APPENDIX ‘C’

Remediation Report

City of Winnipeg North Transit Garage Replacement Design Remedial Plan

Winnipeg, Manitoba

City of Winnipeg

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AECOM: 2015-04-13

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1 Introduction

The City of Winnipeg (the City) requested AECOM Canada ULC. (AECOM) to complete a Remedial Plan (RP) for the proposed location of the new North Transit Garage, located along Oak Point Highway in Winnipeg, Manitoba (the Site). The location and layout of the Site are shown on **Figure 1** and **Figure 2**, respectively. The purpose of this RP is to describe the remedial activities to be undertaken at the Site.

1.1 Objective and Scope

The objective of this report is to provide a summary of the proposed soil remediation activities to excavate and manage petroleum hydrocarbon (PHC), polycyclic aromatic hydrocarbon (PAH) and metal impacted soil to mitigate risks to human health and the environment. The remedial plan for the site addresses impacted soil encountered during site grading, remedial excavations and the residual impacted soil present at the Site. Depending on the area of the Site and contaminant of concern (COC), the remedial strategies consist of excavation and off-site disposal or excavation and onsite engineered containment. In addition, the project design and remedial plan will comply with the *City of Winnipeg Standards and Guidelines for the Mitigation of Methane Gas at Buildings and Utilities and Guideline for Construction on Landfill Sites, December 2006.*

This RP includes a review of the previous environmental site assessment activities at the Site and of the current and planned future property use, risk analyses via human health and ecological pathway evaluation, selection of appropriate site-specific guidelines and a summary of the proposed remediation activities to be completed at the Site.

2 Site Description

2.1 Physical Setting

The Site is located within the City of Winnipeg, south of Oak Point Highway, between Selkirk Avenue and Egesz Street, and north of the Canadian Pacific Kansas City (CPKC) Rail Right-of-Way. The Site encompasses four areas of environmental concern (AECs), namely; 1) the former Brooklands Landfill; 2) the former Brooklands Speedway; 3) a former gas station; and 4) a former Imperial Oil Retail Fuel Outlet (see **Figure 2**). The Site contains no above grade infrastructure aside from the concrete and asphalt floor and foundations on the former gas station and Imperial Oil properties along Oak Point Highway.

The Site is defined by the legal land descriptions:

- Block 3, Plan 17744 (City of Winnipeg Roll Number [CofW RN] 14096460000);
- Lot 49, Plan 24342 (CofW RN 7092321000);
- Lot 50, Plan 24342 (CofW RN 7092308000);
- Lot 51, Plan 24342 (CofW RN 7092313000);
- Lot 52, Lot 56 and Lot 57, Plan 24342 (CofW RN 7092163000);
- Lot 53, Plan 24342 (CofW RN 7092238000);
- Lot 54, Plan 24342 (CofW RN 7092304000);
- Lot 55, Plan 24342 (CofW RN 7092190000); and
- Lot 58, Plan 24342 (CofW RN 7092127100) (WSP, 2023a).

AEC 1: Former Brooklands Landfill

The former Brooklands Landfill was operational between 1950 and 1968 before it was decommissioned, however the Village of Brooklands may have used this area as a dumping ground prior to the 1950s. It was reported that the waste included local garbage and septic waste, rubble and inorganic material and burning was also carried out at the Site (WSP, 2023a). The Brooklands landfill covered approximately 2.4 hectares, with the waste placed approximately 1.5 m to 3 m above ground and 1.5 m below surface, and reportedly capped with 0.3 m to 0.6 m of low permeability clay during decommissioning (Golder, 2015).

AEC 2: Former Brooklands Speedway

The Brooklands Speedway was in operation from 1953 to 1973 and occupied parcels Lot 52 and part of Lot 57, Plan 24342. Historical archives indicated the racetrack as a major racing venue in Manitoba summer months during its 20 years of operation as a paved quarter-mile racetrack featuring stock, modified and super modified race cars. It was eventually sold to Motorways, a trucking company in 1974 (WSP, 2023a).

AEC 3: Former Gas Station

The City of Winnipeg's Brooklands Landfill Site – Landfill No. 28 report (1984) indicated that this area had previously been developed for a gas station and consists of subject Parcel PT 7, Plan 9218 WLTO, Block 3, Plan 17744 WLTO, and 200 Oak Point Highway (WSP, 2023).

AEC 4: Former Imperial Oil Retail Fuel Outlet

The former Imperial Oil Esso (IOL) retail fuel outlet and cardlock facility was in operation from approximately 1988 to 2012, with a restaurant from the late 1990s to 2012 (Parsons, 2015).

The Site was decommissioned in 2013 and prior to decommissioning, this portion of the Site consisted of canopy covered pump islands and approximately four cardlock semi-truck gas stations to the south, two petroleum warehouse buildings, two 45,456 litre (L) USTs containing gasoline, one 45,456 L UST containing diesel, one

36,365 L UST containing diesel, one 9,090 L UST containing wastewater, pump islands, and associated product distribution piping.

The Site is surrounded by the following land uses:

- North: Traction Heavy Duty Parts, Oak Point Highway, single family residential housing (northeast) and various industrial and commercial lots (northwest).
- South: CPKC Rail Right-of-Way followed by various commercial and industrial lots.
- West/Northwest: Paul's Hauling at 250 Oak Point Highway and Gardewine shipping at 60 Eagle Drive.
- East: North End Spring & Trailer at 70 Oak Point Highway and Royal Bros Yard at 61 Hyde Avenue, followed by various industrial lots and Woodsworth Park.

2.2 Geology

2.2.1 Surficial Geology

The Site is located within the Lake Agassiz clay plain, which was formed through the offshore lake bottom deposits of historic glacial Lake Agassiz (Matile G. T., 1998) and surficial soils at the Site have been mapped as offshore glaciolacustrine sediments, consisting of clay, silt, and minor sand (Matile & Keller, 2004). General surficial geology encountered during previous environmental investigations conducted by AECOM at the Site consisted of a clay or silt fill layer with some sand or gravel, ranging in depth from surface to about 4.5 m below ground surface (bgs), underlain by alternating layers of clay and silt (AECOM, 2024a). Beneath the clay horizon, a grey silt till was identified varying between depths of approximately 10 - 20 m bgs (AECOM, 2024b). A more detailed description by AEC is summarized below.

AEC 1 – Former Brooklands Landfill

The soil of AEC 1 is highly disturbed and consists of mixed fill and debris associated with landfill waste. Debris was encountered in the majority of the boreholes and test pits advanced within AEC 1 in 2024. The debris included glass, plastic, metal, wood, ceramics, bricks, concrete, vehicle parts, tires, metal rebar and cable. The soil intermixed with the debris consisted of clay, silt and sand and was dark brown to black in colour. Soil logs indicate the presence of a clay/silt/sand cover of approximately 0.5 to 1 m thickness over the debris fill layer throughout the landfill area. Native clay was typically encountered at a depth of approximately 5 m bgs.

AEC 2 – Former Brooklands Speedway

The soil encountered in AEC 2 consists of an overlying fill zone varying in thickness from 1 to 4 m overlying a native silt layer typically 1 m thick in turn overlying a firm to high plasticity clay. The clay layer is typically 6 to 7 m thick and overlies a silt till. The fill material was occasionally noted to contain concrete, wood and plastic debris and varied widely from clay and silt to sand and gravel (AECOM, 2024a).

AEC 3 – Former Gas Station

The soil in AEC 3 was disturbed and soil was covered by concrete or asphalt. The stratigraphy generally consisted of silty sands and gravels to a maximum depth of 3 m, but typically 1 to 2 m in thickness. This was underlain by a silt or silty clay layer to a depth of approximately 3 m at which point the soil transitioned to a high plasticity clay. Silt till was encountered at depths of 9.2 and 10.6 m. Hydrocarbon odors were occasionally noted in the upper 1 to 3 m of the soil column (AECOM, 2024a).

AEC 4 – Former Imperial Oil Retail Fuel Outlet

The soil in AEC 4 was disturbed and soil stratigraphy generally consisted of concrete or asphalt at surface underlain by silty sands and gravels to a maximum depth of 3 m, but typically were 1 to 2 m in thickness. This was underlain by a silt or silty clay layer to a depth of approximately 3 m at which point the soil transitioned to a high plasticity clay. Silt till was encountered at depths of 7.5 to 9 m (AECOM, 2024a).

Cross section profile views of the Site are attached, on **Figure 3,** with the location of the cross sections shown on **Figure 2**.

2.2.2 Bedrock Geology

The Winnipeg area straddles the boundary between the Paleozoic and Precambrian outcrop areas. The bedrock geology of the Site consists of Winnipeg Formation sandstones and shales overlain by mottled dolomitic limestones of the Red River Formation, 150 – 175 m in thickness. The Red River Formation consists of the lower and upper Red River Strata (Manitoba Energy and Mines, 1990). During a geotechnical investigation, a clay mudstone (Stony Mountain Formation, Gunn Member, calcareous shale to argillaceous dolomite) was observed at depths ranging between 13 m bgs to 21 m bgs underlain by dolomite (Stony Mountain Formation, Gunn Member) to approximately 26 m bgs (AECOM, 2024b).

2.3 Hydrogeology

The Site is located within the City of Winnipeg and potable water is supplied to residences and businesses via piped distribution. There is currently no water supply to the Site, however the potable water for the proposed North Transit Garage building will likely be supplied by the City's piped municipal distribution system.

The closest surface water bodies to the Site are Omand's Creek, which is located approximately 1.2 km southwest of the Site and the Red River, which is located about 6 km east of the Site.

In March 2024, the depth to groundwater in shallow monitoring wells ranged from approximately 2.3 to 3.8 m bgs, 231.8 to 234.7 meters above sea level (m asl), and the shallow groundwater flow direction was inferred to be northeast, as illustrated on **Figure 4**. Historical groundwater levels ranged from 0.89 m bgs to 4.98 m bgs with inferred flow direction to the northeast and northwest (Dillon, 2023, WSP, 2023, Parsons, 2019).

In March 2024, hydraulic conductivity tests were performed in two monitoring wells (wells MW24-01 and MW24-06) to determine the hydraulic conductivity of the soil. The hydraulic conductivities estimated from these tests are summarized in **Table 2-1** below. The hydraulic conductivities are generally within the range typical of silt and clay soils specified in Freeze and Cherry (1979).

Table 2-1: Summary of Hydraulic Conductivity Results

MW ID	Screened Interval (m bgs)	Screened Unit	Test Type	Analytical Solution	Hydraulic Conductivity (m/s)
MW24-01	1.5 – 3.0	Silt, Some Clay	Bail Test	Bouwer-Rice	7.36×10^{-7}
MW24-06	3.0 – 5.0	Clay, Silt and Sand	Bail Test	Bouwer-Rice	2.29×10^{-8}

2.4 Topography and Drainage

The majority of the Site has a surface elevation ranging from 234 to 240.5 meters above sea level (m asl) with the highest elevations located in the former landfill area. Omand's Creek is located about 1 km southwest of the Site and surface water runoff is expected to flow north towards Oak Point Highway to be captured by the City's surface drainage network. Regional groundwater flow direction is inferred to be east towards the Red River.

2.5 Water Wells

A search of the Groundwater Information Network (GIN, 2021) identified no wells on-Site and five wells within 500 m of the Site. Distances are approximate since the GIN database does not always identify specific well locations. The reported well details are summarized in **Table 2-2** below.

Table 2-2: Summary of Hydraulic Conductivity Results

Well ID	Year Drilled	Water Use	Status	Well Casing (m bgs)	Installed Depth (m bgs)
37008	1979	Industrial, production	Unknown	0 to 20.27	75.29
37009	1979	Unknown, observation	Unknown	0 to 21.64	28.96
74846	1992	Industrial, production	Unknown	0 to 18.14	67.06
106762	1998	Domestic, production	Active	0 to 21.66	39.65
8766	1966	Domestic, production	Unknown	0 to 9.75	21.34

Based on the information provided, the status of most wells are unknown and they range in depth from 21.3 to 75.3 m bgs.

3 Summary of Site Conditions

3.1 Previous Environmental Site Assessments

Historical reports date back to 1984 for the former Brooklands Landfill portion of the Site (WSP, 2023a). Several environmental investigations have been completed by Dillon Consulting Limited (Dillon), WSP Canada Inc. (WSP), Parsons Canada Ltd (Parsons), Golder Associates (Golder), and J&D Environmental, such as Phase I and Phase II Environmental Site Assessments (ESAs) and groundwater sampling programs, with reports dating between 2013 and 2023. The former IOL Cardlock portion of the Site has had the most environmental work completed and impacts in this area are largely defined. The most recent environmental site assessment on the entire site was completed by AECOM in 2024. Recent AECOM borehole and test pit logs are in **Appendix A**. Borehole logs from historical reports are in **Appendix B**.

3.2 Subsurface Impacts

A summary of the subsurface impacts in soil and groundwater is presented in the following subsections as the summary of site condition. Due to the varying historical land uses at the Site, COCs vary among the AECs. This summary is based on the results of previous environmental investigations performed at the Site and others as described in **Section 3.1**.

3.2.1 Soil Impacts

Soil impacts are characterized by select COCs in AECs at concentrations exceeding the referenced applied guidelines.

3.2.1.1 AEC 1 – Former Brooklands Landfill

The soil of AEC 1 is highly disturbed and consists of mixed fill and debris associated with landfill waste. Debris was encountered in the majority of the boreholes and test pits advanced within AEC 1 in 2024. The debris included glass, plastic, metal, wood, ceramics, bricks, concrete, vehicle parts, tires, metal rebar and cable. The soil intermixed with the debris consisted of clay, silt and sand and was dark brown to black in colour. Native clay soil was encountered at a depth of approximately 5 m bgs (AECOM, 2024a).

