromatic Hydrocarbons, VOCs = Volatile Organic Compounds, BTEX = Benzene, Toluene, Ethylbenzene and Xylenes		

With the exception of our groundwater monitoring well 'MW205', the laboratory analytical test results for the submitted groundwater samples are all below the applicable Table 3 RPI Site Condition Standards for the select test parameters, being below the laboratory method detection limit in most cases.

With respect to our groundwater monitoring well 'MW205', it is noted that this monitoring well exhibited an elevated level of PHCs, as Fraction F2, in the initial sampling event. However, resampling the groundwater at this location, after purging the monitoring well a second time, resulted in no exceedances of the Table 3 site condition standards, with all of the tested parameters being reported below the laboratory method detection limits. As such, it is the opinion of SOIL-MAT ENGINEERS that the initial 'F2' exceedance can be considered an anomaly.

The AGAT certificate of analysis for the groundwater analytical data is contained in Appendix 'D' for reference.

5.8 SEDIMENT QUALITY

Sediment sampling was not conducted as part of this Phase Two ESA. The APEC and COC groupings were limited to the soil and groundwater mediums.

5.9 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

QA/QC was maintained during the field program through equipment decontamination and sampling procedures, as outlined in the "*MOE Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" (May, 1996). Each groundwater monitoring well was equipped with dedicated sampling equipment, including a 25 millimetre water bailer for sample collection. Standard QA/QC protocols were followed for bottle preparation, sample collection and transportation, as outlined by MOE guidance documents, including the MOE's 2011 "*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act*".

In addition to these field-based measures, extensive QA/QC procedures were carried out by the analytical laboratories, including:

- Lab blanks;
- Spikes;
- Matrix blanks; and
- Instrument blanks and assessments of instrument tuning and performance.

Based on the evaluation of the sampling and analytical procedures used, the following data quality statements can be made:

- The data are adequate for the RSC objectives and approach utilized; and,
- Soil and groundwater analytical data were of an acceptable quality for comparison to 2011 MOE Standards as defined by *O.Reg.153/04* for current investigations.

5.10 PHASE TWO CONCEPTUAL SITE MODEL [CSM]

SOIL-MAT ENGINEERS' has not prepared a Phase Two CSM as part of this Phase Two ESA. However, a Phase Two CSM will be prepared to support the filing of an RSC.

6.0 CONCLUSIONS

SOIL-MAT ENGINEERS were retained by LIV COMMUNITIES to undertake a Phase Two ESA programme on the Site to assess potential adverse environmental impact(s) to the soil and groundwater mediums as a result of two [2] PCAs associated with the Site and neighbouring lands.

The results of our Phase Two ESA findings are summarized below:

PAH SOIL EXCEEDANCE AREA

The Phase Two ESA activities carried out by Soil-Mat Engineers did not reveal any PAH exceedances on the property at the select sampled locations.

The sample locations are illustrated on Drawing.: 5, Appendix A.

METAL SOIL EXCEEDANCE AREA

The Phase Two ESA activities carried out by SOIL-MAT ENGINEERS revealed elevated levels of Sodium Adsorption [SAR] and Electrical Conductivity [EC] parameters in the sand fill and upper levels of the native sand in the vicinity of Borehole Nos. 204 and 206.

The elevated levels of SAR and EC are likely associated with the effects of historical application of deicing salt to the parking lot area of the facility. It is noted that the lateral and vertical extent of the soil exhibiting an adverse SAR and/or EC impact was not fully delineated during this round of Phase Two ESA testing.

The sample locations with noted metal exceedance(s) are illustrated on Drawing.: 3, Appendix A.

VOC SOIL EXCEEDANCE AREA

The Phase Two ESA activities carried out by SOIL-MAT ENGINEERS did not reveal a VOC exceedance in the soil on the property.

The sample locations are illustrated on Drawing.: 4, Appendix A.

PHC SOIL EXCEEDANCE AREA

The Phase Two ESA activities carried out by SOIL-MAT ENGINEERS did not reveal a PHC exceedance in the soil on the property.

The sample locations are illustrated on Drawing.: 2, Appendix A

GROUNDWATER ANALYTICAL DATA

SOIL-MAT ENGINEERS' final Phase Two ESA activities undertaken on the Site [to date] did not reveal any exceedances of the PHC, PAH, Metal and VOC groupings in the groundwater medium.

As noted in Section 5.7 of this Report, the initial sampling event of our groundwater monitoring well 'MW205' exhibited an elevated level of PHCs, as Fraction F2, in the initial sampling event. However, resampling the groundwater at this location, after purging the monitoring well a second time, resulted in no exceedances of the Table 3 site condition standards, with all of the tested parameters being reported below the laboratory method detection limits.

As such, it is the opinion of SOIL-MAT ENGINEERS that the initial exceedances can be considered an anomaly.

The groundwater sampling locations are illustrated on Drawing.: 6 to 9, Appendix A.

PROPOSED FUTURE RESIDENTIAL REDEVELOPMENT

Given the proposed future use of the Site [residential], the Site would be subject to a mandatory Record of Site Condition [RSC] filing. In order to complete and file an RSC the properties will either need to meet the applicable Ontario Regulation 154/04 [as amended] soil and groundwater standards or be subjected to some level of risk assessment activities. In either scenario, additional intrusive sampling is recommended to complete the following:

- Further delineate the lateral and vertical extent of the elevated levels of SAR and EC in the soil medium on the Site. If removal of the fill is pursued, the additional lateral and vertical assessment activities would also be beneficial in determining an approximate volume of soil material to be removed for remedial purposes.
- The on-Site materials may be remediated employing a traditional "dig and dump" operation. In this scenario, confirmatory soil sampling would be undertaken on the sidewalls and floor [base] of the remedial excavation. The number of samples would be determined based on the final dimensions of the remedial excavation.
- In the event that the Site is subjected to some level of Risk Assessment [whether a modified generic RA or a Site Specific RA], additional intrusive sampling will be required to establish the lateral and vertical extent of the impact(s) to the soil mediums. It is also noted, that although still preliminary in nature, the laboratory analytical test results [to date] indicate that some level of soil removal and future control measures, such as hard or soft caps, would be required to support the acceptance of an MGRA or SSRA for the Site.

7.0 CLOSURE

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of LIV COMMUNITIES. The material in if reflects SOIL-MAT ENGINEERS' best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

We trust this Report is satisfactory for your purposes. Please feel free to contact our Office if you have any questions, or we may be of further service to you.

Yours very truly,
SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Jeremy Yang, M.Sc. Eng., EIT
Environmental Scientist



Keith Gleadall, B.A., EA Dipl.
Environmental Manager

Ian Shaw, P.Eng., QP_{ESA}
Review Engineer

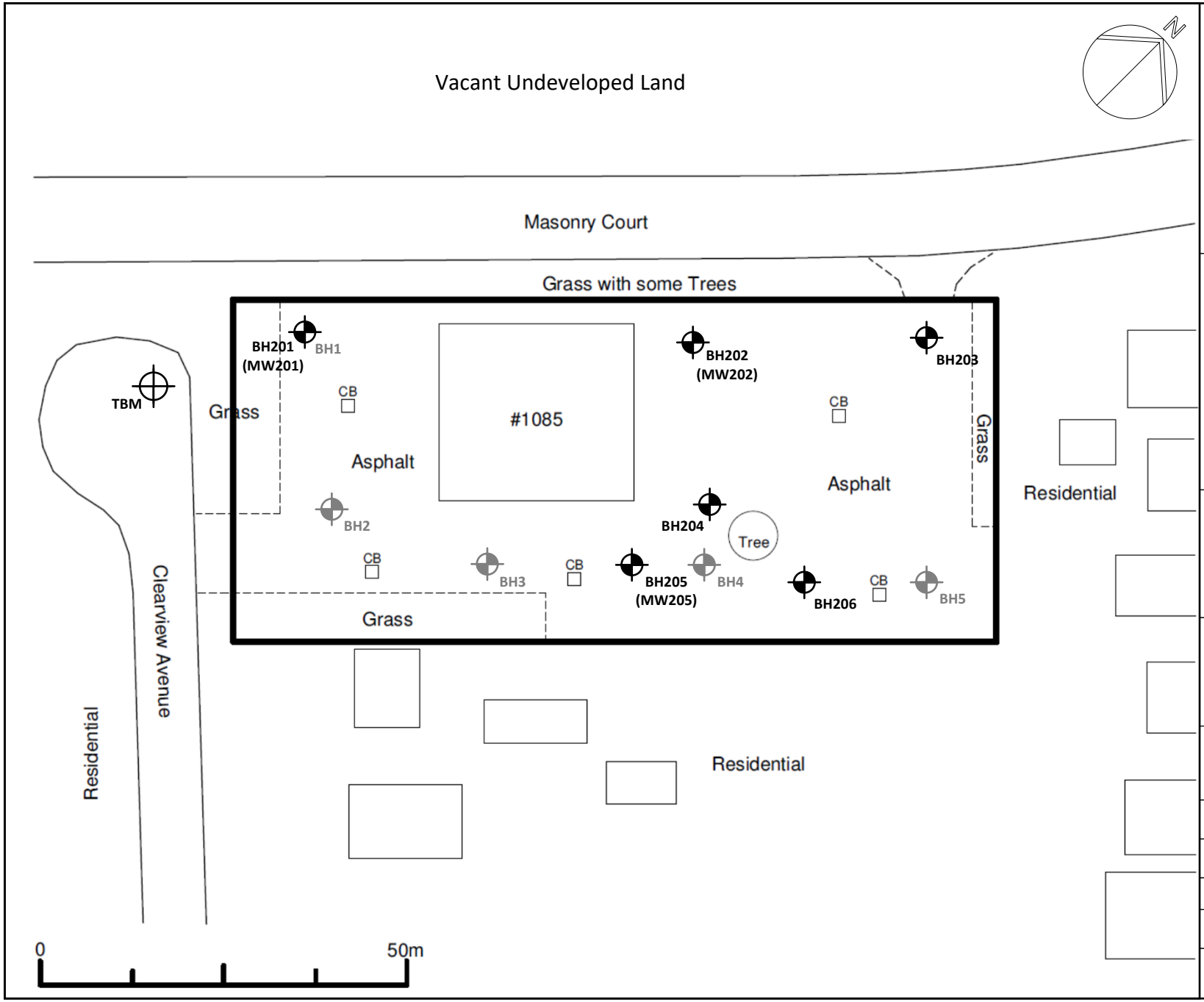
Distribution: LIV COMMUNITIES [2]

Enclosures:

Appendix 'A':	Drawing Nos. 1 to 9 – Borehole Location & Analytical Data Summary;
Appendix 'B'	Borehole Logs;
Appendix 'C'	AGAT Soil Analytical Data;
Appendix 'D'	AGAT Ground Water Analytical Data;
Appendix 'E'	Qualifications of Assessors;
Appendix 'F'	Statement of Limitations.

Appendix 'A'

1. Drawing No.: 1: Borehole Location Plan;
2. Drawing No.: 2: Analytical Data Summary [Soil] PHCs, and;
3. Drawing No.: 3: Analytical Data Summary [Soil] Metals, and;
4. Drawing No.: 4: Analytical Data Summary [Soil] VOCs, and;
5. Drawing No.: 5: Analytical Data Summary [Soil] PAHs, and;
6. Drawing No.: 6: Analytical Data Summary [Water] PHCs, and;
7. Drawing No.: 7: Analytical Data Summary [Water] Metals, and;
8. Drawing No.: 8: Analytical Data Summary [Water] VOCs, and;
9. Drawing No.: 9: Analytical Data Summary [Water] PAHs.



LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark: Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Borehole Location Plan

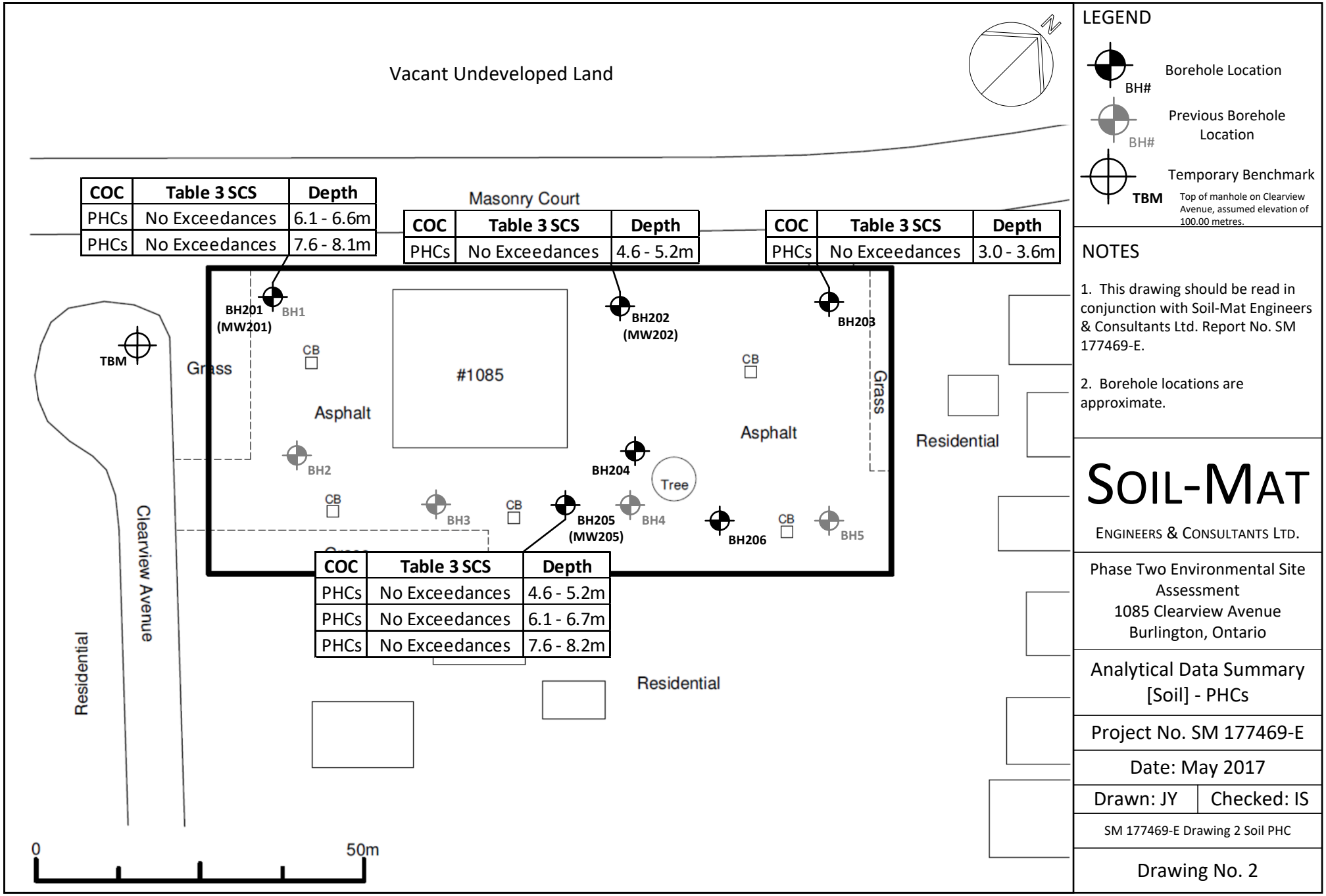
Project No. SM 177469-E

Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Borehole Location Plan

Drawing No. 1



LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark. Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Soil] - PHCs

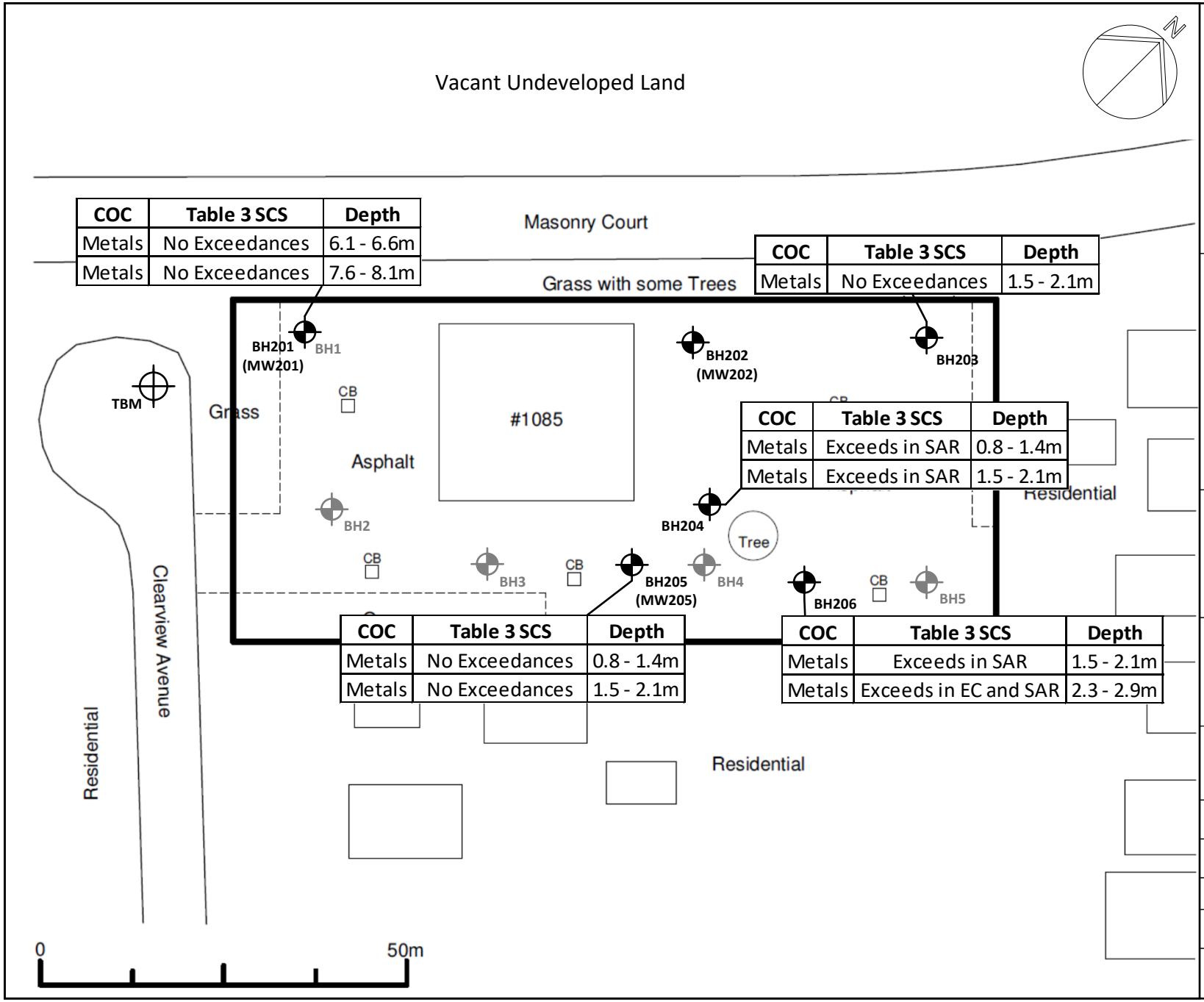
Project No. SM 177469-E

Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Drawing 2 Soil PHC

Drawing No. 2



COC	Table 3 SCS	Depth
Metals	No Exceedances	6.1 - 6.6m
Metals	No Exceedances	7.6 - 8.1m

COC	Table 3 SCS	Depth
Metals	No Exceedances	1.5 - 2.1m

COC	Table 3 SCS	Depth
Metals	Exceeds in SAR	0.8 - 1.4m
Metals	Exceeds in SAR	1.5 - 2.1m

COC	Table 3 SCS	Depth
Metals	No Exceedances	0.8 - 1.4m
Metals	No Exceedances	1.5 - 2.1m

COC	Table 3 SCS	Depth
Metals	Exceeds in SAR	1.5 - 2.1m
Metals	Exceeds in EC and SAR	2.3 - 2.9m

LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark: Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Soil] - Metals

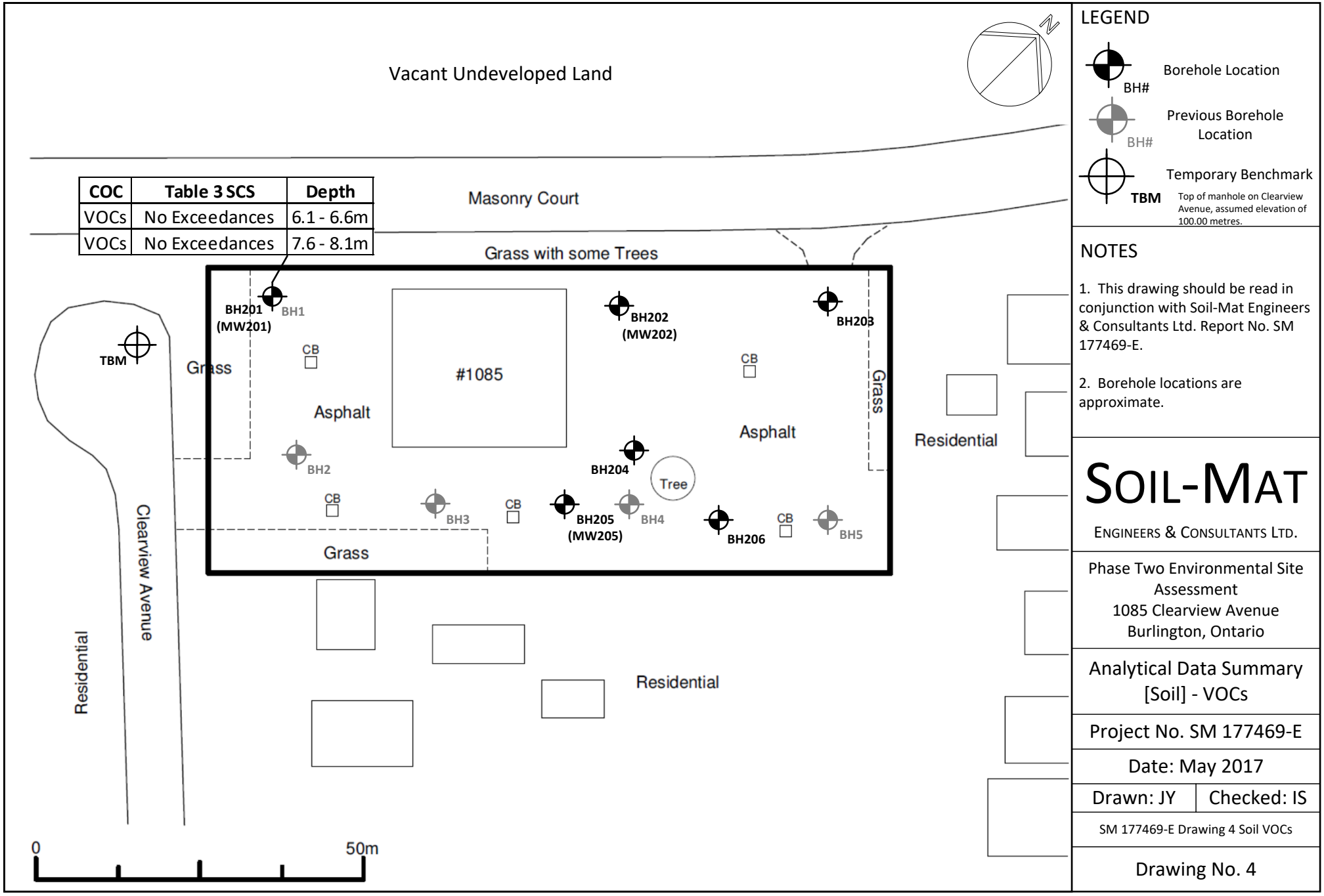
Project No. SM 177469-E

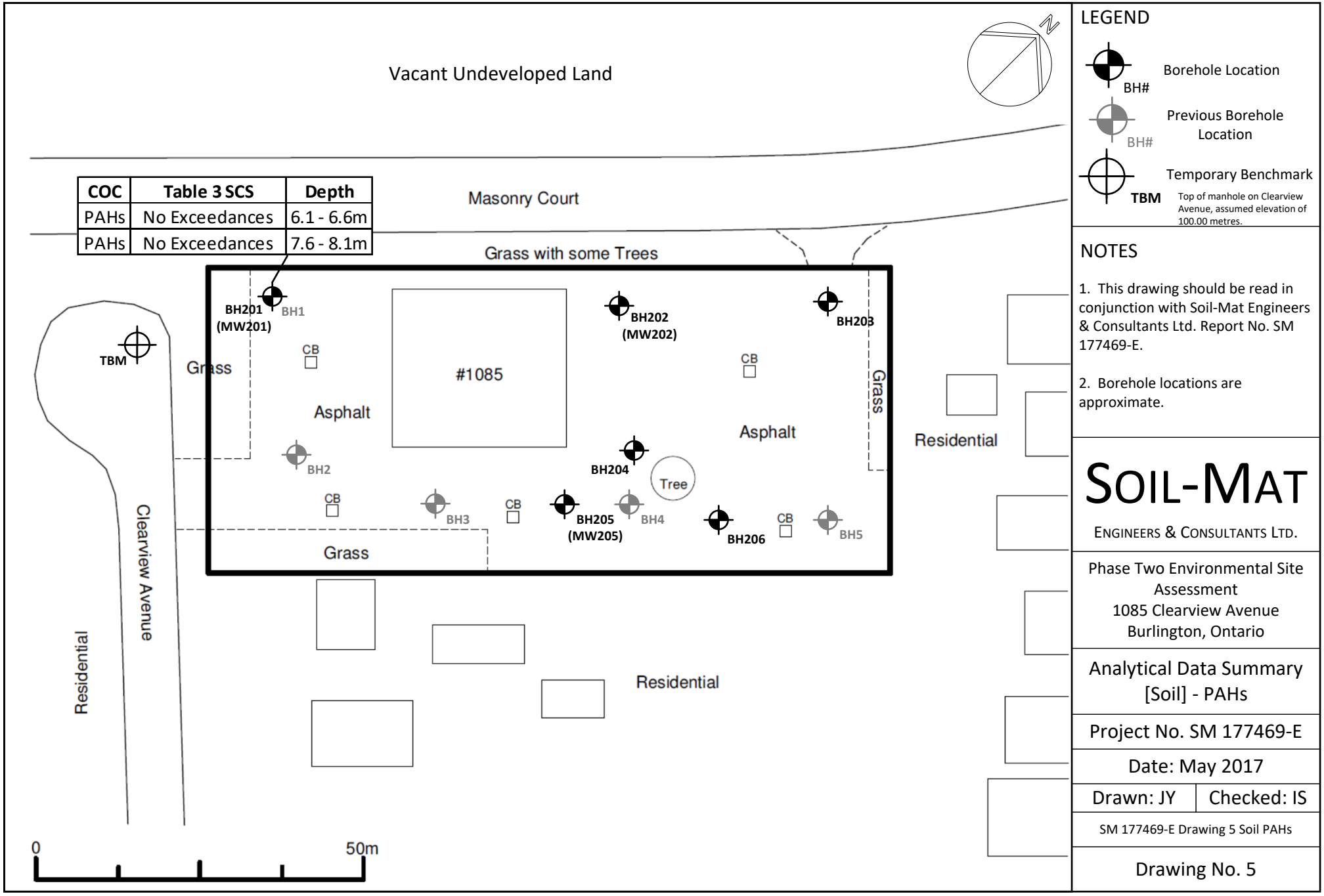
Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Drawing 3 Soil Metals