The presence of metals (arsenic, copper, lead, nickel, tin, zinc), pH and electrical conductivity in soil above applicable EQGs was reported for most of the sampling locations across the landfill area in AECOM, 2024. Of the 28 investigation points located in and immediately adjacent to the landfill, 15 had soil with concentrations exceeding EQGs, as illustrated on **Figure 5**. Of those 15, four were minor exceedances of pH or electrical conductivity (EC) guidelines, which affect plant growth and are not considered further here, implying that 11 of 28 locations exhibited a guideline exceedance (39%). Due to the cost of laboratory analysis, not all samples were analyzed for dioxins/furans. In AEC 1, a total of nine samples were analyzed for dioxins/furans in the 2023 Dillon and 2024 AECOM programs,

with results below the human health soil ingestion guideline of 175 picogram per gram (pg/g). All the soil samples retrieved from this area were analyzed for metals and 10 of 28 investigation points had metals concentrations that exceeded EQGs (36%). In an effort to assess leachability of lead in areas of high lead levels, in October 2024 sample TH24-19-4.4 at 4.4 m bgs was submitted for analysis of total and leachable lead to assess the potential for encountering hazardous waste during construction. The total lead result was 265 mg/kg and below the EQG and the toxicity characteristic leaching procedure (TCLP) leachate result for lead was below the detection limit and below its EQG. It is recommended to complete additional soil sampling in areas of high lead concentrations (>1,000 mg/kg) for analysis of TCLP lead prior to construction to assess the potential for encountering hazardous waste.

Soil logs indicate the presence of a clay/silt/sand cover of approximately 0.5 to 1 m thickness over the debris fill layer throughout the landfill area. Although a smaller number of samples of this cover material was retrieved, some samples in the 0.75 to 1.5 m depth range were impacted and, as such, it is not possible to conclude that the upper cover layer is not impacted. Regarding vertical delineation of the impacted soil in the landfill area, native clay was typically encountered at a depth of approximately 5 m bgs. Soil impacts were reported for TP24-09-07 where zinc concentrations above the EQG was observed at 5.0 – 6.0 m bgs and in TP24-12 at 5.0 – 6.0 m bgs where copper and lead concentrations were above EQGs. Note these locations are near the center of the landfill and thus are likely to have the deepest waste placement. The horizontal extent of impacts in the landfill area (AEC 1) has not been confirmed as there are limited boreholes along the boundaries. It is evident from site inspections that the area of fill in the vicinity of the landfill extends beyond the boundary noted in historical reports, particularly in the northwest corner of the Site. Some debris was noted in borehole BH23-12 near the northwest corner of the Site, well outside of the historical landfill boundary. Without additional investigation points along the Site boundaries, it must be assumed that soil impacts may extend to the property boundaries (AECOM, 2024a).

Table 3-1: Maximum Soil Contaminant Concentrations - AEC 1 - Former Brooklands Landfill

Parameter	Units	Soil Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
Soil Metals				
Arsenic (As)	mg/kg	12	1.49 - **57.3** [b]	MW24-05-05
Barium (Ba)	mg/kg	2,000	32 - **2,090** [b]	MW24-05-05
Chromium (Cr)	mg/kg	87	11.9 - **101** [b]	MW24-05-05
Copper (Cu)	mg/kg	91	4.7 - **4,700**	MW24-05-05
Lead (Pb)	mg/kg	600	2.7 - **6,020**	MW24-05-05
Nickel (Ni)	mg/kg	89	7.5 - **172**	MW24-05-05
Tin (Sn)	mg/kg	300	< 2.0 - **1,269** [b]	MW24-05-05
Zinc (Zn)	mg/kg	410	19.0 - **7,340**	MW24-05-05
Soil EC-pH-SAR				
pH (1:2 soil:water)	pH units	6-8	7.77 - **8.56**	TP24-06-06

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (accessed in November 2024), Industrial Land Use.

[b] Average concentration of MW24-05-05 and its duplicate DUP-10.

3.2.1.2 AEC 2 - Former Brooklands Speedway

The soil encountered in AEC 2 consists of an overlying fill zone varying in thickness from 1 to 4 m overlying a native silt layer typically 1 m thick in turn overlying a firm to high plasticity clay. The clay layer is typically 6 to 7 m thick and overlies a silt till. The fill material was occasionally noted to contain concrete, wood and plastic debris and varied widely from clay and silt to sand and gravel (AECOM, 2024a).

The presence of metals (arsenic, copper, lead, tin and zinc), pH, SAR and electrical conductivity in soil at concentrations above applicable EQGs was observed in many of the sampling locations in the former Brooklands Speedway area. Of the 35 investigation points located in AEC 2, 8 had soil with concentrations exceeding guidelines, as illustrated on **Figure 6**. Of the 8, three were for minor exceedances of pH, SAR or electrical conductivity (EC) guidelines, which affect plant growth and are not considered further here, implying that 5 of 35 locations exhibited a

guideline exceedance (23%). Similar to AEC 1, not all samples were analyzed for dioxins/furans. In AEC 2, a total of 11 samples were analyzed for dioxins/furans in the 2023 Dillon and 2024 AECOM programs, with results below the human health soil ingestion guideline (175 pg/g). All the soil samples retrieved from this area were analyzed for metals and 5 of 35 investigation points exhibited exceedance of guidelines for metals (14%) located in the north, central and southern portions of the AEC (AECOM, 2024a).

The depth of impacted soil samples ranged from 0.8 m bgs to 3.0 m bgs in the fill layer. In regard to vertical delineation, samples obtained from the native silt or clay underlying the fill did not indicate exceedances of guidelines. The horizontal extent of impacts in AEC 2 has not been confirmed as there are limited boreholes along the property lines. Note that some impacts were noted near the property boundary as illustrated on **Figure 6**. Without additional investigation points along the site boundaries, it must be assumed that soil impacts may extend to the property boundaries.

Table 3-2: Maximum Soil Contaminant Concentrations - AEC 2 - Former Brooklands Speedway

Parameter	Units	Soil Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
Soil Metals				
Copper (Cu)	mg/kg	91	9.6 - **5,050**	BH24-08-03
Lead (Pb)	mg/kg	600	4.5 - **2,610**	BH24-08-03
Tin (Sn)	mg/kg	300	2.0 - **367**	BH24-08-03
Zinc (Zn)	mg/kg	410	19.2 - **2,690**	BH24-08-03
Soil EC-pH-SAR				
Conductivity (1:2 leachate)	mS/cm	4	1.47 - **4.99** [b]	TH24-13-02
pH (1:2 soil:water)	pH units	6-8	7.52 - **8.24**	TH24-03-02
Sodium adsorption ratio [SAR]	no unit listed	12	2.8 - **43**	BH23-23

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (accessed in November 2024), Industrial Land Use.

[b] Concentration Range for 2024 results only.

3.2.1.3 AEC 3 – Former Gas Station

The soil in AEC 3 was disturbed and soil was covered by concrete or asphalt. The stratigraphy consisted of silty sands and gravels to a maximum depth of 3 m, but generally 1 to 2 m in thickness. This was generally underlain by a silt or silty clay layer to a depth of approximately 3 m at which point the soil transitioned to a high plasticity clay. The two geotechnical test holes in this area encountered silt till at depths of 9.2 and 10.6 m. Hydrocarbon odors were occasionally noted in the upper 1 to 3 m of the soil column (AECOM, 2024a).

Test pit TP24-01, located in the area of the suspected buried tank, had concentrations of arsenic (13.6 mg/kg) above the EQG at a depth of 4 to 5 m bgs in the native clay. This concentration slightly exceeds the guideline limit of 12 mg/kg and is not representative of the average arsenic concentration in this area which is 6 mg/kg, therefore this isolated exceedance will not be considered further. TP24-02 had concentrations of PHC F2 and acenaphthylene exceeding EQGs from surface to approximately 2.0 m bgs, while a sample from a depth of 3 to 4 m was not impacted. Clean depths were established at this location at 3.0 m bgs. In BH23-01, a sample from a depth of 1.5 m showed exceedances of PHC F1 and F2 and at the next sample depth at 4.5 m, PHC F1 and F2 concentrations were below EQGs. Based on combustible soil vapour readings, the hydrocarbon impacts did not appear to extend below 2 m. Horizontal closure was not completely obtained in the vicinity of these two points.

Based on historical and current soil results, soil impacts cover an area of 280 m^2 and range from surface to 2.5 m deep, with an estimated volume of impacted soil at 700 m^3. However, clean extents have not been fully established in this area. The estimated extent of impacted soil is indicated on **Figure 7** along with the historical and recent soil results exceeding EQGs.

While a 2023 geophysical survey indicated the possible presence of an underground storage tank, the test pits advanced in this area did not locate a tank but did encounter metallic debris which may have caused the anomalous electromagnetic readings.

Table 3-3: Maximum Soil Contaminant Concentrations - AEC 3 - Former Gas Station

Parameter	Units	Soil Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
Soil PHC				
PHC F1 (C6-C10) minus BTEX	mg/kg	320	<5.0 - **1,700**	BH23-01
PHC F2 (>C10-C16)	mg/kg	260	<25 - **4,920**	TP24-02-01
Soil PAH				
Acenaphthylene	mg/kg	0.17	<0.0050 - **0.417**	TP24-02-01
Soil Metals				
Arsenic (As)	mg/kg	12	2.3 - **13.6**	TP24-01-05

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (accessed in November 2024), Industrial Land Use.

3.2.1.4 AEC 4 - Former Imperial Oil Retail Fuel Outlet

The soil in AEC 4 was disturbed and soil stratigraphy generally consisted of concrete or asphalt at surface underlain by silty sands and gravels to a maximum depth of 3 m, but generally 1 to 2 m in thickness. This was underlain by a silt or silty clay layer to a depth of approximately 3 m at which point the soil transitioned to a high plasticity clay. The geotechnical test holes in this area encountered silt till at depths of 7.5 to 9 m (AECOM, 2024a).

Several historical environmental investigations completed in AEC 4 since 2013 have identified PHC F2 and F3 impacts in soil in the northern portion of the AEC. As indicated on **Figure 8**, a substantial number of boreholes and test pits have been advanced in AEC 4 in past investigations and vertical delineation has been achieved with the majority of clean depths at 2.4 m bgs. When applying surface soil guidelines to the Site, the deepest impacts are in TP-5 at 3.7 m bgs, with the next clean sample at 4.9 m bgs. Horizontal delineation has been achieved to the east, south and west, but not to the north. It is expected impacts extend north to the property boundary. **Figure 8** illustrates the locations which showed evidence of soil exceeding SQGs and the estimated extent of hydrocarbon impacts in the northern portion of AEC 4. Based on an area of 2,720 m^2 and depths of PHC impacts extending from approximately 0.8 m bgs to 2.5 m bgs, the estimated volume of hydrocarbon impacted soil in the northern portion of AEC 4 is approximately 4,625 m^3.

Metal impacted soil identified in previous reports is present on the southern portion of the AEC 4 at depths ranging from 1.2 to 3 m bgs, aside from one location (BH-19) where copper impacts were detected at surface. In 2024, one borehole (BH24-09) was advanced in the southern portion of APEC 5 in the area of potential cinders and ash. The duplicate sample (DUP-04) of BH24-09-04 exceeded EQGs for copper and zinc at 1.5 – 2.0 m. Dillon 2023 completed a surface soil sampling program in the southern portion of the site to assess metal in the surface soil (0.1 m bgs) and all results were below EQGs. A few pockets of PHC and/or PAH impacts in soil were also identified in historical reports for the southern portion of the Site. **Figure 8** illustrates the estimated extent of hydrocarbon impacts (50 m^3) in the southern portion of AEC 4. The total estimated volume of non-hydrocarbon impacted soil in the southern portion of AEC 4 is 9,000 m^3. Note however that the total estimated volume of impacted soil resulting from site grading of the entire site is calculated separately as discussed in **Section 6.2.2**.

Table 3-4: Maximum Soil Contaminant Concentrations - AEC 4 - Former Imperial Oil Retail Fuel Outlet

Parameter	Units	Soil Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
Soil PHC				
PHC F2 (>C10-C16)	mg/kg	260	<25 - **5,400**	TP-7 (1.2.)
PHC F3 (>C16-C34)	mg/kg	5,000	<50 - **9,000**	TP-47 (2.4)
Soil PAH				
Benzo(a)anthracene	mg/kg	10	<0.010 - **20**	TP-66 (1.8)
Benzo(a)pyrene total potency equivalents	mg/kg	5.3	<0.020 - **23**	TP-66 (1.8)
Chrysene	mg/kg	9.6	<0.010 - **14**	TP-66 (1.8)
Soil Metals				
Arsenic	mg/kg	12	1.7 - **34**	TP-72 (2.4)
Copper	mg/kg	91	7.8 - **560**	BH-22 (1.8-2.4)
Lead	mg/kg	600	8.8 - **5,700**	TP-72 (2.4)
Selenium	mg/kg	2.9	<0.20 - **4.9**	TP-69 (2.4)
Zinc	mg/kg	410	20 - **2,100**	TP-72 (2.4)

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (accessed in November 2024), Industrial Land Use.

3.2.2 Groundwater Impacts

The groundwater analytical results from sampling events conducted in 2023 and 2024 indicate that select COCs are present within the shallow groundwater bearing unit at concentrations exceeding the referenced groundwater quality guidelines (GQGs) across all AECs.