Drawing No. 3


Vacant Undeveloped Land
N
Masonry Court
Grass with some Trees
COC | Table 3 SCS | Depth
VOCs | No Exceedances | 6.1 - 6.6m
VOCs | No Exceedances | 7.6 - 8.1m
BH201 (MW201)
BH1
BH202 (MW202)
BH203
TBM
Grass
CB
#1085
Asphalt
Asphalt
Grass
BH2
BH204
Tree
CB
BH3
CB
BH205 (MW205)
BH4
BH206
CB
BH5
Grass
Residential
Residential
Residential
Clearview Avenue
0
50m
LEGEND
Borehole Location
BH#
Previous Borehole Location
BH#
Temporary Benchmark
TBM
Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.
NOTES
1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.
SOIL-MAT
ENGINEERS & CONSULTANTS LTD.
Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario
Analytical Data Summary [Soil] - VOCs
Project No. SM 177469-E
Date: May 2017
Drawn: JY
Checked: IS
SM 177469-E Drawing 4 Soil VOCs
Drawing No. 4



LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark. Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Soil] - PAHs

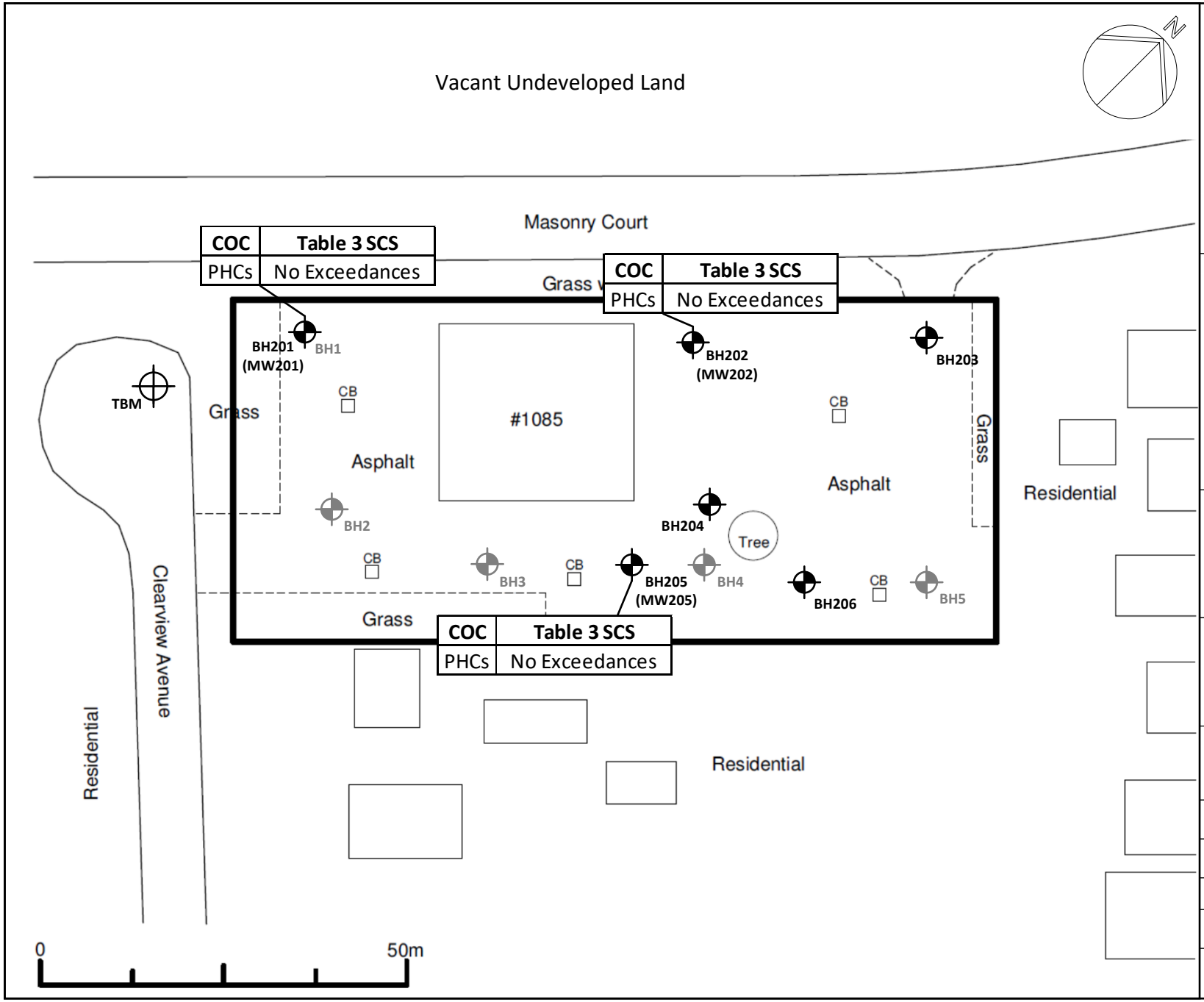
Project No. SM 177469-E

Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Drawing 5 Soil PAHs

Drawing No. 5



LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark: Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Water] - PHCs

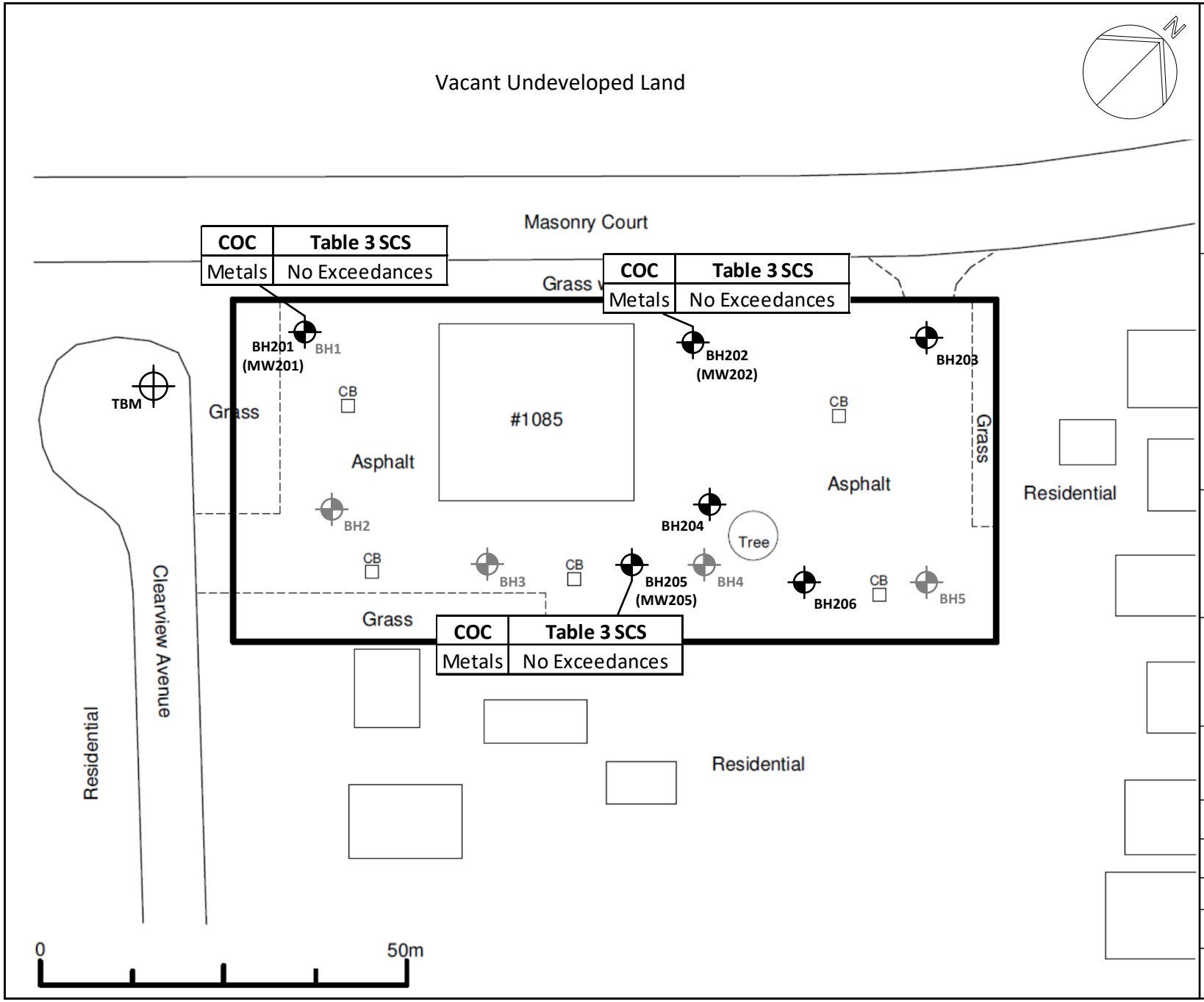
Project No. SM 177469-E

Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Drawing 5 Water PHCs

Drawing No. 6



LEGEND

- Borehole Location — BH#
- Previous Borehole Location — BH#
- Temporary Benchmark — TBM — Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Water] - Metals

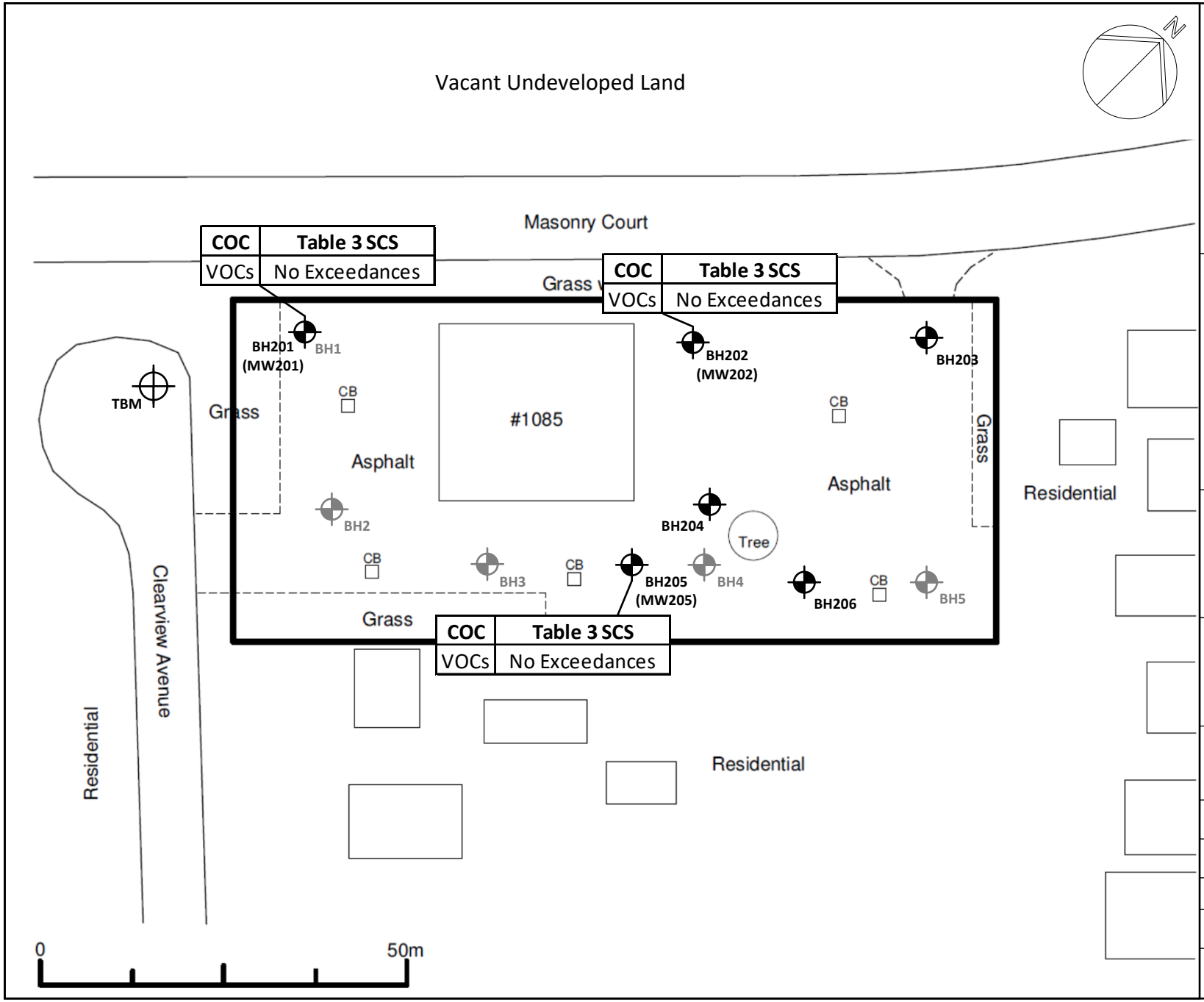
Project No. SM 177469-E

Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Drawing 7 Water Metals

Drawing No. 7



LEGEND

- Borehole Location — BH#
- Previous Borehole Location — BH#
- Temporary Benchmark — TBM — Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Water] - VOCs