Elevated concentrations of chloride are present through all four AECs. The American Concrete Institute (ACI) indicates that threshold chloride concentration values are typically in the range of 0.05% to 0.1% by weight of concrete (ACI 318 Building Code) for reinforced concrete due to the potential for corrosion of reinforcing steel. Chloride concentrations in site groundwater were found to be as high as 3,600 mg/L or 0.0036% by weight in groundwater. Based on the new construction, a perimeter cutoff wall and foundation drain will keep groundwater from contact with the new building concrete foundation. If groundwater did come in contact with reinforced concrete, the chloride concentrations in groundwater are an order of magnitude lower than the lower range of the ACI threshold (0.05%) and therefore, are not of concern.

3.2.2.1 AEC 1 – Former Brooklands Landfill

The groundwater sample collected from BH23-11 located northwest of the landfill showed elevated levels of sodium and uranium. MW24-06, located in the southwest portion of the landfill showed elevated levels of chloride of approximately 3,500 mg/L. MW24-06 was also submitted for dioxin and furan analysis and results were below GQGs.

Based on groundwater results from 2023 and 2024, the primary COCs in AEC 1 are dissolved uranium, sodium and chloride. **Figure 9** shows the groundwater locations and results above groundwater quality guidelines.

Table 3-5: Maximum Groundwater Contaminant Concentrations - AEC 1 - Former Brooklands Landfill

Parameter	Units	Groundwater Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
GW Nutrients				
Chloride	mg/L	2,300	880 - **3,470**	MW24-06
Sodium	mg/L	2,300	510 - **2,400**	BH23-11
Uranium	mg/L	0.42	0.0030 - **0.45**	BH23-11

[a] Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)

3.2.2.2 AEC 2 - Former Brooklands Speedway

Groundwater samples from BH23-09 located northeast of the landfill and BH23-28 located on the central/eastern portion of the AEC showed elevated levels of chloride of 3,100 to 3,600 mg/L. Concentrations of dissolved lead (BH23-21) were also reported above GQGs. MW24-04 located in the southeast corner of the AEC and adjacent to potential buried refuse, cinders and ash, had the highest number of parameter exceedances; PHC F3, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene.

Based on groundwater results from 2023 and 2024, the primary COCs in AEC 2 are dissolved lead, chloride, PHC F3, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene. The PAHs and PHC groundwater impacts are likely attributed to the adjacent AEC 3. **Figure 9** shows the groundwater locations and results above groundwater quality guidelines.

Table 3-6: Maximum Groundwater Contaminant Concentrations - AEC 2 - Former Brooklands Speedway

Parameter	Units	Groundwater Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
GW PHC				
PHC F3 (>C16-C34 range)	mg/L	0.500 [b]	<0.10 - **0.52**	MW24-04
GW PAH				
Benzo(g,h,i)perylene	mg/L	0.0002 [b]	<0.000010 - **0.00118**	MW24-04
Benzo(k)fluoranthene	mg/L	0.0004 [b]	<0.00010 - **0.000878**	MW24-04
Chrysene	mg/L	0.001	<0.00010 - **0.0017**	MW24-04
Indeno(1,2,3-cd)pyrene	mg/L	0.0002	<0.00010 - **0.00147**	MW24-04
GW Nutrients				
Chloride	mg/L	2,300 [b]	224 - **3,600**	BH23-28

[a] Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.
[b] Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)

3.2.2.3 AEC 3 – Former Gas Station

Groundwater samples were collected from three wells (MW24-01, MW24-02 and MW24-03) in 2024 and results indicated that MW24-01 exceeded the GQG for PHC F2 with a concentration of 3.88 mg/L and MW24-02 exceeded the GQG for PHC F3 with a concentration of 1.2 mg/L. None of the wells exceeded GQGs for dissolved metals, PAH or nutrient groundwater parameters. The PHC exceedances are relatively minor, and the concentrations are expected to decrease with time as the source contaminated soil will be remediated as part of site development. The estimated extent of groundwater impacts is 820 m^2 as illustrated on **Figure 9**.

Based on groundwater results from 2023 and 2024, the primary COCs in AEC 3 are PHC F2 and PHC F3.

Table 3-7: Maximum Groundwater Contaminant Concentrations - AEC 3 - Former Gas Station

Parameter	Units	Groundwater Quality Guideline [a]	Concentration Range	Location with Maximum Concentration
GW PHC				
PHC F2 (>C10-C16)	mg/L	3.1	<0.10 - **3.88**	MW24-01
PHC F3 (>C16-C34 range)	mg/L	0.500 [b]	<0.25 - **1.20**	MW24-02

[a] Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.
[b] Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)

3.2.2.4 AEC 4 - Former Imperial Oil Retail Fuel Outlet

Monitoring well MW03 located on the northern boundary of AEC 4 had concentrations of PHC F2 and PHC F3 exceeding applied GQGs in 2023. WSP 2023 estimated a groundwater plume of 560 m^2 area in the northern portion of the AEC as shown on **Figure 9**. Historical groundwater sampling results are illustrated on **Figure 9**, as no wells were sampled from this AEC in 2024 No PHC impacts were reported in AEC 4 during 2017/2018 sampling events conducted by Parsons.

Based on groundwater results from 2023 and 2017/2018, the primary COCs in AEC 4 are PHC F2 and PHC F3.

4 Provincial Regulations

4.1 Remedial Guideline Selection

The Province of Manitoba currently references documents from the Canadian Council of Ministers of the Environment (CCME), Ontario Ministry of the Environment (Ontario MOE) and Alberta Environment and Parks (AEP) as Primary, Secondary and Tertiary standards under the *Contaminated Sites Remediation (CSR) Act*. The applicable standards are summarized below.

Primary standards:

- Canadian Environmental Quality Guidelines (CEQG), Canadian Council of Ministers of the Environment (CCME) (most recent online version).
- Canada-Wide Standards (CWS) for Petroleum Hydrocarbons (PHC) in Soil, CCME (CCME) (most recent online version).
- Federal Contaminated Sites Action Plan (FCSAP), Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.
- Government of Manitoba Hazardous Waste Regulation 195/2015. *The Dangerous Goods Handling and Transportation Act* (C.C.S.M.c.D12). November 25, 2015.

Secondary standard:

- Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*, Ontario Ministry of the Environment, April 15, 2011.

Tertiary standard:

- Alberta Environment and Parks (AEP), 2023. Alberta Soil and Groundwater Remediation Guidelines.

The CCME guidelines and CWS standards utilize a risk-based approach allowing limited modification of the generic soil quality guidelines (SQGs) in light of prescribed site-specific factors affecting contaminant mobility and receptor characterization. In other words, in cases where soil concentrations exceed the generic guidelines, an analysis of risk factors specific to the site in question is acceptable in order to allow for a realistic assessment of the actual risks at the Site. Using this approach, SQGs are selected based on a step-through procedure eliminating the exposure pathways that do not apply to receptors in the vicinity of the Site and finally selecting the appropriate and most conservative guideline remaining after the elimination procedure. The guidelines are protective of both human and environmental receptors.

This approach was undertaken in order to provide a more realistic assessment of human and environmental risks at the Site. The applicable site-specific factors at the Site and the rationale for the use of CCME Tier 2 SQGs for BTEX and CWS SQGs for PHC fractions F1 to F4 are described in the subsections below and in **Table 3-1**.

In the CCME guidance documents, surface soil extends from ground surface to 1.5 m bgs, and subsurface soil extends below 3.0 m bgs, with classification of soil between 1.5 m and 3.0 m bgs up to the discretion of the provincial regulator. Manitoba Environment and Climate Change (MECC) has defined surface soil as extending from surface to

1.5 m bgs, and subsoil including materials below 1.5 m bgs. Considering the grading required at the Site prior to construction and subsoil excavations likely required for building construction, we have applied surface soil guidelines to subsoil anticipating that what is currently classified as subsoil will likely be brought up to surface soil depths. As adopted by MECC, soil quality guidelines for benzene use a lifetime incremental cancer risk of 10^{-5} for human health exposure.

As indicated in the CWS technical guidance document (CCME, 2008), if circumstances arise where one of the following factors becomes a pathway, there would be a requirement for a Tier 2 or Tier 3 assessment:

- Contamination within 30 cm of a building foundation;
- Contamination within 10 m of a surface water body;
- Hydraulic conductivity significantly greater than 10^{-5} m/s;
- Contamination within fractured bedrock;
- Ecological receptors of high sensitivity or socio-economic value; or
- Greater than normal frequency of human or ecological exposure.

4.2 Land Use and Soil Type

The Site is located within the City of Winnipeg and zoned as M1-M3 and MMU Manufacturing (light, general and heavy) and manufacturing mixed use (City of Winnipeg, 2022). Future use of the Site will be a transit bus garage. As such, industrial land use environmental quality guidelines (EQGs) are applied for this assessment.

During the subsurface soil investigation activities completed by AECOM in January and February 2024, clay and silt units were observed beneath the Site to a depth of 6.1 m below grade and soil samples were submitted to the laboratory for grain size analysis. Laboratory grain size analysis (**Table 1**) identified the soil at the Site as fine-grained; therefore, the soil type governing the transport and fate of contaminants in the surface and subsurface is considered fine-grained (AECOM, 2024a).

4.3 Exposure Pathways Evaluation

A review of the applicable exposure pathways was conducted as part of the 2024 Supplemental Environmental Site Investigation (AECOM 2024a). A summary of the exposure pathways evaluation is presented in the following table.

Table 4-1: Exposure Pathway Evaluation

Exposure Scenarios	Pathway /Receptor	Tier 2 Considerations	Applies (Y/N)	Rationale/Notes
Human Health	Soil Ingestion	Pathway required direct exposure to soil and is applicable to all soil shallower than 1.5 m bgs. Direct contact below 1.5 m bgs would apply during activities where subsoil is exposed, such as during construction. Pathway may be eliminated below 1.5 m bgs. provided there are Site conditions prohibiting the exposure of the subsoil, including excavation and stockpiling of subsoil at the surface.[a]	Y	The soil ingestion and dermal contact pathways are considered applicable to the Site.
	Dermal Contact		Y	
	Indoor Vapour Inhalation, including basement and slab-on-grade	Pathway is applicable to any site that has a building. Unless precluding factors, including preferential migration pathways or a low permeability surface cap, buildings would need to be located at least 30 m from the Site. May be eliminated if there are no buildings, but site controls restricting the future construction of a building would be required.[a]	Y	The Site is proposed to be used for the City of Winnipeg North Transit Garage and buildings may exist on the Site, the vapour inhalation pathway is used for this assessment so this property will not be restricted on future land use.
	Off Site Migration	Based on wind and water transport of soil from a commercial or industrial site to an adjacent, more sensitive site, such as agricultural or residential. May not be applicable for volatile organic compounds, which are not typically associated with wind and water transport of soil particles. [b]	N	Site is Industrial / manufacturing and adjacent properties are commercial and industrial.
	Soil for Protection of Potable Groundwater	May be excluded if aquifer is not suitable as a potential source for potable water use. Considerations to determine if pathway can be excluded include: - Current source of water at the site; - Existing water wells, typically within 500 m of the site; - Depth below grade of usable aquifer; - Yield of usable aquifer; and - Location of usable surface water sources for potable water. [a] Additional considerations to exclude the pathway include: - Municipal bylaws prohibiting water wells for potable water; - Naturally non-potable shallow groundwater; - No hydrological connection between impacted soil and groundwater aquifer with sufficient recharge for potable water use.[b]	N	The Site is located within the City of Winnipeg where potable water is provided via a piped municipal distribution. Although there are groundwater wells identified within 500 m of the Site, in Manitoba, the potable groundwater pathway is applicable if a site is underlain by a shallow domestic use aquifer (DUA) and if soil or groundwater containing contaminants of concern are hydraulically connected to a deep DUA (Alberta Environment and Parks, 2016). Hydraulic isolation of the contaminants is confirmed by the presence of 5 m of saturated fine-grained material containing no contaminants of concern with a bulk hydraulic conductivity less than 1.0×10^{-7} m/s. Hydraulic conductivity assessments completed during this investigation were within the uppermost saturated silt horizon (water table) 7.36×10^{-7} m/s. This hydraulic conductivity range is significantly less than the minimum hydraulic conductivity defined by AEP that is required to be indicative of a DUA. Clay soils were identified at the Site to at least 8 m below grade with a measured hydraulic conductivity of 2.29×10^{-8} m/s, suggesting a suitable hydraulic barrier is present. The clay is underlain by silt till from 12.5 m to 20 m below grade Furthermore, if a water source is required in the future, the Site will be connected to the municipal water source provided by the City of Winnipeg. The potable groundwater pathway is not considered applicable for the Site.
	Produce, Meat and Milk	Applies to agricultural and residential land use as an indirect pathway through food-chain contamination/bioaccumulation during production and consumption of produce, meat, and milk.[b]	N	The Site is not used for agricultural purposes.
Ecological	Ecological Soil Contact	Pathway is applied for soils with a depth shallower than 1.5 m bgs. Between 1.5 m and 3 m, ecological soil contact may be required depending on the jurisdiction. The pathway may be eliminated for soil below 3 m.[a] MECC defines surface soil as soil at or above 1.5 m bgs with subsurface soil defined as soil below 1.5 m bgs[d]. Therefore, ecological soil contact may be eliminated below a depth of 1.5 m bgs provided the site maintains 1.5 m of cover.	Y	The ecological soil contact pathway has been included for depths greater than 1.5 m bgs due to the anticipated site grading of up to 2 m and potential excavations bringing subsoil up to surface.
	Soil (and Food) Ingestion by Livestock/Wildlife	Includes resident and mobile livestock and wildlife, as well as secondary and tertiary consumers where a substance may bioaccumulate[b]. May be eliminated if the site is fully capped or paved [a].	N	Soil ingestion by wildlife on industrial lands at a generic level is not thought to be significant because residence time on industrial lands is expected to be low relative to agricultural or residential/parkland.
	Off Site Migration	Based on wind and water transport of soil from a commercial or industrial site to an adjacent, more sensitive site, such as agricultural or residential. May not be applicable for volatile organic compounds, which are not typically associated with wind and water transport of soil particles. [b]	N	Site is Industrial / manufacturing and adjacent properties are commercial and industrial.
	Soil for Protection of Groundwater for Aquatic Life (including Freshwater Life[1])	It is expected that the surface water body is located at least 10 m away from the impacted area. May be eliminated if: - No permanent surface water bodies are present, typically within 500 m of the site; and - There is no hydrological connection between the groundwater at the site and the surface water body (groundwater does not discharge to a surface water body).[a] Transient/short term surface water bodies may also need to be considered if they have the ability to support aquatic life. With supporting data, the guideline value may be modified at Tier 2 to account for dilution.[a]	N	Omand's Creek is located approximately 1.2 km southwest of the Site and Red River is located about 6 km east of the Site. No wetlands are located within 500 m of the Site. As a result, the freshwater aquatic life pathway has not been considered.
	Soil for Protection of Water for Livestock and Wildlife Watering/Irrigation	Applicable to agricultural land use where there is a suitable water source, including groundwater or surface water. [e] It is expected that the water source could be located immediately adjacent to the edge of the impacts (no separation distance for dilution). Considerations to determine if pathway can be excluded include: - Location of existing permanent and seasonal water sources (ground and surface), typically within 500 m of the site; - Depth below grade of usable water source; - Yield of usable water source; and - Hydrological connection between impacts and water source.[a]	N	The site is not used for agricultural purposes. There is one observation well identified within 500 m of the site. Considering the site is industrial, there is no presence of livestock or irrigation wells, and with no potential for future well installations, the irrigation/livestock groundwater pathway has not been considered applicable for the Site.
Other	Management Limits	Management limits always apply, regardless of depths of impact if the ecological pathway has been removed, and takes into account: - Free phase formation; - Exposure of workers in trenches to PHC vapours; - Fire and explosive hazards; - Effects on buried infrastructure; and - Aesthetic consideration.[a]	Y	Cannot be removed.
	Interim Soil Quality Criteria	Interim value as the data is insufficient to calculate a provisional or Soil Quality Guideline protective of human health and/or the environment. Use it at discretion. Consultation with other jurisdictions is recommended.[c]	Y	Applicable where no new guideline values have been derived.
	Provisional Soil Quality Guideline	Provisional value as the data is insufficient to calculate a Soil Quality Guideline protective of human health and/or the environment. Use it at discretion. Consultation with other jurisdictions is recommended.[c]	Y	Applicable where no new guideline values have been derived.

Notes:

[1] *Freshwater is with a total dissolved salt content ≤ 1,000 mg/L, marine water is with a total dissolved salt content > 5,000 mg/L[f]*

[a] *Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil, User Guidance (CCME 2008).*

[b] *A Protocol for the Derivation of Environmental and Human Health Soil Quality Guidelines (CCME 2006).*

[c] *Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health – Polycyclic Aromatic Hydrocarbons (CCME 2010).*

[d] *Manitoba Criteria for BTEX in Investigation Results (MCCC 2016).*

[e] *Alberta Tier 1 Soil and Groundwater Remediation Guidelines (AEP 2019a).*

[f] *A Protocol for the Derivation of Water Quality Guidelines for the Protection of Aquatic Life (CCME 2007)*

4.3.1 Applicable Receptors

Based on the findings of the exposure pathways evaluation, the following receptors are considered applicable at the Site:

- Ecological through direct contact;
- Soil health via nutrient and energy cycling; and
- Human health through direct soil contact, soil ingestion and inhalation (including indoor vapour inhalation, including basement and slab-on-grade).

5 Remediation Guidelines

5.1 Soil

The selected soil remediation guidelines for the Site are the Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health or Ontario Ministry of Environment with the most conservative guidelines for the exposure pathways applicable at the Site. These include vapour inhalation of indoor air (slab-on-grade and basement), human direct soil contact, ecological soil contact, and management limits.

Table 5-1 summarizes the remedial soil objectives for the contaminants of concern at the Site.

Table 5-1: Remedial Objectives for Soil

Parameter	SQG Surface Soil (<1.5 m bgs) [a, c]	SQG Subsoil (≥1.5 m bgs) [a, c]
Soil PHC		
PHC F2	260	1,000
PHC F3	2,500	5,000
Soil Metal		
Arsenic	12	12
Barium	2,000	2,000
Chromium	87	87
Copper	91	91
Lead	600	600
Nickel	89	89
Selenium	2.9	2.9
Tin	300	300
Zinc	410	410
Soil PAH		
Acenaphthylene	0.17 [b]	0.17 [b]
Benzo(a)anthracene	10	10
Benzo(a)pyrene total potency equivalents	5.3	5.3
Chrysene	9.6 [b]	9.6 [b]

Notes:
[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (most recent online version) – Industrial Land Use, Fine Grained Soil, Human Health Guidelines Check Values
[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) – Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).
[c] Soil Quality Guidelines in mg/kg unless otherwise indicated

The remedial objectives for PHCs, PAHs, metals and dioxin and furans in soil are summarized in **Table 3** to **Table 8**.

5.2 Groundwater

The selected groundwater remediation guidelines for the Site are the Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil or Ontario Ministry of Environment with the most conservative guidelines for the exposure pathways applicable at the Site. These include vapour inhalation of indoor air (slab-on-grade and basement), human direct soil contact, ecological soil contact, and management limits.

Table 5-2 summarizes the remedial groundwater objectives for the contaminants of concern at the Site.

Table 5-2: Remedial Objectives for Groundwater

Parameter	Groundwater Quality Guidelines [a]
Groundwater Nutrients	
Chloride	2,300 [b]
Sodium	2,300 [b]
Uranium	0.42 [b]
Groundwater PHC	
PHC F2 (>C10-C16)	3.1
PHC F3 (>C16-C34 range)	0.500 [b]
Groundwater PAH	
Benzo(g,h,i)perylene	0.0002 [b]
Benzo(k)fluoranthene	0.0004 [b]
Chrysene	0.001 [b]
Indeno(1,2,3-cd)pyrene	0.0002 [b]

[a] Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.

[b] Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)

The remedial objectives for PHCs, PAHs, and nutrients in groundwater are summarized in **Tables 10** to **15**.

5.3 Landfill Acceptance Criteria

As described in the July 2023 MECC Guideline, *Criteria for Acceptance of Contaminated Soil at Waste Disposal Grounds*, the waste disposal ground soil acceptance criteria are based on the CCME EQGs and CWS for PHC in Soil (2008) for fine grained surface soil at industrial land use sites, the environmental health guidelines, and the soil contact pathway. Any soil found to contain concentrations of parameters exceeding these criteria is required to be disposed at a licenced facility that accepts contaminated soil. The Prairie Green Landfill has provided preliminary acceptance of the impacted and non impacted material from the Site based on review of the analytical results from the 2024 Supplemental Environmental Investigation (AECOM, 2024a). After additional site data is obtained from the pre-construction investigation, review of lab results and approval for disposal at the landfill will be required. Landfill acceptance criteria based on the MECC guidance is shown in **Tables 3** to **8**. If impacted material (i.e. above the remedial guidelines presented in **Section 5.1** is also above landfill acceptance criteria, the material is considered contaminated by the landfill and therefore, is treated differently (i.e. higher tipping fee) then if impacted material is below the landfill acceptance criteria. AECOM has reached out to Prairie Green Landfill for their clean and contaminated soil criteria, including dioxin and furans and at the time of this report, have not received a response. Soil management is further discussed below in **Section 6.2**.

As discussed further in **Section 6.2**, a sampling program to assess fill quality and determine disposal requirements, assess clay quality for use as the site-wide cap and delineate PHC impacts in AEC 3 will be conducted. Due to the size of the site, the density of grid sampling for soil classification, is not sufficient to confirm that all of the volume represented by a single lab sample from a 35 m x 35 m grid is not impacted. Therefore, to mitigate the risk of impacting a third-party property with potentially impacted soil, it is recommended that the soil from zones represented

by samples which do not show exceedances of guideline concentrations, and are not being used for the engineered clay cap, be retained by the City and hauled to a suitable site, such as Brady Landfill or commercial landfill for their use or to a City construction and demolition waste site for commercial/industrial use only.

6 Proposed Remedial Actions

6.1 Preliminary Health and Safety Planning

A Health and Safety Plan (HASP) will be completed to address safety, health and security considerations for the Site tasks required for remediation. Special care should be taken during construction and excavation to protect workers from inhalation of soil particles due to the presence of heavy metals and other contaminants of concern detected in the soil. Mitigation measures include keeping the dust down during excavation, not excavating during high winds or very dry conditions, using wetting agents, implementing segregation or work zones, workers wearing half mask respirators, as well as washing work clothes.

6.2 Soil Management

Due to the varying historical land uses at the Site, COCs vary among the AECs and therefore the remedial strategy is specific to each AEC and COC. The following strategy/actions were developed for soil remediation or onsite soil management (engineered containment) and the protection of human health and environment at the Site.

While the results of environmental site assessments at the site have identified that a portion of the soil samples analyzed are impacted above guidelines, it is not possible to delineate broad areas of impact versus non-impacted soils due to the random nature of material deposition over the years. It is proposed below that a pre-construction grid-based test-pit program be undertaken to aid in managing impacted soils.

The results of the grid pattern sampling and analysis will be used to identify zones of impacted soil, which will be disposed of off site at a licenced facility or will be capped on site. Areas for which a soil sample did not show exceedances cannot be assumed to be non-impacted given the random nature of the historical placement of the soil and are described as potentially impacted. It would be impractical, given the size of the site, to initiate a grid sampling program of sufficient density to reduce the risk of false negative results (i.e. falsely concluding a non-exceedance of guidelines) to acceptable levels. In other words, the proposed drilling pattern density of 35 m x 35 m within the building footprint and in other areas of the site to fill data gaps can be used to identify impacted soils as that is a conservative approach. However, that density is not sufficient to confirm that all of the volume represented by a single lab sample from a 35 m x 35 m area is not impacted and could not contaminate a third-party's property. Therefore, to mitigate the risk of impacting a third-party property with potentially impacted soil, it is recommended that the soil from zones represented by samples which do not show exceedances of guideline concentrations, and are not being used for the engineered clay cap, be retained by the City and hauled to a suitable site, such as Brady Landfill or commercial landfill for their use or to a City construction and demolition waste site for commercial/industrial use only.

AEC 1 (former Landfill), AEC 2 (former Speedway) and South Portion of AEC 4 (former Imperial Oil Fuel Outlet)

- Site Remediation Strategy: Excavation and Disposal at an Off-Site Facility Combined with Engineered Containment
  - Pre-construction drilling program to determine impacted and potentially-impacted areas and disposal destination.
  - All excavated soil from within the landfill boundary will be hauled offsite to a licenced landfill that accepts contaminated soil.
  - All landfill solid waste encountered during Site development will be excavated, segregated and disposed at an approved off-site landfill.
  - Surplus soil excavated during site development, aside from soil from the landfill, will be disposed of in accordance with the results of the pre-construction drilling program. Approximately 17,600 m^3 of excavated impacted soil will be placed in the onsite containment berm located on the southern portion of

the Site (see **Figure 2**). Remaining excavated impacted soil will be disposed of at a licenced landfill. Potentially impacted excavated soil will be disposed at a City of Winnipeg property.

  - The residual in-situ impacted soil remaining after required site excavations and removal of any potential landfill waste will be capped by either the constructed building concrete floor, asphalt or concrete pavements, or will be capped with an engineered clay cap of 0.3 m thickness in undeveloped areas of the site to remove the exposure risk.
  - A portion of the surplus excavated soil from AEC 2 would be placed as backfill in the PHC excavations in AEC 3 and AEC 4.

- Post-Remediation Activities:
  - Post-remediation groundwater monitoring and sampling.

AEC 3 (former Gas Station) and North Portion of AEC 4 (Former Imperial Oil Fuel Outlet)

- Site Remediation Strategy: Excavation and Disposal at an Off-Site Facility
  - Excavate identified impacted soil (PHC and PAH) from the affected areas.
  - Transport the impacted soil off-site for disposal at an approved disposal facility.
  - Backfill the excavated areas with impacted soil from AEC 1 or AEC 2, and cap with 0.3 m of clay if the area is not to be developed with the transit garage or pavement.
- Post-Remediation Activities:
  - Post-remediation groundwater monitoring and sampling.

6.2.1 Pre-Construction Drilling Program and Assessment of Program Results

Given the widespread and random distribution of impacts in the fill material at site, a pre-construction soil sampling program is proposed. The objective of the drilling program is to assess fill quality and determine disposal requirements, assess clay quality for use as the site-wide cap and delineate PHC impacts in AEC 3. The sample locations and depths would be completed in areas of the Site where there are soil quality gaps in areas where excavations will take place and are generally summarized below.