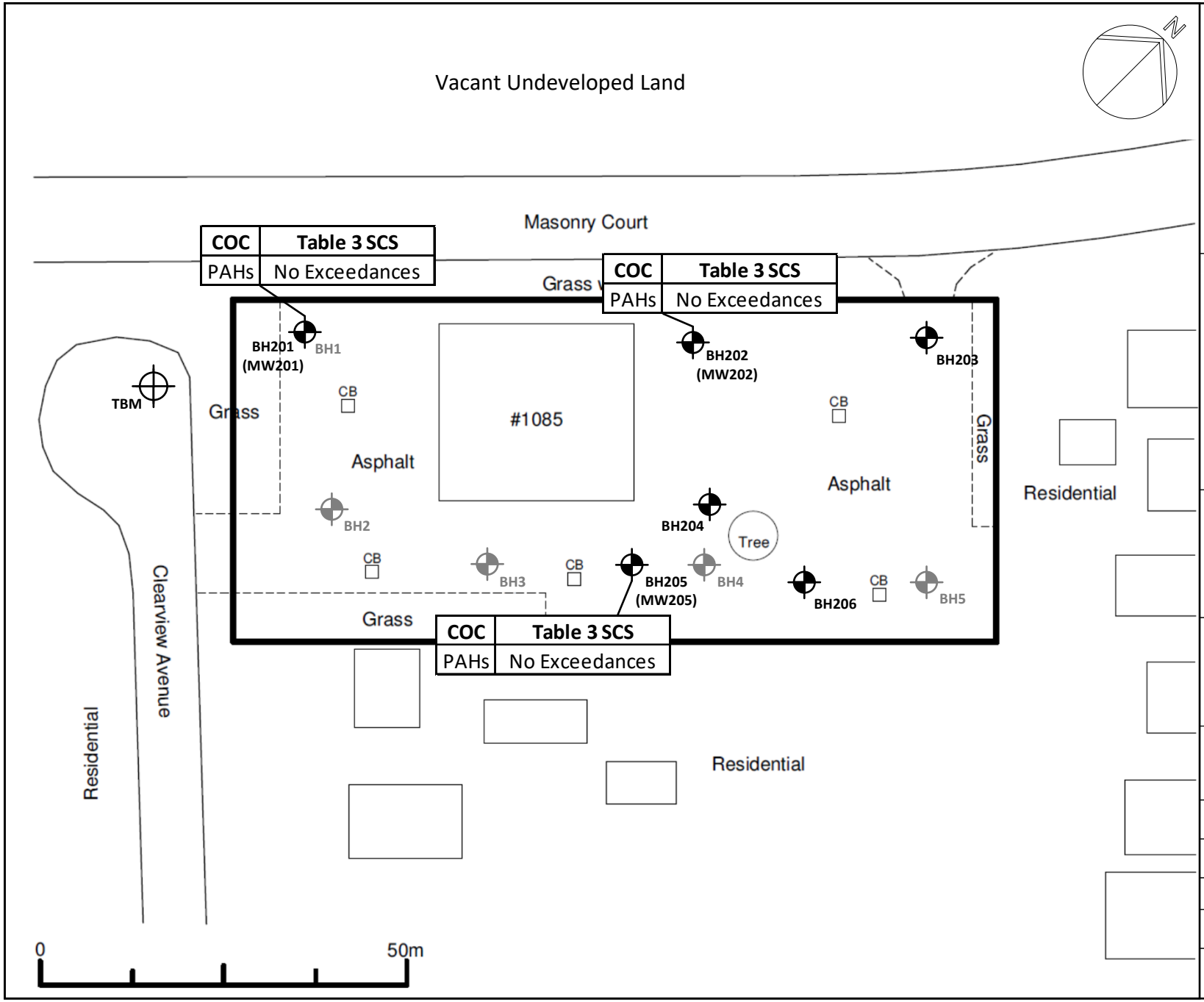
Project No. SM 177469-E

Date: May 2017

Drawn: JY	Checked: IS

SM 177469-E Drawing 8 Water VOCs

Drawing No. 8



LEGEND

- BH# — Borehole Location
- BH# — Previous Borehole Location
- TBM — Temporary Benchmark. Top of manhole on Clearview Avenue, assumed elevation of 100.00 metres.

NOTES

1. This drawing should be read in conjunction with Soil-Mat Engineers & Consultants Ltd. Report No. SM 177469-E.
2. Borehole locations are approximate.

SOIL-MAT
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Phase Two Environmental Site Assessment
1085 Clearview Avenue
Burlington, Ontario

Analytical Data Summary [Water] - PAHs

Project No. SM 177469-E

Date: May 2017

Drawn: JY | Checked: IS

SM 177469-E Drawing 9 Water PAHs

Drawing No. 9

Appendix ‘B’

1. Borehole Logs

Log of Borehole No. 201

Project No: SM 177469-E
Project: Phase 2 ESA
Location: 1085 Clearview Avenue
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No. 1
UTM Coordinates - N:
E:

Soil-Mat

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE: Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)	Moisture Content w% (10 20 30 40)	Standard Penetration Test blows/300mm (20 40 60 80)
0 / 0	99.11	Ground Surface										
0 / 0	98.91	**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 150 millimetres of compact granular base.										
		Sand Brown, medium in gradation, trace to some gravel, trace silt, loose to compact.										
16 / 5	94.21	**Clayey Silt** Reddish brown, trace to some sand and gravel, stiff.										
25 / 7	91.51	End of Borehole										

Notes:

1. Borehole was advanced using hollow stem auger equipment on May 8, 2017 to a depth of 7.6 metres.
2. Borehole was recorded as 'dry' upon completion of drilling and backfilled as per Ontario Regulation 903.
3. Soil samples will be discarded after 3 months unless otherwise directed by our client.
4. A Monitoring well was installed and the following groundwater level readings have been measured:

   May 17, 2017 - 4.20m
   May 26, 2017 - 4.33m

Drill Method: Hollow Stem Augers
Drill Date: May 8, 2017
Hole Size: 200mm
Drilling Contractor: Tri-Phase

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: TBM
Field Logged by: K.F.
Checked by: J.Y.
Sheet: 1 of 1

Log of Borehole No. 202

Project No: SM 177469-E
Project: Phase 2 ESA
Location: 1085 Clearview Avenue
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No. 1
UTM Coordinates - N:
E:

Soil-Mat

Depth (ft / m)	Elevation (m)	Description	Well Data	SAMPLE Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	99.20	Ground Surface								
0 / 0	99.00	**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 150 millimetres of compact granular base.								
		Sand Brown, medium in gradation, trace to some gravel, trace silt, compact.		SS	1	6 9 14 14	23			
				SS	2	2 5 5 6	10			
				SS	3	2 6 10 10	16			
				SS	4	3 5 8 11	13			
				SS	5	4 9 11 11	20			
16 / 5	94.30	**Clayey Silt** Reddish brown, trace to some sand and gravel, firm.		SS	6	3 3 4 4	7		2.5	
				SS	7	2 2 4 5	6		2.0	
26 / 8	91.00	End of Borehole		SS	8	1 3 4 6	7		1.0	
33 / 10										

Moisture Content w% (10 20 30 40)

Standard Penetration Test blows/300mm (20 40 60 80)

NOTES:

1. Borehole was advanced using hollow stem auger equipment on May 8, 2017 to a depth of 8.2 metres.
2. Borehole was recorded as 'dry' upon completion of drilling and backfilled as per Ontario Regulation 903.
3. Soil samples will be discarded after 3 months unless otherwise directed by our client.
4. A Monitoring well was installed and the following groundwater level readings have been measured:

May 17, 2017 - 4.3m May 26, 2017 - 4.32m

Drill Method: Hollow Stem Augers
Drill Date: May 8, 2017
Hole Size: 200mm
Drilling Contractor: Tri-Phase

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: TBM
Field Logged by: K.F.
Checked by: J.Y.
Sheet: 1 of 1

Log of Borehole No. 203

Project No: SM 177469-E
Project: Phase 2 ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No. 1
UTM Coordinates - N:
E:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		99.25		Ground Surface								
0	0	99.05		**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 150 millimetres of compact granular base.								
1				**Sand** Brown, medium in gradation, trace to some gravel, trace silt, compact.		SS	1	4 10 4 8	14			
2												
3	1					SS	2	5 5 5 5	10			
4												
5												
6						SS	3	1 2 4 10	6			
7	2											
8												
9						SS	4	3 7 8 8	15			
10	3											
11						SS	5	5 8 9 10	17			
12		95.59		End of Borehole								
13	4											
14												
15												
16												
17	5											
18												
19												
20	6											
21												
22												
23	7			NOTES: 1. Borehole was advanced using hollow stem auger equipment on May 8, 2017 to a depth of 3.7 metres. 2. Borehole was recorded as 'dry' upon completion of drilling and backfilled as per Ontario Regulation 903. 3. Soil samples will be discarded after 3 months unless otherwise directed by our client.								
24												
25												
26	8											
27												
28												
29												
30	9											
31												
32												
33												

Moisture Content w%
10 20 30 40

Standard Penetration Test blows/300mm
20 40 60 80



Drill Method: Hollow Stem Augers
Drill Date: May 8, 2017
Hole Size: 200mm
Drilling Contractor: Tri-Phase

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: TBM
Field Logged by: K.F.
Checked by: J.Y.
Sheet: 1 of 1

Log of Borehole No. 204

Project No: SM 177469-E
Project: Phase 2 ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No. 1
UTM Coordinates - N:
E:

Soil-Mat

Depth (ft)	Depth (m)	Elevation (m)	Symbol	Description	Well Data	SAMPLE Type	SAMPLE Number	SAMPLE Blow Counts	SAMPLE Blows/300mm	SAMPLE Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		98.98		Ground Surface								
0	0	98.75		**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 150 millimetres of compact granular base.		SS	1	5 2 3 2	5			
3	1	97.78		**Sand Fill** Brown, medium in gradation, trace to some gravel, trace clay, loose to very loose.		SS	2	2 2 1 3	3			
6	2			**Sand** Brown, medium in gradation, trace to some gravel, trace silt, loose to compact.		SS	3	1 3 4 6	7			
9	3					SS	4	2 4 7 6	11			
11		95.32				SS	5	4 11 13 10	24			
12	4			End of Borehole								

Moisture Content w%
10 20 30 40

Standard Penetration Test blows/300mm
20 40 60 80

NOTES:

1. Borehole was advanced using hollow stem auger equipment on May 8, 2017 to a depth of 3.7 metres.

2. Borehole was recorded as 'dry' upon completion of drilling and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Hollow Stem Augers
Drill Date: May 8, 2017
Hole Size: 200mm
Drilling Contractor: Tri-Phase

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: TBM
Field Logged by: K.F.
Checked by: J.Y.
Sheet: 1 of 1

Log of Borehole No. 205

Project No: SM 177469-E
Project: Phase 2 ESA
Location: 1085 Clearview Avenue
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No. 1
UTM Coordinates - N:
E:

Soil-Mat

Depth (ft / m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
0 / 0	98.98	Ground Surface							
0 / 0	98.78	**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 150 millimetres of compact granular base.							
3 / 1		**Sand Fill** Brown, medium in gradation, trace to some gravel, trace silt, loose.	SS	1	4 7 6 7	13			
4 / 1			SS	2	4 4 2 3	6			
6 / 2	97.18	**Sand** Brown, medium in gradation, trace to some gravel, trace silt, compact.	SS	3	2 2 5 4	7			
8 / 2			SS	4	2 5 8 9	13			
10 / 3			SS	5	4 10 12 11	22			
16 / 5			SS	6	5 7 9 7	16			
20 / 6	92.78	**Clayey Silt** Reddish brown, trace to some sand and gravel, firm.	SS	7	1 2 2 4	4			
26 / 8	90.78	End of Borehole	SS	8	2 3 4 3	7			

Moisture Content w% (10 20 30 40)
Standard Penetration Test blows/300mm (20 40 60 80)

NOTES:
1. Borehole was advanced using hollow stem auger equipment on May 8, 2017 to a depth of 8.2 metres.
2. Borehole was recorded as 'dry' upon completion of drilling and backfilled as per Ontario Regulation 903.
3. Soil samples will be discarded after 3 months unless otherwise directed by our client.
4. A Monitoring well was installed and the following groundwater level readings have been measured:

May 17, 2017 - 4.45m May 26, 2017 - 4.45m

Drill Method: Hollow Stem Augers
Drill Date: May 8, 2017
Hole Size: 200mm
Drilling Contractor: Tri-Phase