- All material excavated from within the landfill footprint will be disposed at a landfill that accepts impacted soil. Eleven boreholes will be completed along the northern portion of AEC 1 within the footprint of the parking lot and along the planned drainage ditch that will run along the western and southern property boundaries. Soil samples will be submitted for analysis of metals and one sample per borehole will be submitted for analysis of dioxin and furans.
- In the area of the proposed building footprint in AEC 2, sampling at excavation depths will be completed based on a grid spacing of approximately 35 m x 35 m between existing test locations.
- Approximately three sample locations are proposed to test the top 1.0 m of fill in the PHC excavation in AEC 3 to assess the suspected clean overburden and an additional five boreholes are proposed to aid in PHC delineation and assess disposal requirements.
- Approximately 15 sample locations, located approximately 10 m apart, are proposed to test the top 1.0 m of fill in the PHC excavation in the northern section of AEC 4 to assess the suspected clean overburden. This soil sampling is proposed to be completed instead of stockpile sampling of the potentially clean overburden during remediation of AEC 4.
- Four boreholes (1 in the pond) are proposed in the central portion of AEC 4 to assess clay quality.

Approximately 76 shallow boreholes will be completed at the Site. One to two composite samples created from several grab samples at 1 m or 0.5 m depth intervals, depending on the depth of the borehole, will be submitted for laboratory analysis of metals, PHCs or PAHs. In areas including the landfill where high lead concentrations (>1,000 mg/kg) were reported in previous site investigations and within the AEC 4 PHC remediations, samples will also be submitted for analysis for TCLP lead, VOCs and PAHs to assess the potential for encountering and allowing for disposal of hazardous waste and as a landfill acceptance requirement.

6.2.2 Soil Volume Estimate

Overall Site

The estimated volume of soil excavation required during site development is 150,000 m^3. Given the random distribution of contaminants in the fill material, an estimated 60% or 90,000 m^3 of impacted soil will require engineered containment or offsite disposal and the remaining 40% is estimated not to require engineered containment or disposal at a licenced facility. Approximately 30,000 m^3 of impacted soil will be placed in the onsite containment berm and approximately 5,350 m^3 will be used as backfill in the PHC remediations in AEC 3 and AEC 4. After completion of the pre-construction drilling program, a refined surplus fill impacted soil volume will be calculated.

AEC 1 (former Brooklands Landfill Footprint)

Proposed development within the landfill footprint includes the parking lot (shown on **Figure 5**) and a section of the site drainage ditch that will run along the west and south side of the Site. The estimated extent of the parking lot and ditch within the landfill footprint covers an approximate area of 5,500 m^2, with an estimated impacted soil volume of 13,750 m^3. Volume estimates are based on the following assumptions:

- All soil excavated from within the landfill footprint is impacted.
- Excavation depths average 2.5 m.
- No soil will be removed from beneath the containment berm that covers a portion of the landfill.

Entire Site Excluding the Brooklands Landfill Footprint and PHC Excavations

The volume of metals impacted soil at the Site is estimated to be the remainder of the 90,000 m^3 of impacted soils not sourced from the landfill itself (13,750 m^3) i.e. 76,250 m^3.

AEC 3 (Former Gas Station)

The estimated extent of the remediation excavation in AEC 3 is shown on **Figure 7** along with the historical and recent soil results exceeding EQGs. Based on historical and current soil results, soil impacts cover an area of 280 m^2, with an estimated volume of impacted soil at 700 m^3. However, clean extents have not been fully established in this area. Volume estimates are based on the following assumptions:

- The volume estimate assumes that impacts extend laterally approximately halfway to the nearest clean borehole (no previously reported impacts) or 5 m laterally from each of the impacted boreholes.
- Impacts extend from surface to 2.0 m across the northern plume and surface to 2.5 m bgs across the southern plume.

North Portion of AEC 4 (Former Imperial Oil Fuel Outlet)

The estimated extent of the remediation excavation in the northern portion of AEC 4 is shown on **Figure 8** along with the historical and recent soil results exceeding EQGs. Based on historical and current soil results, soil impacts cover an area of 2,750 m^2, the estimated volume of hydrocarbon impacted soil in the northern portion of AEC 4 is approximately 4,625 m^3. Volume estimates are based on the following assumptions:

- The volume estimate assumes that impacts extend laterally approximately halfway to the nearest clean borehole (no previously reported impacts) or 5 m laterally from each of the impacted boreholes.
- Impacts extend from 0.8 m bgs to 2.5 m bgs.
- Impacts extend north to the property boundary.

South PHC/PAH Impacted Portion of AEC 4 (Former Imperial Oil Fuel Outlet)

The estimated extent of the remediation excavation to remove the PHC and PAH impacts in the southern portion of AEC 4 is shown on **Figure 8** along with the historical and recent soil results exceeding EQGs. Based on historical soil results, soil hydrocarbon impacts cover three areas of 16 m^2 each and the combined estimated volume of hydrocarbon impacted soil in the southern portion of AEC 4 is 50 m^3 and is based on the following assumptions:

- The volume estimate assumes that impacts extend laterally approximately 4 m laterally from each of the impacted test pits.
- PHC impacts extend from 2.0 m bgs to 3.0 m bgs surrounding TP-47.
- PAH impacts extend from 1.4 m bgs to 2.4 m bgs surrounding TP-51 and TP-66.

These volumes do not include any contingency to account for locations where over-excavation may be required.

6.2.3 Excavation and Disposal of Soil

6.2.3.1 AEC 1 (former Landfill), AEC 2 (former Speedway) and South Metals Impacted Portion of AEC 4 (former Imperial Oil Fuel Outlet)

Soil will likely be excavated using a track-mounted excavator. AECOM personnel will directly supervise all stages of site grading and excavation. Excavated soils will be visually screened for landfill debris and soil impacts. All soil originating from within the landfill footprint will be treated as impacted soil and will be transported off-site for disposal at an approved licensed landfill or treatment facility that accepts contaminated soil. The Prairie Green Landfill in the Rural Municipality of Rosser is located approximately 11 km north of the Site. The selected disposal location must be approved by the City and is expected to have sufficient capacity to dispose the volume of contaminated soil at the Site. Based on the results of the pre-construction drilling program, soil will be assessed against the applicable guidelines presented in **Section 5.1** and designated as impacted or not impacted for disposal or reuse consideration.

Temporary stockpiles of excavated soil may be required to facilitate additional soil characterization prior to transport off-site. Stockpiling of potentially impacted soil will be minimized to curtail off-site transfer of contaminants via erosion and to minimize logistical disruptions during construction. Where stockpile sampling is required, one composite sample for each 50 m^3 of soil will be submitted to the laboratory analysis of metals and dioxin and furans. Each composite sample will be made up of five discrete samples. The maximum stockpile volume will be 250 m^3.

6.2.3.2 AEC 3 (former Gas Station) and PHC/PAH Impacts in AEC 4 (former Imperial Oil Fuel Outlet)

Considering utility corridors for land drainage and wastewater utilities are proposed in the area of the hydrocarbon impacts and to mitigate potential contaminant migration, removal of the PHC impacted soil is the preferred method of remediation. Soil will likely be excavated using a track-mounted excavator. AECOM personnel will directly supervise all stages of soil excavation. Excavated soils will be visually screened for impacts and representative grab samples collected at 1 m depth intervals, or at obvious stratigraphic boundaries along the face of the excavation. Combustible headspace readings (CHR) will be used as a preliminary screening tool during the excavation activities and selection of soil samples for analysis.

The primary limits of the remediation will be based on the boundaries outlined on **Figures 7** and **8**, in addition to CHRs of soil samples obtained at the time of excavation, as well as any visual indicators of PHC impacts (i.e., staining). Confirmatory samples will be collected once the primary margins of the excavation have been reached in a given section of the excavation. Discrete samples will be collected at 1 m depth intervals on excavation walls, spaced 5 m laterally and at the base of the excavation in a minimum 3 m x 3 m grid. The CHRs will be recorded for each sample collected.

Select soil samples from the excavation extents will be determined by AECOM to confirm that residual soils meet the remedial objectives. Soil samples will be submitted for laboratory analysis of PHCs, PAHs and metals from AEC 3 and the southern pockets in AEC 4 and only PHCs will be submitted for analysis from the northern portion of AEC 4. Samples selected for laboratory analysis will represent worst case potential impacts from the sampled area, based on CHRs and field observations. Samples from the excavation base will be collected and submitted for laboratory analysis for approximately every 100 m^2 in area, and one sample from every wall profile (i.e. minimum every 5 m laterally along the excavation walls) will be submitted for laboratory analysis. If PHC or PAH analytical results exceed the established remedial objectives, additional soil will be excavated, and representative samples collected from the new limits of the excavation. Metal impacted soil will remain in-situ for eventual concrete, asphalt or clay capping.

Temporary stockpiles of excavated soil may be required to facilitate additional soil characterization prior to transport off-site. Stockpiling of potentially impacted soil will be minimized to curtail off-site transfer of contaminants via erosion.

If stockpiling is required, soil will be stockpiled within the excavation following collection of confirmatory samples or placed on tarps outside of the excavation areas.

It is proposed that the suspected non-impacted soil (0 to 0.8 m bgs) from the northern portion of AEC 4, 0 – 1.0 m in AEC 3 and 0 - 1.5 m from the southern portion of AEC 4 be sampled during the pre-construction drilling program to determine disposal / re-use requirements. For other suspected non-impacted soil resulting from excavation side sloping or overburden, the soil will be placed in 50 m^3 stockpiles. One soil sample for each 10 m^3 of soil will be collected for observation and CHR analysis. Based on field results, one discrete soil sample for each 50 m^3 of soil will be submitted to the laboratory for COCs for that AEC – one or all of BTEX, PHC fractions F1 to F4, PAH and metals analysis (i.e. sample with the highest CHR of the five collected per 50 m^3 will be submitted for laboratory analysis). Should any analytical PHC or PAH result exceed the established remedial criteria, the impacted soil stockpile will be combined with other impacted soils for offsite disposal, as appropriate, based on the analytical results. If only metal results exceed remedial criteria, the soil may be used as backfill below a 0.3 m clay cap.

The estimated maximum and minimum extent of PHC and PAH impacted soil is shown on **Figures 7** and **8**.

Excavated PHC/PAH impacted soil will be removed and transported off-site for disposal at an approved licensed landfill or treatment facility that accepts contaminated soil such as the Prairie Green Landfill. The selected disposal location is expected to have sufficient capacity to dispose the volume of contaminated soil at the Site. Stockpiling of potentially impacted soil will be minimized to limit off-site transfer of contaminants via erosion.

6.2.3.3 Supply of Backfill Material

Approximately 5,350 m^3 (in-situ volume) of fill material may be required to replace the PHC/PAH impacted soils that are to be excavated for offsite disposal from AEC 3 and AEC 4. AECOM proposes that the fill be obtained from the surplus fill from AEC 2 or the surplus fill originating from the metal impacted soil from the southern portion of AEC 4. The fill will be covered with an engineered clay cap or covered with the concrete building or paved surface.

6.2.3.4 Summary of Site Material Handling

The estimated volume of soil excavation required during site development is 150,000 m^3 for civil works, plus 5,350 m^3 for remediation in the vicinity of former fuel tanks in AECs 3 and 4. An estimated 60% of civil works excavation total or 90,000 m^3 is assumed to be impacted soil and will require engineered containment or offsite disposal. Approximately 30,000 m^3 of the impacted soil will be placed in the onsite containment berm and approximately 5,350 m^3 will be used as backfill in the PHC remediations in AECs 3 and 4. The remaining 40% of the excavated soil will be assumed to be potentially impacted and will be disposed of at a City facility for industrial/commercial use or a landfill for use.

The table below summarizes the volumes and proposed handling methods for both impacted and potentially impacted soils at the site.

Table 6-1: Soil Handling Methods for Impacted and Potentially Impacted Soil

Area	Material Type	Destination
AEC 1 – Within the footprint of the Former Brooklands Landfill	Fill and Solid Waste – treated as impacted (13,750 m^3)	• Offsite disposal at approved landfills that accept impacted soil and/or solid waste
AEC 1 – Outside of the footprint of the Former Brooklands Landfill AEC 2 – Former Brooklands Speedway	Impacted Soil (76,250 m^3)	• Onsite containment berm/capped onsite (30,000 m^3) • Backfill for PHC/PAH remedial excavations in AECs 3 and 4 (5,350 m^3) • Offsite disposal at an approved landfill that accepts impacted soil (60,000 m^3 backfill volume)

Area	Material Type	Destination
	Potentially Impacted Soil (60,000 m^3)	• City owned property for commercial / industrial use only such as the Brady Landfill, a City construction and demolition waste site or for use at a commercial landfill, or the engineered clay cap.
AEC 3 – Former Gas Station AEC 4 – Former Imperial Oil Fuel Outlet	PHC/PAH Impacted Soil (5,350 m^3)	• Offsite disposal at an approved landfill that accepts impacted soil
	Impacted Soil (2,500 m^3)	• Onsite containment berm/capped onsite • Backfill for PHC/PAH remedial excavations in AECs 3 and 4 • Offsite disposal at an approved landfill that accepts soil above the remediation guidelines (Section 5.1).
	Potentially Impacted Soil (2,000 m^3)	• City owned property for commercial / industrial use such as Brady Landfill, to a City construction and demolition waste site or to a commercial landfill for use.

6.2.4 Waste Management

Any waste (manmade, non-soil, non-inert material, household garbage and organic waste) encountered during excavations of the onsite landfill will be hauled offsite to an approved landfill. Based on the footprint of the parking lot, it is expected approximately 5,000 m^3 of waste from within the landfill will require offsite disposal. It is assumed that soil and waste from within the landfill boundary is impacted. Debris (inert materials such as concrete, steel, or rubble) will be placed in temporary storage on Site for segregation as required by the receiving landfill. Waste will be secured and stored separately from the impacted soil before off-site disposal and impacted soil must be removed as required prior to offsite disposal.

The Prairie Green Landfill has provided preliminary acceptance of the impacted and non impacted soil from the Site based on review of the analytical results (including metals, PAHs, PHCs and dioxin/furan) from the 2024 Supplemental Environmental Investigation (AECOM, 2024a). After additional Site data is obtained from the pre-construction investigation, review of lab results and approval for disposal at the landfill will be required prior to acceptance of soil disposal.

6.2.5 Excavation Liner

The excavation in AEC 4 at the former Imperial Oil property is expected to abut the north property boundary. Since the northern extent of impacts in AEC 3 is unknown, there is potential the excavation may also extend to the north boundary. The use of PHC-resistant liners will be considered based on observed Site conditions at the property boundary following excavation. If PHC concentrations in soil remain above remediation guidelines at the property boundary, a liner will be installed along the completed excavation face prior to backfilling.

6.2.6 Containment Berm and Site Wide Cap

To eliminate human and ecological exposure risk, any residual impacted soil at the site will be capped. An approximate 325 m long x 75 m wide containment berm is proposed to be constructed along the southern boundary of the Site (see **Figure 2**) and covering a portion of the landfill. The berm will store approximately 30,000 m^3 of impacted soil and will be encapsulated beneath 0.3 m of an engineered clay cap, which will be seeded and vegetated. All other remaining in-situ impacted soil will be capped by either the constructed building concrete floor,

asphalt or concrete pavements, or placed beneath a site wide engineered clay cap (0.3 m thick) in undeveloped areas of the site, thus eliminating the exposure risk.

6.2.7 Cut off Wall

As noted in the City Methane guideline, leachate from a landfill can generate odors and pose a health risk to site occupants. Accordingly, it will be necessary to control the flow of impacted groundwater from the landfill towards the development. At the present design stage this will be accomplished by capping landfill waste to prevent infiltration of precipitation and leachate generation. In addition, a clay cutoff wall will be placed between the landfill and the development to restrict migration of leachate towards the development. A clay cutoff is also planned for the perimeter of the building itself for geotechnical design reasons to control groundwater in the building foundation.

6.2.8 Monitoring Well Decommissioning

Any groundwater monitoring wells located within the excavation extents will be decommissioned prior to excavation and remedial activities by filling the well annulus with bentonite chips and hydrating with water. The metal road boxes, PVC well casing, and other monitoring well components will be removed during the excavation and disposed. Decommissioning of other wells located at the Site will be reviewed following completion of remedial activities.

Decommissioning of approximately 25 monitoring wells is expected to be required. Monitoring wells and vapour wells will be protected where possible for use during post-remediation monitoring.

6.2.9 Groundwater Management

During construction, excavation depths will reach a maximum of approximately 4 m bgs in select areas. Groundwater seepage is expected given historical groundwater levels at the Site have ranged from approximately 1 to 5 m bgs. PHC impacted groundwater is estimated to extend approximately 825 m^2 in AEC 3 and 555 m^2 in AEC 4 and it is expected the remedial excavation will reach depths of 2.5 m bgs. If required, any accumulated seepage water or precipitation affecting excavation activities or leachate from within the landfill will either be pumped to temporary storage tanks or a small, lined containment cell and water will be sampled and submitted for laboratory analysis as required. Based on the laboratory results, water will be disposed of by the contractor at an approved location. Mitigations to minimize surface water infiltration into the excavation includes perimeter berms or swales to direct clean surface water away from the excavation area.

6.2.10 Site Restoration

Following excavation and construction, undeveloped areas of the Site will be restored. Development will include construction of the North Transit Bus Garage Building, an asphalt parking lot, a transformer pad, paved sidewalks and driveways and a retention pond. All undeveloped areas including the onsite containment berm will be capped with 0.3 m of impermeable clay, topsoil and be seeded. The Site cap will eliminate potential exposure pathways such as dermal contact and soil ingestion. Placement of topsoil and seeding will encourage vegetative growth and prevent erosion which could damage the cap over time.

6.2.11 Post-Remediation Groundwater and Landfill Gas Monitoring Sampling

It is recommended that the groundwater monitoring wells and vapour probes that remain beyond the extent of the remediation and development areas be monitored and sampled to confirm groundwater quality following remediation and monitor groundwater quality and methane gas surrounding the landfill. Given the extensive earth works, installation of new groundwater monitoring wells and vapour probes may be necessary.

7 Summary

The Remedial Plan presented in this report describes the activities that are recommended to be undertaken by the City of Winnipeg to remediate and manage the environmental impacts at the North Transit Bus Garage redevelopment site. The key activities in the Remedial Plan include the following:

- Completion of a pre-construction test pit program to determine fill quality and disposal requirements.
- Excavate and manage approximately 150,000 m^3 of potentially impacted surplus fill, plus approximately 5,350 m^3 of petroleum impacted soil from AECs 3 and 4 on the east side of the site.
- Soil excavated from within the landfill footprint and soil from other areas of the site identified as being impacted by the pre-construction test pit program should be disposed of at a licenced facility.
- Excavated soil not identified as being impacted by the pre-construction drilling program should be transported to a landfill or City of Winnipeg facility or property to avoid potential future liability for commercial and industrial use only. Given the random nature of the historical material placement at the site, it may be very difficult to confirm that a particular volume of soil is not impacted. Placement of that material at a landfill or City of Winnipeg site will avoid the potential future liability of the City having to remediate a third-party property that received soil from the site.
- Disposal of any water accumulated in the excavations at an approved disposal location.
- Backfill the PHC/PAH excavations in AECs 3 and 4 with metal impacted soil from AEC 2 or the southern portion of AEC 4.
- Segregate and dispose of any landfill debris at an approved landfill.
- Construction of an approximately 325 m long x 75 m wide containment berm along the southern boundary of the Site and covering a portion of the landfill. The berm will store approximately 30,000 m^3 of impacted soil and will be encapsulated beneath 0.3 m of an engineered clay cap, which will be seeded and vegetated.
- To eliminate human and ecological exposure risk through dermal contact and soil ingestion, any residual impacted soil at the site will be capped. All remaining in-situ impacted soil will be capped by either the constructed building concrete floor, asphalt or concrete pavements, or placed beneath a site wide engineered clay cap (0.3 m thick) in undeveloped areas of the site to eliminate the exposure risk.
- Special care should be taken during construction and excavation to protect workers from inhalation of soil particles. Mitigation measures include keeping the dust down during excavation, not excavating during high winds or very dry conditions, using wetting agents, implementing segregation or work zones, workers wearing half mask respirators or dust masks, as well as washing work clothes.

8 References

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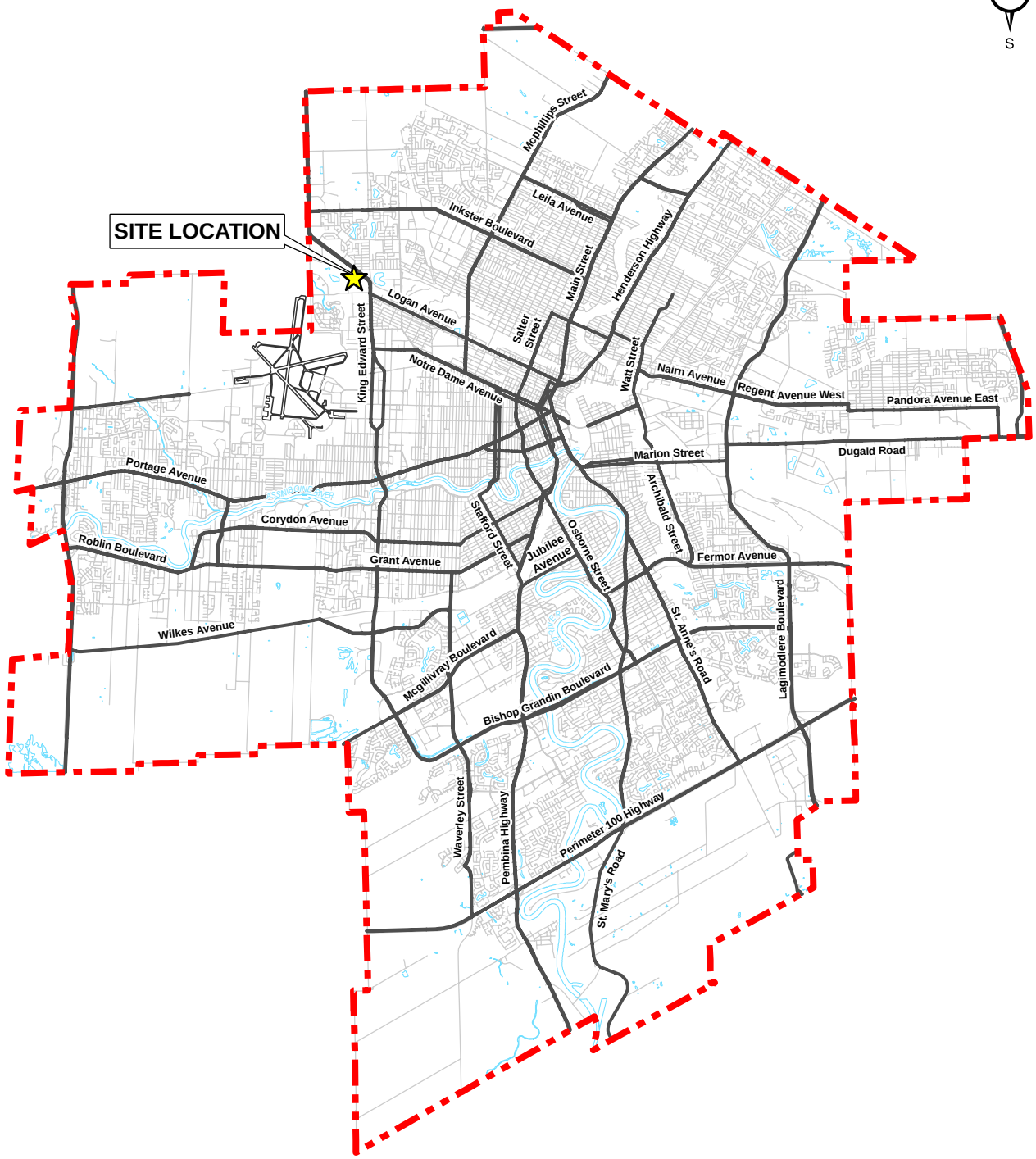
WSP, 2023b. Phase II Environmental Site Assessment - 100 Oak Point Highway, Winnipeg, Manitoba.

Figures



CITY OF WINNIPEG

0 2,500 5,000 m

1:170,000

Source: Geogratis - Geospatial Data Extraction, Canvec, Geobase - Government of Canada

WINNIPEG NORTH TRANSIT GARAGE REMEDIAL PLAN

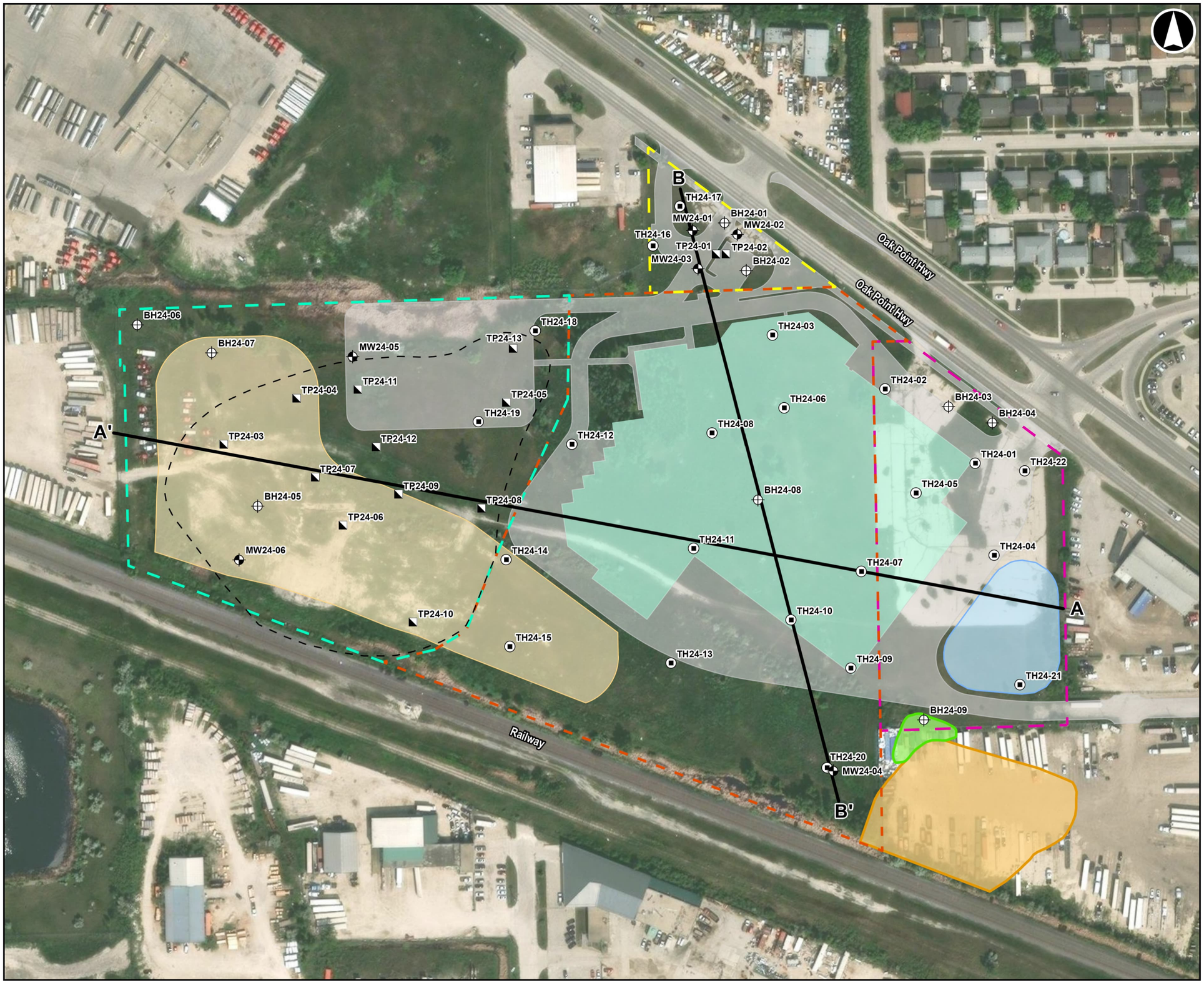
CITY OF WINNIPEG

Project No.: 60721079 Date: 2024-12-05

SITE LOCATION

AECOM

Figure: 1



Legend

- Borehole Location
- Monitoring Well Location
- Test Pit Location
- Testhole Location (Geotech)
- Pavement and Building Design
- Cross Section Lines
- Refuse (The City of Winnipeg (Brooklands Landfill Site Detail)
- Cinders and Ash (The City of Winnipeg (Brooklands Landfill Site Detail)
- Boundary of Former Brooklands Landfill Site