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: TBM
Field Logged by: K.F.
Checked by: J.Y.
Sheet: 1 of 1

Log of Borehole No. 206

Project No: SM 177469-E
Project: Phase 2 ESA
Location: 1085 Clearview Avenue, Burlington
Client: LIV Communities

Project Manager: Ian Shaw, P. Eng.
Borehole Location: See Drawing No. 1
UTM Coordinates - N:
E:

Soil-Mat

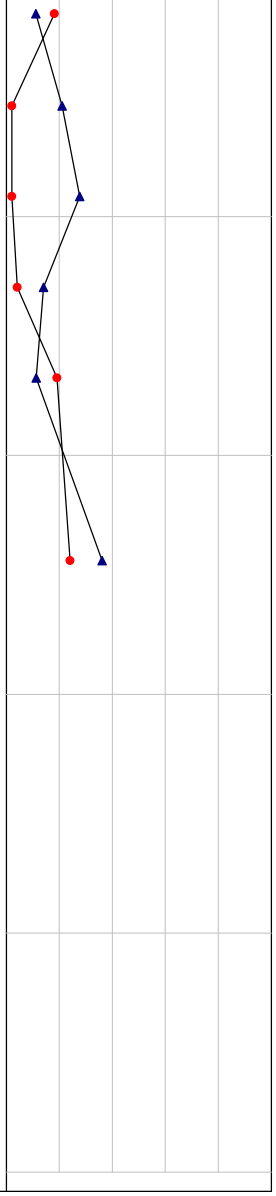
Depth (ft)	Depth (m)	Elevation (m)	Description	Type	Number	Blow Counts	Blows/300mm	Recovery	PP (kgf/cm2)	U.Wt.(kN/m3)
		98.93	Ground Surface							
0	0	98.75	**Pavement Structure** Approximately 50 millimetres of asphaltic concrete over 125 millimetres of compact granular base.							
1			**Sand Fill** Brown, medium in gradation, trace to some gravel, trace clay, very loose.	SS	1	7 9 9 6	18			
2				SS	2	3 1 1 1	2			
3	1			SS	3	2 1 1 2	2			
4				SS	4	1 2 2 6	4			
5		95.93	**Sand** Brown, medium in gradation, trace to some gravel, trace silt, compact.	SS	5	8 9 10 10	19			
6	2									
7				SS	6	12 13 11 12	24			
8		93.75	End of Borehole							
9	3									
10										
11										
12	4									
13										
14										
15	5									
16										
17										
18	6									
19										
20										
21										
22	7									
23										
24										
25										
26	8									
27										
28										
29										
30	9									
31										
32										
33										

Well Data

SAMPLE

Moisture Content w%
10 20 30 40

Standard Penetration Test blows/300mm
20 40 60 80



NOTES:

1. Borehole was advanced using hollow stem auger equipment on May 8, 2017 to a depth of 5.2 metres.

2. Borehole was recorded as 'dry' upon completion of drilling and backfilled as per Ontario Regulation 903.

3. Soil samples will be discarded after 3 months unless otherwise directed by our client.

Drill Method: Hollow Stem Augers
Drill Date: May 8, 2017
Hole Size: 200mm
Drilling Contractor: Tri-Phase

Soil-Mat Engineers & Consultants Ltd.
130 Lancing Drive, Hamilton, ON L8W 3A1
T: 905.318.7440 F: 905.318.7455
E: info@soil-mat.ca

Datum: TBM
Field Logged by: K.F.
Checked by: J.Y.
Sheet: 1 of 1

Appendix ‘C’

1. AGAT Certificate of Analysis - Soil

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Ian Shaw

PROJECT: 177469

AGAT WORK ORDER: 17T213786

SOIL ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Coordinator

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: May 16, 2017

PAGES (INCLUDING COVER): 9

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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All reportable information as specified by ISO 17025:2005 is available from AGAT Laboratories upon request

AGAT Laboratories

5835 COOPERS AVENUE
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TEL (905)712-5100
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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 17T213786

PROJECT: 177469

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ian Shaw

SAMPLING SITE:Burlington

SAMPLED BY:KF

O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2017-05-09 **DATE REPORTED: 2017-05-16**

		SAMPLE DESCRIPTION:		BH203 SS3	BH204 SS2	BH204 SS3	BH205 SS2	BH205 SS3	BH206 SS3	BH206 SS4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2017-05-08	2017-05-08	2017-05-08	2017-05-08	2017-05-08	2017-05-08	2017-05-08
Parameter	Unit	G / S	RDL	8378572	8378576	8378578	8378579	8378580	8378599	8378601
Antimony	µg/g	1.3	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	4	6	3	4	5	4	6
Barium	µg/g	220	2	31	55	19	45	30	19	73
Beryllium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	36	5	<5	<5	<5	<5	<5	<5	5
Boron (Hot Water Soluble)	µg/g	NA	0.10	<0.10	0.15	<0.10	0.15	0.15	<0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	2	8	11	7	11	10	7	14
Cobalt	µg/g	21	0.5	4.3	5.3	3.8	5.8	5.2	3.7	6.7
Copper	µg/g	92	1	23	42	20	27	27	20	42
Lead	µg/g	120	1	6	8	6	9	7	5	13
Molybdenum	µg/g	2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Nickel	µg/g	82	1	9	11	9	11	12	9	16
Selenium	µg/g	1.5	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	µg/g	0.5	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g	2.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vanadium	µg/g	86	1	17	19	12	20	15	13	20
Zinc	µg/g	290	5	22	29	21	37	29	20	41
Chromium VI	µg/g	0.66	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity	mS/cm	0.57	0.005	0.168	0.568	0.291	0.287	0.209	0.336	**1.12**
Sodium Adsorption Ratio	NA	2.4	NA	2.13	**14.2**	**9.84**	**4.04**	**3.17**	**7.34**	**11.5**
pH, 2:1 CaCl2 Extraction	pH Units		NA	7.65	7.60	7.68	7.53	7.58	7.73	7.63

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

8378572-8378601 EC & SAR were determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio.

Certified By: Amanjot Bhela

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Certificate of Analysis

AGAT WORK ORDER: 17T213786

PROJECT: 177469

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ian Shaw

SAMPLING SITE:Burlington

SAMPLED BY:KF

O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2017-05-09 **DATE REPORTED: 2017-05-16**

		SAMPLE DESCRIPTION:		BH202 SS6	BH203 SS5	BH205 SS6	BH205 SS7	BH205 SS8
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2017-05-08	2017-05-08	2017-05-08	2017-05-08	2017-05-08
Parameter	**Unit**	**G / S**	**RDL**	**8378569**	**8378574**	**8378582**	**8378590**	**8378592**
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene Mixture	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	25	5	<5	<5	<5	8	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	8	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	**42**	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA
Moisture Content	%		0.1	21.1	5.2	15.6	13.8	17.3
Surrogate	**Unit**	**Acceptable Limits**						
Terphenyl	%	60-140		92	75	94	79	84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

8378569-8378592 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Quality Control Data is available upon request.

Certified By: N Popnikolof

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Guideline Violation

AGAT WORK ORDER: 17T213786

PROJECT: 177469

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Ian Shaw

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
8378576	BH204 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	14.2
8378578	BH204 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	9.84
8378579	BH205 SS2	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	4.04
8378580	BH205 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	3.17
8378590	BH205 SS7	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (Soil)	F2 (C10 to C16)	µg/g	10	42
8378599	BH206 SS3	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	7.34
8378601	BH206 SS4	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Electrical Conductivity	mS/cm	0.57	1.12
8378601	BH206 SS4	ON T1 S RPI/ICC	O. Reg. 153(511) - Metals & Inorganics (Soil)	Sodium Adsorption Ratio	NA	2.4	11.5

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17T213786

PROJECT: 177469

ATTENTION TO: Ian Shaw

SAMPLING SITE:Burlington

SAMPLED BY:KF

Soil Analysis

RPT Date: May 16, 2017			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	8371369		<0.8	<0.8	NA	< 0.8	97%	70%	130%	101%	80%	120%	104%	70%	130%
Arsenic	8371369		5	6	18.2%	< 1	104%	70%	130%	94%	80%	120%	101%	70%	130%
Barium	8371369		66	67	1.5%	< 2	98%	70%	130%	103%	80%	120%	104%	70%	130%
Beryllium	8371369		0.5	0.5	NA	< 0.5	100%	70%	130%	119%	80%	120%	124%	70%	130%
Boron	8371369		<5	<5	NA	< 5	79%	70%	130%	116%	80%	120%	111%	70%	130%
Boron (Hot Water Soluble)	8378447		0.47	0.48	NA	< 0.10	104%	60%	140%	105%	70%	130%	102%	60%	140%
Cadmium	8371369		<0.5	<0.5	NA	< 0.5	100%	70%	130%	102%	80%	120%	123%	70%	130%
Chromium	8371369		15	15	0.0%	< 2	96%	70%	130%	114%	80%	120%	115%	70%	130%
Cobalt	8371369		6.4	6.7	4.6%	< 0.5	90%	70%	130%	107%	80%	120%	109%	70%	130%
Copper	8371369		17	19	11.1%	< 1	87%	70%	130%	117%	80%	120%	121%	70%	130%
Lead	8371369		13	13	0.0%	< 1	100%	70%	130%	110%	80%	120%	111%	70%	130%
Molybdenum	8371369		<0.5	<0.5	NA	< 0.5	100%	70%	130%	105%	80%	120%	107%	70%	130%
Nickel	8371369		14	14	0.0%	< 1	91%	70%	130%	108%	80%	120%	112%	70%	130%
Selenium	8371369		1.3	1.5	NA	< 0.4	114%	70%	130%	98%	80%	120%	108%	70%	130%
Silver	8371369		<0.2	<0.2	NA	< 0.2	85%	70%	130%	110%	80%	120%	114%	70%	130%
Thallium	8371369		<0.4	<0.4	NA	< 0.4	91%	70%	130%	105%	80%	120%	106%	70%	130%
Uranium	8371369		0.6	0.6	NA	< 0.5	97%	70%	130%	100%	80%	120%	100%	70%	130%
Vanadium	8371369		24	24	0.0%	< 1	91%	70%	130%	102%	80%	120%	102%	70%	130%
Zinc	8371369		37	40	7.8%	< 5	90%	70%	130%	114%	80%	120%	124%	70%	130%
Chromium VI	8380805		<0.2	<0.2	NA	< 0.2	97%	70%	130%	100%	80%	120%	94%	70%	130%
Cyanide	8378441		<0.040	<0.040	NA	< 0.040	96%	70%	130%	103%	80%	120%	95%	70%	130%
Mercury	8371369		<0.10	<0.10	NA	< 0.10	105%	70%	130%	102%	80%	120%	101%	70%	130%
Electrical Conductivity	8380269		0.297	0.305	2.7%	< 0.005	92%	90%	110%	NA			NA		
Sodium Adsorption Ratio	8380269		7.35	7.77	5.6%	NA	NA			NA			NA		
pH, 2:1 CaCl2 Extraction	8378599	8378599	7.73	7.78	0.6%	NA	101%	80%	120%	NA			NA		

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Certified By: Amanjot Bhela

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Quality Assurance

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AGAT WORK ORDER: 17T213786

PROJECT: 177469

ATTENTION TO: Ian Shaw

SAMPLING SITE:Burlington

SAMPLED BY:KF

Trace Organics Analysis

RPT Date: May 16, 2017			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	8376210		< 0.02	< 0.02	NA	< 0.02	97%	60%	130%	107%	60%	130%	108%	60%	130%
Toluene	8376210		< 0.08	< 0.08	NA	< 0.08	96%	60%	130%	103%	60%	130%	104%	60%	130%
Ethylbenzene	8376210		< 0.05	< 0.05	NA	< 0.05	100%	60%	130%	108%	60%	130%	108%	60%	130%
Xylene Mixture	8376210		< 0.05	< 0.05	NA	< 0.05	94%	60%	130%	106%	60%	130%	105%	60%	130%
F1 (C6 to C10)	8376210		< 5	< 5	NA	< 5	76%	60%	130%	86%	85%	115%	77%	70%	130%
F2 (C10 to C16)	8377006		< 10	< 10	NA	< 10	102%	60%	130%	90%	80%	120%	73%	70%	130%
F3 (C16 to C34)	8377006		150	150	NA	< 50	104%	60%	130%	102%	80%	120%	92%	70%	130%
F4 (C34 to C50)	8377006		68	63	NA	< 50	95%	60%	130%	97%	80%	120%	100%	70%	130%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17T213786

PROJECT: 177469

ATTENTION TO: Ian Shaw

SAMPLING SITE:Burlington

SAMPLED BY:KF

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Barium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron (Hot Water Soluble)	MET-93-6104	EPA SW 846 6010C; MSA, Part 3, Ch.21	ICP/OES
Cadmium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Copper	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Lead	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Nickel	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Selenium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Silver	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Thallium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Uranium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Zinc	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium VI	INOR-93-6029	SM 3500 B; MSA Part 3, Ch. 25	SPECTROPHOTOMETER
Cyanide	INOR-93-6052	MOE CN-3015 & E 3009 A;SM 4500 CN	TECHNICON AUTO ANALYZER
Mercury	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Electrical Conductivity	INOR-93-6036	McKeague 4.12, SM 2510 B	EC METER
Sodium Adsorption Ratio	INOR-93-6007	McKeague 4.12 & 3.26 & EPA SW-846 6010B	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	MSA part 3 & SM 4500-H+ B	PH METER
Trace Organics Analysis			
Benzene	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
Toluene	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
Ethylbenzene	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
Xylene Mixture	VOL-91-5009	EPA SW-846 5035 & 8260	P & T GC/MS
F1 (C6 to C10)	VOL-91-5009	CCME Tier 1 Method	P & T GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	CCME Tier 1 Method	P & T GC/FID
F2 (C10 to C16)	VOL-91-5009	CCME Tier 1 Method, EPA SW846 8015	GC / FID
F3 (C16 to C34)	VOL-91-5009	CCME Tier 1 Method, EPA SW846 8015	GC / FID
F4 (C34 to C50)	VOL-91-5009	CCME Tier 1 Method, EPA SW846 8015	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009		GC/FID