Site Development

- Berm – Impacted Soil Containment
- Building
- Paved / Asphalt Area
- Pond

Site Areas of Environmental Concern (AEC)

- AEC 1 - Former Brooklands Landfill
- AEC 2 - Former Brooklands Speedway
- AEC 3 - Former Gas Station
- AEC 4 - Former Imperial Oil Retail Fuel Outlet

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

SITE PLAN

0 20 40 60 80 100
Metres

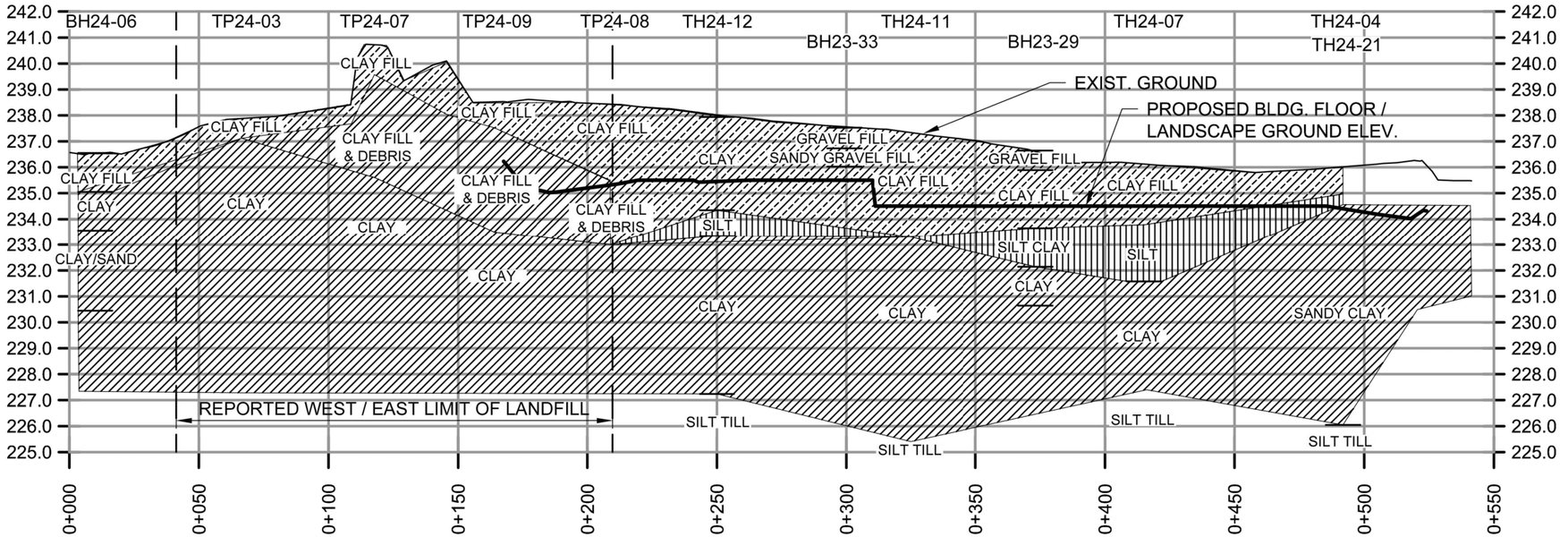
Datum: NAD 1983 UTM Zone 14N

Jan, 2025	PN#: 60721079	1:2,000 * when printed 11"x17"

Figure 2

AECOM

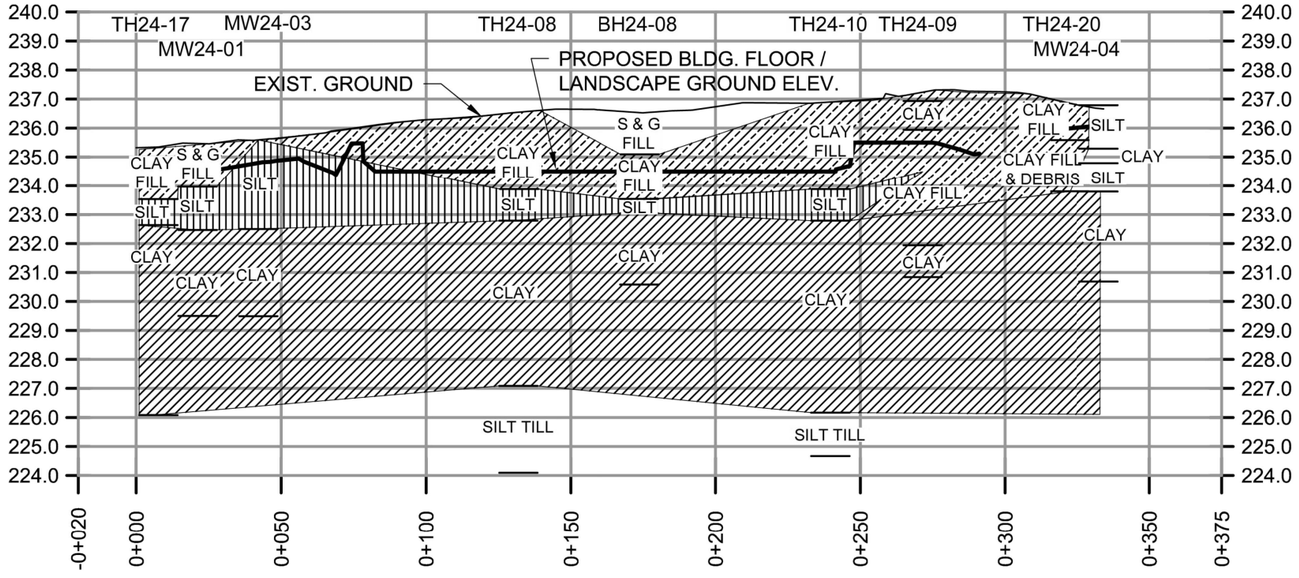
Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Maxar



A PROFILE

FIGURE 1

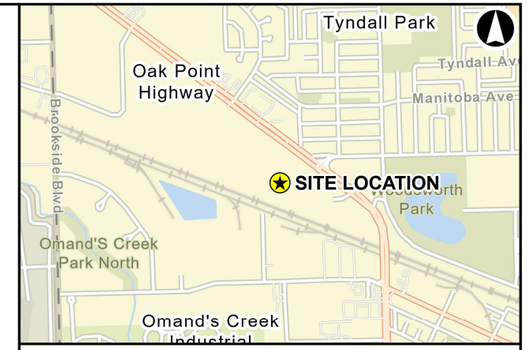
Scale Horz. 1:2000
Vert. 1:200



B PROFILE

FIGURE 1

Scale Horz. 1:2000
Vert. 1:200



WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

PROFILE VIEW OF CROSS SECTION OF THE SITE (A AND B)

0 20 40 60 80 100
Metres

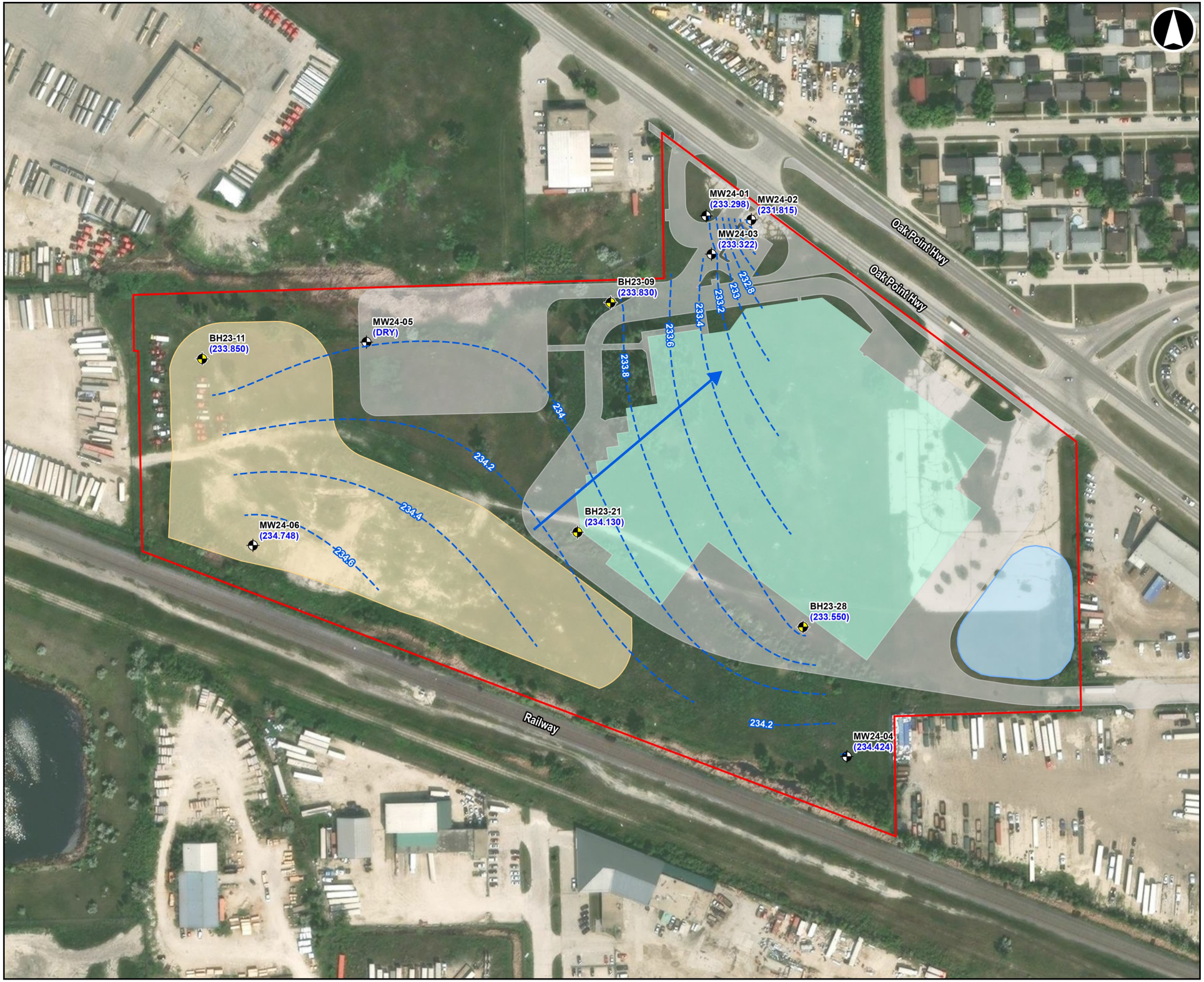
Datum: NAD 1983 UTM Zone 14N

Jan, 2025	PN#: 60721079	1:2,000 * when printed 11"x17"

Figure 3

AECOM

MAP LOCATION: C:\DOCS\60721079\DESIGN\01_REPORTS\REMEDIAL PLAN\60721079_WINNIPEGTRANSITGARAGE_RPARX FIGURE H03 60721079_WINNIPEGTRANSITGARAGE_PROFILE
DATE SAVED: 2025-01-14 USER NAME: PAGE.CROSSMAN



Legend

- Monitoring Well Location (by others)
- Monitoring Well Location
- Approximate Site Boundary
- Groundwater Contour (2m Interval)
- Inferred Groundwater Flow Direction
- (233.55) Groundwater Elevations (m asl)

Site Development

- Berm – Impacted Soil Containment
- Building
- Paved / Asphalt Area
- Pond

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

SHALLOW GROUNDWATER CONTOURS (MARCH 2024)