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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Laboratory Use Only

Work Order #: 17T 213786

Cooler Quantity: LG cooler

Arrival Temperatures: 7.5 | 7.6 | 7.4
8.5 | 6.6 | 6.4

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: Soil-Mat Engineers
Contact: Ian Shaw
Address:
Phone: Fax:
Reports to be sent to:
1. Email: Ian Shaw Peter Markesic
2. Email: Jeremy Yang

Project Information:

Project: 177469
Site Location: Burlington
Sampled By: K. Fletcher
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements:

☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table ___ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture

Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm

Region ___ *Indicate One*

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
Indicate One

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ 1 Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	ORPs: ☐ B-HWS ☐ Cr⁶⁺ ☐ Total N ☐ Cl ☐ EC ☐ Hg ☐ CN ☐ FOC ☐ pH ☐ NO_3/NO_2 ☐ SAR	Nutrients: ☐ TP ☐ NO_3 ☐ NH_3 ☐ NO_2 ☐ TKN ☐ NO_3/NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use
BH202 SS6	May 8	AM	2	S									☑						
BH203 SS3	May 8		1			☑													
BH203 SS5	May 8		2										X						
BH204 SS2	May 8		1			X													
BH204 SS3	May 8		1			X													
BH205 SS2	May 8		1			X													
BH205 SS3	May 8		1			X													
BH205 SS6	May 8		2										X						
BH205 SS7	May 8		2										X						
BH205 SS8	May 8		2										X						
BH206 SS3	May 8		1			X													
~~BH206 SS4~~																			

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ross Lin MR	May 9/17	2:40	Daniella Jaic	5/9/17	2:40pm
Daniella Jaic	5/9/17	3:15pm	D-Bruno 2017/05/09		
D-Bruno 2017/05/09 5:05					

Page 1 of 2

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905 712 5100 Fax: 905 712 5122
www.agatlabs.com webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Report Information:

Company: Soil-Mat Engineers
Contact: Ian Shaw
Address:
Phone: Fax:
Reports to be sent to:
1. Email: Ian Shaw Peter Markesic
2. Email: Jeremy Yang

Project Information:

Project: 177469
Site Location: Burlington
Sampled By: K. Fletcher
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company:
Contact:
Address:
Email:

Regulatory Requirements:

☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region *Indicate One*

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other *Indicate One*

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Laboratory Use Only

Work Order #:
Cooler Quantity: 4G cooler
Arrival Temperatures: 7.5 | 7.6 | 7.4
6.7 | 6.6 | 6.4
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ 1 Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Metals and Inorganics	Metal Scan	Hydride Forming Metals	Client Custom Metals	(Check Applicable) ORPs: ☐ B-HWS ☐ Cl ☐ CN ☐ Cr^{6+} ☐ EC ☐ FOC ☐ NO_3/NO_2 ☐ Total N ☐ Hg ☐ pH ☐ SAR	(Check Applicable) Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3/NO_2	(Check Applicable) Volatiles: ☐ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use
BH206 SS4	May 8		1	S		☑													

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ross Kuiler	May 9/17	2:40	Daniella Jaic	5/9/17	2:40pm
Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Daniella Jaic 5/5/17 3:15pm					3:15

Page 2 of 2

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

Appendix ‘D’

2. AGAT Certificate of Analysis - Water

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Peter Markesic

PROJECT: 177469-E

AGAT WORK ORDER: 17H219171

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

WATER ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Coordinator

DATE REPORTED: Jun 03, 2017

PAGES (INCLUDING COVER): 15

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.

Results relate only to the items tested and to all the items tested
All reportable information as specified by ISO 17025:2005 is available from AGAT Laboratories upon request

AGAT Laboratories

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CANADA L4Z 1Y2
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FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2017-05-26

DATE REPORTED: 2017-06-01

		SAMPLE DESCRIPTION:		MW 201-S1	Dup 2
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2017-05-26	2017-05-26
Parameter	Unit	G / S	RDL	8419476	8419510
Naphthalene	µg/L	7	0.20	<0.20	<0.20
Acenaphthylene	µg/L	1	0.20	<0.20	<0.20
Acenaphthene	µg/L	4.1	0.20	<0.20	<0.20
Fluorene	µg/L	120	0.20	<0.20	<0.20
Phenanthrene	µg/L	0.1	0.10	<0.10	<0.10
Anthracene	µg/L	0.1	0.10	<0.10	<0.10
Fluoranthene	µg/L	0.4	0.20	<0.20	<0.20
Pyrene	µg/L	0.2	0.20	<0.20	<0.20
Benz(a)anthracene	µg/L	0.2	0.20	<0.20	<0.20
Chrysene	µg/L	0.1	0.10	<0.10	<0.10
Benzo(b)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10
Benzo(k)fluoranthene	µg/L	0.1	0.10	<0.10	<0.10
Benzo(a)pyrene	µg/L	0.01	0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20	<0.20	<0.20
Dibenz(a,h)anthracene	µg/L	0.2	0.20	<0.20	<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20	<0.20	<0.20
2-and 1-methyl Naphthalene	µg/L	2	0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits			
Chrysene-d12	%	50-140		86	56

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses

8419476-8419510 Note: The result for Benzo(b)Flouranthene is the total of the Benzo(b)&(j)Flouranthene isomers because the isomers co-elute on the GC column.

Certified By: NPopowkolof

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

O. Reg. 153(511) - PHCs F1 - F4 (Water)

DATE RECEIVED: 2017-05-26

DATE REPORTED: 2017-06-01

		SAMPLE DESCRIPTION:		MW 202-S1	MW 205-S1
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2017-05-26	2017-05-26
Parameter	Unit	G / S	RDL	8418477	8419292
Benzene	µg/L	0.5	0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10
Xylene Mixture	µg/L	72	0.20	<0.20	<0.20
F1 (C6 to C10)	µg/L	420	25	<25	180
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	180
F2 (C10 to C16)	µg/L	150	100	<100	360
F3 (C16 to C34)	µg/L	500	100	<100	140
F4 (C34 to C50)	µg/L	500	100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L	500	500	NA	<500
Surrogate	Unit	Acceptable Limits			
Terphenyl	%	60-140		73	63

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses

8418477-8419292 The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Certified By: N Popnikolof

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

DATE RECEIVED: 2017-05-26

DATE REPORTED: 2017-06-01

		SAMPLE DESCRIPTION:		MW 201-S1	Dup 2
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2017-05-26	2017-05-26
Parameter	Unit	G / S	RDL	8419476	8419510
F1 (C6 to C10)	µg/L	420	25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L	500	500	NA	NA
Surrogate	Unit	Acceptable Limits			
Terphenyl	%	60-140		95	92

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses

8419476-8419510 The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX and PAH contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Certified By: N Popowkolof

Results relate only to the items tested and to all the items tested

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Certificate of Analysis

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2017-05-26

DATE REPORTED: 2017-06-01

		SAMPLE DESCRIPTION:		MW 201-S1	Dup 2
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2017-05-26	2017-05-26
Parameter	Unit	G / S	RDL	8419476	8419510
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20
Vinyl Chloride	µg/L	0.5	0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	0.5	0.30	<0.30	<0.30
Methylene Chloride	µg/L	5	0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	0.5	0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	400	1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	1.6	0.20	<0.20	<0.20
Chloroform	µg/L	2	0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	0.5	0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	0.5	0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	0.2	0.20	<0.20	<0.20
Benzene	µg/L	0.5	0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	0.5	0.20	<0.20	<0.20
Trichloroethylene	µg/L	0.5	0.20	<0.20	<0.20
Bromodichloromethane	µg/L	2	0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	0.5	0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20
Dibromochloromethane	µg/L	2	0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	0.5	0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10
Chlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20

Certified By: N Popnikolof

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2017-05-26

DATE REPORTED: 2017-06-01

		SAMPLE DESCRIPTION:		MW 201-S1	Dup 2
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2017-05-26	2017-05-26
Parameter	Unit	G / S	RDL	8419476	8419510
Bromoform	µg/L	5	0.10	<0.10	<0.10
Styrene	µg/L	0.5	0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.5	0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	0.5	0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30
Xylene Mixture	µg/L	72	0.20	<0.20	<0.20
n-Hexane	µg/L	5	0.20	<0.20	<0.20
Surrogate	Unit	Acceptable Limits			
Toluene-d8	% Recovery	50-140		80	82
4-Bromofluorobenzene	% Recovery	50-140		83	81

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses

Certified By: NPopowich

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

O. Reg. 153(511) - Metals & Inorganics (Water)

DATE RECEIVED: 2017-05-26

DATE REPORTED: 2017-06-03

		SAMPLE DESCRIPTION:		MW 202-S1		MW 205-S1		MW 201-S1	Dup 2
		SAMPLE TYPE:		Water		Water		Water	Water
		DATE SAMPLED:		2017-05-26		2017-05-26		2017-05-26	2017-05-26
Parameter	Unit	G / S	RDL	8418477	RDL	8419292	RDL	8419476	8419510
Antimony	µg/L	1.5	1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0
Arsenic	µg/L	13	1.0	<1.0	1.0	1.3	1.0	1.1	<1.0
Barium	µg/L	610	2.0	108	2.0	147	2.0	57.6	64.7
Beryllium	µg/L	0.5	0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5
Boron	µg/L	1700	10.0	116	10.0	83.1	10.0	117	121
Cadmium	µg/L	0.5	0.2	<0.2	0.2	<0.2	0.2	<0.2	<0.2
Chromium	µg/L	11	2.0	<2.0	2.0	<2.0	2.0	2.9	3.3
Cobalt	µg/L	3.8	0.5	<0.5	0.5	<0.5	0.5	<0.5	<0.5
Copper	µg/L	5	1.0	2.1	1.0	3.0	1.0	1.1	1.1
Lead	µg/L	1.9	0.5	<0.5	0.5	0.9	0.5	<0.5	<0.5
Molybdenum	µg/L	23	0.5	3.7	0.5	<0.5	0.5	1.1	1.0
Nickel	µg/L	14	1.0	<1.0	1.0	<1.0	1.0	<1.0	<1.0
Selenium	µg/L	5	1.0	1.4	1.0	1.6	1.0	3.4	3.1
Silver	µg/L	0.3	0.2	<0.2	0.2	<0.2	0.2	<0.2	<0.2
Thallium	µg/L	0.5	0.3	<0.3	0.3	<0.3	0.3	<0.3	<0.3
Uranium	µg/L	8.9	0.5	0.8	0.5	1.6	0.5	1.2	1.2
Vanadium	µg/L	3.9	0.4	<0.4	0.4	<0.4	0.4	1.0	1.0
Zinc	µg/L	160	5.0	<5.0	5.0	8.8	5.0	<5.0	<5.0
Mercury	µg/L	0.1	0.02	<0.02	0.02	<0.02	0.02	<0.02	<0.02
Chromium VI	µg/L	25	5	<5	5	<5	5	<5	<5
Cyanide	µg/L	5	2	<2	2	<2	2	<2	<2
Sodium	µg/L	490000	1000	212000	2500	442000	1000	163000	167000
Chloride	µg/L	790000	500	359000	2000	981000	500	347000	315000
Electrical Conductivity	uS/cm		2	1670	2	3620	2	1670	1560
pH	pH Units		NA	8.18	NA	7.98	NA	7.96	8.06

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses

8418477-8419510 Elevated RDLs indicate the degree of sample dilutions prior to analyses to keep analytes within the calibration range, reduce matrix interference and to avoid contaminating the instrument.

Certified By: Amanjot Bhela

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AGAT Laboratories

Guideline Violation

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
8419292	MW 205-S1	ON T1 GW	O. Reg. 153(511) - Metals & Inorganics (Water)	Chloride	µg/L	790000	981000
8419292	MW 205-S1	ON T1 GW	O. Reg. 153(511) - PHCs F1 - F4 (Water)	F2 (C10 to C16)	µg/L	150	360

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 17H219171
PROJECT: 177469-E
ATTENTION TO: Peter Markesic
SAMPLING SITE:Clearview
SAMPLED BY:RK

Trace Organics Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	8424220		< 0.20	< 0.20	NA	< 0.20	107%	50%	140%	81%	50%	140%	73%	50%	140%
Vinyl Chloride	8424220		< 0.17	< 0.17	NA	< 0.17	87%	50%	140%	84%	50%	140%	79%	50%	140%
Bromomethane	8424220		< 0.20	< 0.20	NA	< 0.20	83%	50%	140%	81%	50%	140%	87%	50%	140%
Trichlorofluoromethane	8424220		< 0.40	< 0.40	NA	< 0.40	105%	50%	140%	111%	50%	140%	119%	50%	140%
Acetone	8424220		< 1.0	< 1.0	NA	< 1.0	85%	50%	140%	90%	50%	140%	103%	50%	140%
1,1-Dichloroethylene	8424220		< 0.30	< 0.30	NA	< 0.30	75%	50%	140%	111%	60%	130%	95%	50%	140%
Methylene Chloride	8424220		< 0.30	< 0.30	NA	< 0.30	119%	50%	140%	116%	60%	130%	91%	50%	140%
trans- 1,2-Dichloroethylene	8424220		< 0.20	< 0.20	NA	< 0.20	71%	50%	140%	96%	60%	130%	85%	50%	140%
Methyl tert-butyl ether	8424220		< 0.20	< 0.20	NA	< 0.20	71%	50%	140%	72%	60%	130%	86%	50%	140%
1,1-Dichloroethane	8424220		< 0.30	< 0.30	NA	< 0.30	84%	50%	140%	91%	60%	130%	116%	50%	140%
Methyl Ethyl Ketone	8424220		< 1.0	< 1.0	NA	< 1.0	90%	50%	140%	89%	50%	140%	91%	50%	140%
cis- 1,2-Dichloroethylene	8424220		< 0.20	< 0.20	NA	< 0.20	93%	50%	140%	103%	60%	130%	98%	50%	140%
Chloroform	8424220		< 0.20	< 0.20	NA	< 0.20	118%	50%	140%	107%	60%	130%	77%	50%	140%
1,2-Dichloroethane	8424220		< 0.20	< 0.20	NA	< 0.20	101%	50%	140%	102%	60%	130%	119%	50%	140%
1,1,1-Trichloroethane	8424220		< 0.30	< 0.30	NA	< 0.30	82%	50%	140%	93%	60%	130%	110%	50%	140%
Carbon Tetrachloride	8424220		< 0.20	< 0.20	NA	< 0.20	90%	50%	140%	107%	60%	130%	99%	50%	140%
Benzene	8424220		< 0.20	< 0.20	NA	< 0.20	92%	50%	140%	93%	60%	130%	101%	50%	140%
1,2-Dichloropropane	8424220		< 0.20	< 0.20	NA	< 0.20	87%	50%	140%	84%	60%	130%	113%	50%	140%
Trichloroethylene	8424220		< 0.20	< 0.20	NA	< 0.20	95%	50%	140%	104%	60%	130%	117%	50%	140%
Bromodichloromethane	8424220		< 0.20	< 0.20	NA	< 0.20	117%	50%	140%	107%	60%	130%	117%	50%	140%
Methyl Isobutyl Ketone	8424220		< 1.0	< 1.0	NA	< 1.0	88%	50%	140%	90%	50%	140%	101%	50%	140%
1,1,2-Trichloroethane	8424220		< 0.20	< 0.20	NA	< 0.20	91%	50%	140%	115%	60%	130%	86%	50%	140%
Toluene	8424220		< 0.20	< 0.20	NA	< 0.20	87%	50%	140%	100%	60%	130%	80%	50%	140%
Dibromochloromethane	8424220		< 0.10	< 0.10	NA	< 0.10	104%	50%	140%	88%	60%	130%	96%	50%	140%
Ethylene Dibromide	8424220		< 0.10	< 0.10	NA	< 0.10	115%	50%	140%	115%	60%	130%	117%	50%	140%
Tetrachloroethylene	8424220		< 0.20	< 0.20	NA	< 0.20	109%	50%	140%	106%	60%	130%	70%	50%	140%
1,1,1,2-Tetrachloroethane	8424220		< 0.10	< 0.10	NA	< 0.10	114%	50%	140%	90%	60%	130%	95%	50%	140%
Chlorobenzene	8424220		< 0.10	< 0.10	NA	< 0.10	97%	50%	140%	106%	60%	130%	104%	50%	140%
Ethylbenzene	8424220		< 0.10	< 0.10	NA	< 0.10	101%	50%	140%	119%	60%	130%	98%	50%	140%
m & p-Xylene	8424220		< 0.20	< 0.20	NA	< 0.20	95%	50%	140%	128%	60%	130%	119%	50%	140%
Bromoform	8424220		< 0.10	< 0.10	NA	< 0.10	99%	50%	140%	81%	60%	130%	104%	50%	140%
Styrene	8424220		< 0.10	< 0.10	NA	< 0.10	105%	50%	140%	83%	60%	130%	104%	50%	140%
1,1,2,2-Tetrachloroethane	8424220		< 0.10	< 0.10	NA	< 0.10	77%	50%	140%	85%	60%	130%	79%	50%	140%
o-Xylene	8424220		< 0.10	< 0.10	NA	< 0.10	83%	50%	140%	112%	60%	130%	116%	50%	140%
1,3-Dichlorobenzene	8424220		< 0.10	< 0.10	NA	< 0.10	118%	50%	140%	119%	60%	130%	72%	50%	140%
1,4-Dichlorobenzene	8424220		< 0.10	< 0.10	NA	< 0.10	91%	50%	140%	101%	60%	130%	99%	50%	140%
1,2-Dichlorobenzene	8424220		< 0.10	< 0.10	NA	< 0.10	102%	50%	140%	115%	60%	130%	102%	50%	140%
1,3-Dichloropropene	8424220		< 0.30	< 0.30	NA	< 0.30	95%	50%	140%	111%	60%	130%	115%	50%	140%
n-Hexane	8424220		< 0.20	< 0.20	NA	< 0.20	90%	50%	140%	118%	60%	130%	94%	50%	140%

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
AGAT WORK ORDER: 17H219171
PROJECT: 177469-E
ATTENTION TO: Peter Markesic
SAMPLING SITE:Clearview
SAMPLED BY:RK

Trace Organics Analysis (Continued)

RPT Date:			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (Water)															
Benzene	8414363		< 0.20	< 0.20	NA	< 0.20	107%	50%	140%	107%	60%	130%	111%	50%	140%
Toluene	8414363		< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	102%	60%	130%	109%	50%	140%
Ethylbenzene	8414363		< 0.10	< 0.10	NA	< 0.10	95%	50%	140%	97%	60%	130%	100%	50%	140%
Xylene Mixture	8414363		< 0.20	< 0.20	NA	< 0.20	69%	50%	140%	91%	60%	130%	104%	50%	140%
F1 (C6 to C10)	8414363		< 25	< 25	NA	< 25	87%	60%	140%	88%	60%	140%	81%	60%	140%
F2 (C10 to C16)		TW	< 100	< 100	NA	< 100	105%	60%	140%	80%	60%	140%	81%	60%	140%
F3 (C16 to C34)		TW	< 100	< 100	NA	< 100	114%	60%	140%	93%	60%	140%	95%	60%	140%
F4 (C34 to C50)		TW	< 100	< 100	NA	< 100	88%	60%	140%	104%	60%	140%	80%	60%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	8420329		< 0.20	< 0.20	NA	< 0.20	122%	50%	140%	123%	50%	140%	129%	50%	140%
Acenaphthylene	8420329		< 0.20	< 0.20	NA	< 0.20	84%	50%	140%	94%	50%	140%	104%	50%	140%
Acenaphthene	8420329		< 0.20	< 0.20	NA	< 0.20	89%	50%	140%	68%	50%	140%	78%	50%	140%
Fluorene	8420329		< 0.20	< 0.20	NA	< 0.20	81%	50%	140%	102%	50%	140%	108%	50%	140%
Phenanthrene	8420329		< 0.10	< 0.10	NA	< 0.10	81%	50%	140%	83%	50%	140%	98%	50%	140%
Anthracene	8420329		< 0.10	< 0.10	NA	< 0.10	116%	50%	140%	98%	50%	140%	117%	50%	140%
Fluoranthene	8420329		< 0.20	< 0.20	NA	< 0.20	90%	50%	140%	86%	50%	140%	96%	50%	140%
Pyrene	8420329		< 0.20	< 0.20	NA	< 0.20	88%	50%	140%	90%	50%	140%	98%	50%	140%
Benz(a)anthracene	8420329		< 0.20	< 0.20	NA	< 0.20	79%	50%	140%	98%	50%	140%	78%	50%	140%
Chrysene	8420329		< 0.10	< 0.10	NA	< 0.10	109%	50%	140%	106%	50%	140%	101%	50%	140%
Benzo(b)fluoranthene	8420329		< 0.10	< 0.10	NA	< 0.10	134%	50%	140%	65%	50%	140%	113%	50%	140%
Benzo(k)fluoranthene	8420329		< 0.10	< 0.10	NA	< 0.10	120%	50%	140%	102%	50%	140%	125%	50%	140%
Benzo(a)pyrene	8420329		< 0.01	< 0.01	NA	< 0.01	97%	50%	140%	102%	50%	140%	103%	50%	140%
Indeno(1,2,3-cd)pyrene	8420329		< 0.20	< 0.20	NA	< 0.20	94%	50%	140%	63%	50%	140%	82%	50%	140%
Dibenz(a,h)anthracene	8420329		< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	72%	50%	140%	75%	50%	140%
Benzo(g,h,i)perylene	8420329		< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	74%	50%	140%	84%	50%	140%
2-and 1-methyl Naphthalene	8420329		< 0.20	< 0.20	NA	< 0.20	101%	50%	140%	102%	50%	140%	103%	50%	140%

Comments: Tap water analysis has been performed as QC sample testing for duplicate and matrix spike due to insufficient sample volume.
When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

Water Analysis

RPT Date:			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals & Inorganics (Water)															
Antimony	8423227		<1.0	<1.0	NA	< 1.0	99%	70%	130%	102%	80%	120%	102%	70%	130%
Arsenic	8423227		<1.0	<1.0	NA	< 1.0	95%	70%	130%	98%	80%	120%	102%	70%	130%
Barium	8423227		47.7	46.1	3.4%	< 2.0	96%	70%	130%	100%	80%	120%	98%	70%	130%
Beryllium	8423227		<0.5	<0.5	NA	< 0.5	103%	70%	130%	105%	80%	120%	110%	70%	130%
Boron	8423227		18.6	21.5	NA	< 10.0	100%	70%	130%	101%	80%	120%	102%	70%	130%
Cadmium	8423227		<0.2	<0.2	NA	< 0.2	102%	70%	130%	109%	80%	120%	107%	70%	130%
Chromium	8423227		<2.0	<2.0	NA	< 2.0	96%	70%	130%	100%	80%	120%	99%	70%	130%
Cobalt	8423227		<0.5	<0.5	NA	< 0.5	102%	70%	130%	105%	80%	120%	104%	70%	130%
Copper	8423227		1.3	1.2	NA	< 1.0	99%	70%	130%	103%	80%	120%	97%	70%	130%
Lead	8423227		<0.5	<0.5	NA	< 0.5	101%	70%	130%	101%	80%	120%	100%	70%	130%
Molybdenum	8423227		0.6	0.8	NA	< 0.5	101%	70%	130%	104%	80%	120%	109%	70%	130%
Nickel	8423227		<1.0	<1.0	NA	< 1.0	104%	70%	130%	106%	80%	120%	103%	70%	130%
Selenium	8423227		<1.0	<1.0	NA	< 1.0	103%	70%	130%	107%	80%	120%	105%	70%	130%
Silver	8423227		<0.2	<0.2	NA	< 0.2	99%	70%	130%	104%	80%	120%	108%	70%	130%
Thallium	8423227		<0.3	<0.3	NA	< 0.3	102%	70%	130%	101%	80%	120%	97%	70%	130%
Uranium	8423227		0.8	0.8	NA	< 0.5	95%	70%	130%	99%	80%	120%	98%	70%	130%
Vanadium	8423227		<0.4	<0.4	NA	< 0.4	99%	70%	130%	102%	80%	120%	103%	70%	130%
Zinc	8423227		<5.0	<5.0	NA	< 5.0	100%	70%	130%	106%	80%	120%	103%	70%	130%
Mercury	8418477	8418477	<0.02	<0.02	NA	< 0.02	101%	70%	130%	99%	80%	120%	97%	70%	130%
Chromium VI	8426839		<5	<5	NA	< 5	102%	70%	130%	102%	80%	120%	103%	70%	130%
Cyanide	8418477	8418477	<2	<2	NA	< 2	91%	70%	130%	104%	80%	120%	95%	70%	130%
Sodium	8429175		3230	3240	0.3%	< 500	98%	70%	130%	98%	80%	120%	101%	70%	130%
Chloride	8432580		13400	13300	0.7%	< 100	95%	70%	130%	108%	70%	130%	101%	70%	130%
Electrical Conductivity	8418477	8418477	1670	1670	0.0%	< 2	106%	90%	110%	NA			NA		
pH	8418477	8418477	8.18	8.09	1.1%	NA	100%	90%	110%	NA			NA		
O. Reg. 153(511) - Metals & Inorganics (Water)															
Chromium VI	8434602		<5	<5	NA	< 5	103%	70%	130%	102%	80%	120%	105%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Certified By: Amanjot Bhela

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluorene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Phenanthrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benz(a)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(a)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene-d12	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Toluene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Ethylbenzene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Xylene Mixture	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10)	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010		GC/FID
F1 (C6 to C10)	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC E3421	GC/FID
F3 (C16 to C34) minus PAHs	VOL-91-5010	MOE PHC E3421	GC/FID
F4 (C34 to C50)	VOL -91- 5010	MOE PHC- E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC E3421	BALANCE
Dichlorodifluoromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Bromomethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Acetone	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Chloroform	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,1,1-Trichloroethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Benzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Toluene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Bromoform	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Styrene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
o-Xylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Xylene Mixture	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
n-Hexane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Toluene-d8	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS

Results relate only to the items tested and to all the items tested

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Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17H219171

PROJECT: 177469-E

ATTENTION TO: Peter Markesic

SAMPLING SITE:Clearview

SAMPLED BY:RK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Antimony	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Barium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Boron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Chromium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Copper	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Nickel	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Selenium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Silver	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Thallium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Uranium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Zinc	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Mercury	MET-93-6100	EPA SW-846 7470 & 245.1	CVAAS
Chromium VI	INOR-93-6034	SM 3500-Cr B	SPECTROPHOTOMETER
Cyanide	INOR-93-6052	MOE METHOD CN- 3015 & SM 4500 CN- I	TECHNICON AUTO ANALYZER
Sodium	MET-93-6105	EPA SW-846 6010C & 200.7	ICP/OES
Chloride	INOR-93-6004	SM 4110 B	ION CHROMATOGRAPH
Electrical Conductivity	INOR-93-6000	SM 2510 B	PC TITRATE
pH	INOR-93-6000	SM 4500-H+ B	PC TITRATE

Results relate only to the items tested and to all the items tested

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Short Holding Time

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 17H29171

Cooler Quantity: LG Cooler

Arrival Temperatures: 13.4 | 13.5 | 13.4
8.3 | 8.5 | 8.5

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: no ice

Report Information:

Company: Soil Mat Engineers

Contact:

Address: 130 Lancing Dr Hamilton ON

Phone: Fax:

Reports to be sent to:

1. Email: Jeremy Yang

2. Email: Peter Markejic

Regulatory Requirements:

☐ No Regulatory Requirement

(Please check all applicable boxes)

☒ Regulation 153/04

Table 1 (Indicate One)

☐ Ind/Com ☐ Res/Park ☐ Agriculture

Soil Texture (Check One) ☐ Coarse ☐ Fine

☐ Sewer Use ☐ Sanitary ☐ Storm

Region (Indicate One) ☐ MISA

☐ Regulation 558 ☐ CCME ☐ Prov. Water Quality Objectives (PWQO) ☐ Other (Indicate One)

Is this submission for a Record of Site Condition? ☐ Yes ☐ No

Report Guideline on Certificate of Analysis ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT

*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 177469-6

Site Location: Clearview

Sampled By: RK

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI (Y/N)	O. Reg. 153: Metals and Inorganics	All Metals ☐ 153 Metals (excl. Hydrides)	Hydride Metals ☐ 153 Metals (incl. Hydrides)	ORPs: ☐ B-HWS ☐ Cl⁻ ☐ CN⁻ ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☒ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use
MW 202-S1	May 26/17	830	9	GW		N	X							X	X		X			
MW 205-S1	↓	900	9	GW		N	X								X					
MW 201-S1		930	14	GW		N	X							X	X		X			
DUP 2	↓	1000	14	GW		N	X							X	X		X			

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Ross Keller RK	May 26/17	1100	Daniella Jalic DJ	5/26/17	11:00am
Daniella Jalic DJ	5/26/17	2:30pm	D. Boodhoo 2017/05/26		2:30
D. Boodhoo 2017/05/26		4:20			

Page 1 of 1

N°: T 048657

AGAT Laboratories

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http://www.agatlabs.com

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT
130 LANCING DRIVE
HAMILTON, ON L8W3A1
(905) 318-7440

ATTENTION TO: Peter Markesic

PROJECT: 177469

AGAT WORK ORDER: 17H235998

TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist

DATE REPORTED: Jul 20, 2017

PAGES (INCLUDING COVER): 5

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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Results relate only to the items tested and to all the items tested
All reportable information as specified by ISO 17025:2005 is available from AGAT Laboratories upon request

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 17H235998

PROJECT: 177469

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:RK

O. Reg. 153(511) - PHCs F1 - F4 (Water)

DATE RECEIVED: 2017-07-12

DATE REPORTED: 2017-07-20

		SAMPLE DESCRIPTION:		MW 205-S2
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2017-07-11
Parameter	Unit	G / S	RDL	8547015
Benzene	µg/L	0.5	0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20
Ethylbenzene	µg/L	0.5	0.10	<0.10
Xylene Mixture	µg/L	72	0.20	<0.20
F1 (C6 to C10)	µg/L	420	25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25	<25
F2 (C10 to C16)	µg/L	150	100	<100
F3 (C16 to C34)	µg/L	500	100	<100
F4 (C34 to C50)	µg/L	500	100	<100
Gravimetric Heavy Hydrocarbons	µg/L	500	500	NA
Surrogate	Unit	Acceptable Limits		
Terphenyl	%	60-140		71

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Ground Water - All Types of Property Uses

8547015 The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

Certified By: N Popnikolof

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Quality Assurance

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17H235998

PROJECT: 177469

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:RK

Trace Organics Analysis

RPT Date: Jul 20, 2017			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (Water)															
Benzene	8560493		< 0.20	< 0.20	NA	< 0.20	95%	50%	140%	96%	60%	130%	112%	50%	140%
Toluene	8560493		< 0.20	< 0.20	NA	< 0.20	94%	50%	140%	96%	60%	130%	98%	50%	140%
Ethylbenzene	8560493		< 0.10	< 0.10	NA	< 0.10	97%	50%	140%	95%	60%	130%	110%	50%	140%
Xylene Mixture	8560493		< 0.20	< 0.20	NA	< 0.20	98%	50%	140%	105%	60%	130%	116%	50%	140%
F1 (C6 to C10)	8560493		< 25	< 25	NA	< 25	89%	60%	140%	89%	60%	140%	90%	60%	140%
F2 (C10 to C16)		TW	< 100	< 100	0.0%	< 100	99%	60%	140%	83%	60%	140%	60%	60%	140%
F3 (C16 to C34)		TW	< 100	< 100	0.0%	< 100	101%	60%	140%	82%	60%	140%	82%	60%	140%
F4 (C34 to C50)		TW	< 100	< 100	0.0%	< 100	89%	60%	140%	94%	60%	140%	97%	60%	140%

Comments: Tap water analysis has been performed as QC sample testing for duplicate and matrix spike due to insufficient sample volume.
When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Results relate only to the items tested and to all the items tested

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FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: SOIL MAT ENGINEERS & CONSULTANTS LT

AGAT WORK ORDER: 17H235998

PROJECT: 177469

ATTENTION TO: Peter Markesic

SAMPLING SITE:

SAMPLED BY:RK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Toluene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Ethylbenzene	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
Xylene Mixture	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10)	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC-E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010		GC/FID

Results relate only to the items tested and to all the items tested

AGAT Laboratories

IN MED BLUE COOLER

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905 712 5100 Fax: 905 712 5122
webearth@agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 17H235998

Cooler Quantity: 1 BAG

Arrival Temperatures: 19.5 | 19.7 | 19.6

7.5 | 7.5 | 8.5

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: NO ICE

Report Information:

Company: Soilmat

Contact:

Address: 130 Lancing Dr Hamilton ON

Phone: Fax:

Reports to be sent to:

1. Email: Ross Keller, Jeremy Yang

2. Email: Peter Markesic

Regulatory Requirements:

☐ No Regulatory Requirement

(Please check all applicable boxes)

☒ Regulation 153/04

Table 1 *Indicate One*

☐ Ind/Com
☐ Res/Park
☐ Agriculture

Soil Texture *(Check One)*

☐ Coarse
☐ Fine

☐ Sewer Use

☐ Sanitary
☐ Storm

Region _____ *Indicate One*

☐ MISA

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other _____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

Please provide prior notification for rush TAT

**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 177469

Site Location:

Sampled By: RK

AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:

Contact:

Address:

Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI	O. Reg 153: Metals and Inorganics; ☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ Hydride Metals ☐ 153 Metals (Incl. Hydrides)	ORPs: ☐ B-HWS ☐ Cl ☐ CN ☐ $CrVI^{**}$ ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use
MW 205-S2	Jul 11/17	400	4	GW										X						

Samples Relinquished By (Print Name and Sign): Ross Keller	Date: Jul 11/17	Time: 440	Samples Received By (Print Name and Sign): Daniella Jaic	Date: 7/11/17	Time: 4:40pm	Page 1 of 1	
Samples Relinquished By (Print Name and Sign): Daniella Jaic	Date: 7/12/17	Time: 2:45pm	Samples Received By (Print Name and Sign):	Date: 7/12/17	Time: 2:45		
Samples Relinquished By (Print Name and Sign):	Date: 7/12/17	Time: 4:02	Samples Received By (Print Name and Sign):	Date:	Time:	N°: T 052884	

Document ID: DIV-78-1511-014

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Date Issued: February 22, 2017

Appendix ‘E’

1. Qualification of Assessors

COMPANY BACKGROUND

SOIL-MAT ENGINEERS & CONSULTANTS LTD. [SOIL-MAT ENGINEERS] is a Canadian Consulting Engineering firm owned by its senior staff. Over the past thirty years the principals of SOIL-MAT ENGINEERS have undertaken geotechnical investigations in all areas of Hamilton and surrounding area and are familiar with the distinct geology of the area and therefore well-versed with the various soil, bedrock and groundwater conditions. SOIL-MAT ENGINEERS has a staff of over twenty-five engineers and technical staff who specialize in geotechnical assignments, environmental assessments, hydrogeological investigations and construction quality control/assurance projects. The company commenced operation on June 15, 1992 and has undertaken over 5,000 projects since its inception. The firm and all professional staff are in good standing with Professional Engineers Ontario. The company has maintained a current Certificate of Authorisation since it was granted on April 28, 1992. The firm's office and laboratory facilities are located at 130 Lancing Drive in Hamilton, Ontario.

REPORT AUTHORS

Jeremy Yang, M.Sc. Eng., EIT.
Project Manager

Mr. Yang has over three years of experience in conducting Phase I ESA research and Phase II ESA fieldwork, including soil and groundwater sampling. Mr. Yang also has experience in Phase III Environmental Site Assessments including remediation of underground storage tanks and various ex-situ 'dig and dump' remediation programmes.

Ian Shaw, P. Eng.
[Director/ Senior Professional]

Mr. Shaw has over fourteen years of experience in the geotechnical and geo-environmental fields. Mr. Shaw has supervised the geotechnical investigations for the replacement/rehabilitation of bridge/culvert structures located within the Haldimand County, numerous residential and industrial subdivision projects, slope stability assignments associated with Hamilton Conservation Authority and Conservation Halton requirements, and several high rise developments in Hamilton, Burlington, Oakville, Brantford, St. Catharines, and Niagara Falls. Mr. Shaw has also been involved in numerous hydrogeological investigations, primarily within the City of Hamilton, associated with the development of residential and commercial subdivision projects. Some of Mr. Shaw's projects have included the decommissioning of underground and above ground fuel oil storage tanks, the implementation of in-situ and ex-situ remediation programmes and numerous 'dig and dump' remediation projects.

Keith Gleadall, B.A., EA Dipl.

Vice-President [Senior Professional]

Mr. Gleadall has over fourteen years of experience in conducting Phase I, II and III Environmental Site Assessments and has successfully completed the requirements of the Associated Environmental Site Assessors of Canada and a Post Graduate Diploma in Environmental Site Assessment from Niagara College. Mr. Gleadall is responsible for undertaking numerous hydrogeological investigations, primarily within the City of Hamilton, associated with the development of residential and commercial subdivision projects, together with Phase I, II and III Environmental Site Assessments. Projects have included the decommissioning of underground and above ground fuel oil storage tanks, the implementation of in-situ and ex-situ remediation programmes, the decommissioning of a former dry cleaning facility and numerous 'dig and dump' remediation projects.

Appendix ‘F’

1. Statement of Limitations

REPORT LIMITATIONS

Achieving the objectives that are stated in this report has required SOIL-MAT ENGINEERS to derive conclusions based upon the best and most recent information currently available to SOIL-MAT ENGINEERS. No investigative method can completely eliminate the possibility of obtaining partially imprecise information. SOIL-MAT ENGINEERS has expressed professional judgement in gathering and analysing the information obtained and in the formulation of its conclusions.

Information in this report was obtained from sources deemed to be reliable, however, no representation or warranty is made as to the accuracy of this information. To the best of SOIL-MAT ENGINEERS' knowledge, the information gathered from outside sources contained in this report on which SOIL-MAT ENGINEERS has formulated its opinions and conclusions, are both true and correct. SOIL-MAT ENGINEERS assumes no responsibility for any misrepresentation of facts gathered from outside sources.

This report was prepared to assess and document evidence of potential environmental contamination, and not to judge the acceptability of the risks associated with such environmental contamination. Much of the information gathered for this report is only accurate at the time of collection and a change in the Site conditions may alter the interpretation of SOIL-MAT ENGINEERS' findings. Furthermore, the reader should note that the Site reconnaissance described in this report was an environmental assessment of the Site, not a regulatory compliance or an environmental audit of the Site.

SOIL-MAT ENGINEERS & CONSULTANTS LTD. prepared this Report for the account of LIV COMMUNITIES. The material in it reflects SOIL-MAT ENGINEERS best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. SOIL-MAT ENGINEERS accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.