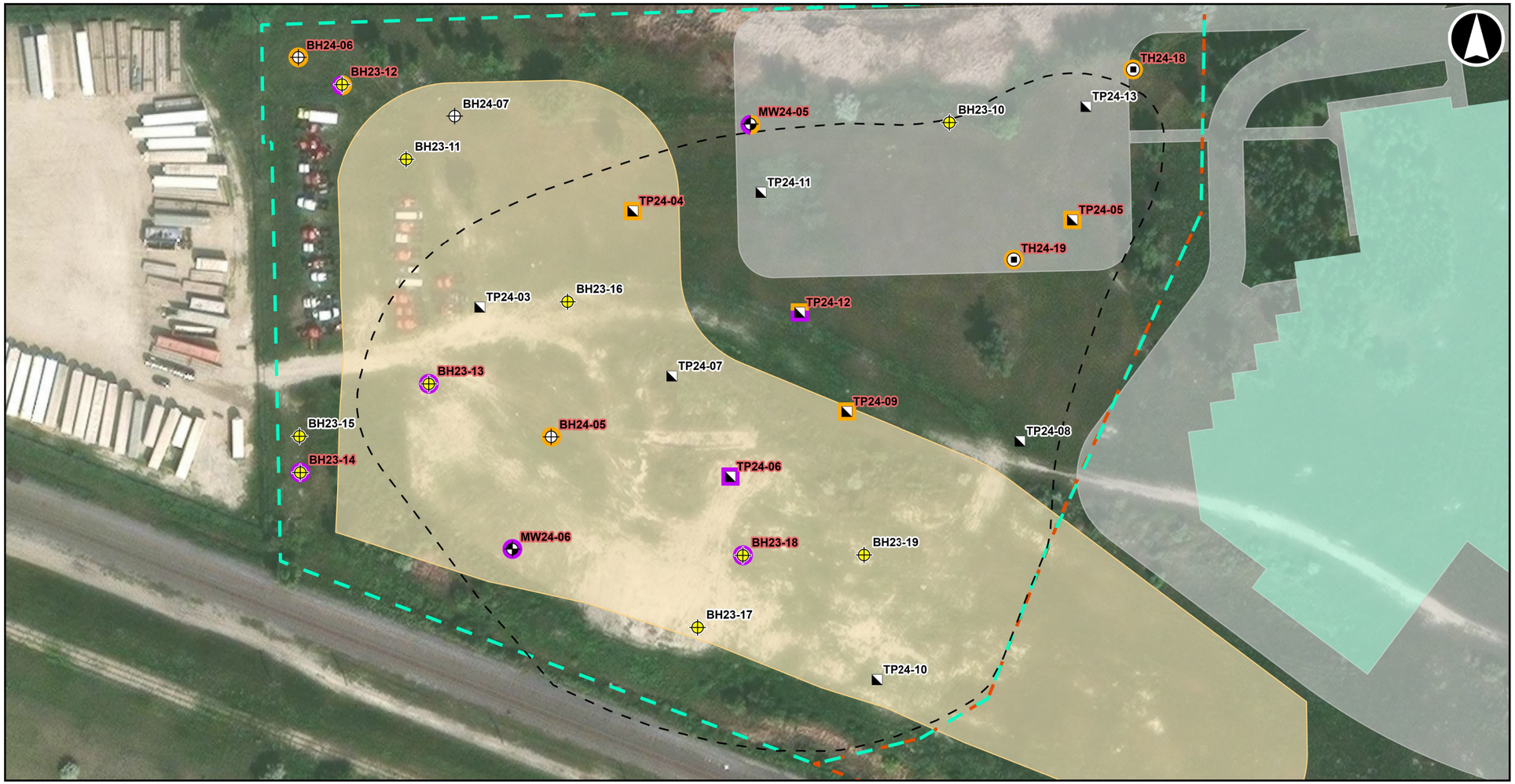
0 20 40 60 80 100
Metres

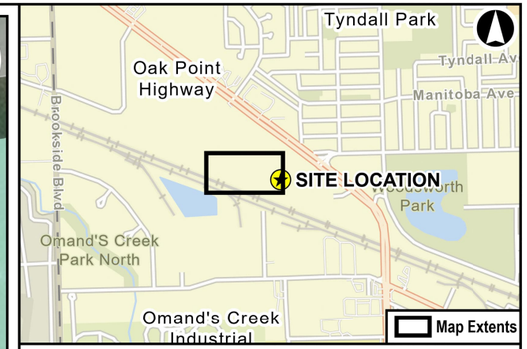
Datum: NAD 1983 UTM Zone 14N

Jan, 2025	PN#: 60721079	1:2,000 * when printed 11"x17"	AECOM

Figure 4

Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Maxar





Legend

- Borehole Location
- Monitoring Well Location
- Test Pit Location
- Testhole Location (Geotech)
- Borehole Location (by others)
- Soil Sample Above Metals Guideline
- Soil Sample Above Routine Guideline
- Proposed Design
- Boundary of Former Brooklands Landfill Site

ProjectLayout_20250127

Site Development

- Berm – Impacted Soil Containment
- Building
- Paved / Asphalt Area
- Pond

Site Areas of Environmental Concern (AEC)

- AEC 1 - Former Brooklands Landfill
- AEC 2 - Former Brooklands Speedway
- AEC 3 - Former Gas Station
- AEC 4 - Former Imperial Oil Retail Fuel Outlet

Sample ID	TP24-04		
Parameter	Date	Depth (m)	As
Results	30-Jan-2024	2.0-3.0	12.7
		5.0-6.0	9.48

Sample ID	TP24-05				
Parameter	Date	Depth (m)	Cu	Ni	Zn
Results	31-Jan-2024	3.3 - 3.4	197	104	640

Sample ID	TP24-06		
Parameter	Date	Depth (m)	pH
Results	30-Jan-2024	4.0 - 5.0	8.56

Sample ID	TP24-09		
Parameter	Date	Depth (m)	Zn
Results	31-Jan-2024	5.0 - 6.0	694

Sample ID	TP24-12								
Parameter	Date	Depth (m)	As	Cu	Pb	Ni	Sn	Zn	pH
Results	31-Jan-2024	2.0 - 3.0	30.1	146	940	96.7	1170	3010	-
		5.0 - 6.0	9.81	35.5	36.6	44.4	5.2	106	8.23
		(DUP-01) 5.0 - 6.0	10.4	104	3120	49.0	4.6	328	-

Sample ID	BH24-05		
Parameter	Date	Depth (m)	Zn
Results	12-Feb-2024	0.5-1.0	72.7
		2.0-3.0	510
		4.0-5.0	68.4

Sample ID	BH24-06						
Parameter	Date	Depth (m)	As	Cu	Pb	Zn	pH
Results	31-Jan-2024	1.0-1.5	12.0	97.8	368	1560	8.21
		(DUP-09) 1.0-1.5	18.2	250	719	3100	-
		2.0-3.0	10.7	51.2	40.3	126	-
		3.0-4.0	1.93	7.30	4.71	19.0	-

Sample ID	MW24-05										
Parameter	Date	Depth (m)	As	Ba	Cr	Cu	Pb	Ni	Sn	Zn	pH
Results	12-Feb-2024	1.0-1.5	4.90	175	33.7	23.3	27.6	25.8	<2.0	66.0	-
		2.0-3.0	49.9	1920	95.1	4700	6020	172	967	7340	-
		(DUP-10) 2.0-3.0	64.7	2260	107	1360	4530	154	1570	6960	-
		4.0-5.0	9.52	257	43.3	35.4	14.6	41.2	<2.0	88.6	8.1

Sample ID	MW24-06		
Parameter	Date	Depth (m)	pH
Results	30-Jan-2024	0.8	8.09

Sample ID	TH24-18		
Parameter	Date	Depth (m)	Cu
Results	29-Jan-2024	1.8	263

Sample ID	TH24-19		
Parameter	Date	Depth (m)	Pb
Results	29-Jan-2024	1.6	21.1
		4.2	1280

Sample ID	BH23-12					
Parameter	Date	Depth (m)	Cu	Zn	EC (ds/m)	pH
Results	12-Sept-2023	1.5	370	620	5.1	8.06

Sample ID	BH23-13		
Parameter	Date	Depth (m)	pH
Results	13-Sept-2023	0.75	8.18

Sample ID	BH23-14		
Parameter	Date	Depth (m)	EC
Results	12-Sept-2023	1.5	6.8

Sample ID	BH23-18		
Parameter	Date	Depth (m)	EC
Results	12-Sept-2023	0.8	6.1

Parameter	As	Ba	Cr	Cu	Pb	Ni	Sn	Zn	pH	EC (mS/cm)
Soil Quality Guideline[a, b]	12	2000	87	91	600	89	300	410	6-8	4

Notes:

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Accessed December 2024) - Industrial Land Use, Human Health Guidelines

[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).

Abbreviations: As - Arsenic; Ba - Barium; Cr - Chromium; Cu - Copper; Pb - Lead; Ni - Nickel; Sn - Tin; Zn - Zinc; EC - Conductivity

mg/kg: Unit for all soil quality guideline criteria and analytical results is milligrams per kilogram, unless otherwise noted.

XX: Red analytical results exceeded applied standards

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

AEC 1 - FORMER BROOKLANDS LANDFILL – SAMPLE LOCATIONS EXCEEDING SOIL QUALITY GUIDELINES

0 10 20 30 40 50
Metres

Datum: NAD 1983 UTM Zone 14N

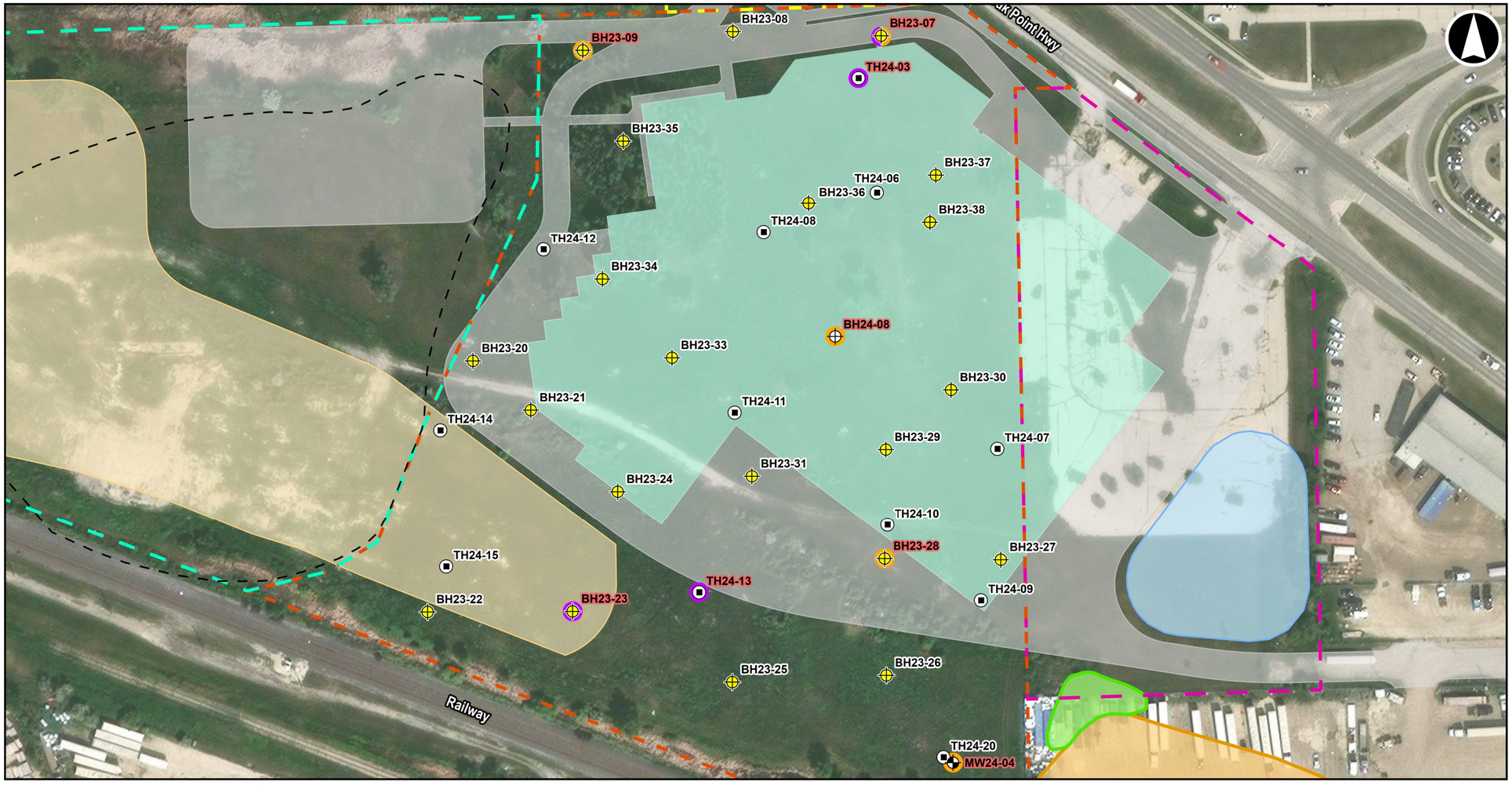
Jan, 2025	PN#: 60721079	1:1,200 * when printed 11"x17"

Figure 5

AECOM

Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Maxar

MAP LOCATION: C:\USERS\RONG.HE\ONEDRIVE - AECOM\DOCUMENTS\AECOM CIS PROJECTS\60721079 WINNIPEG NORTH GARAGE REPLACEMENT\DESIGN\01 REPORT\REMEDIAL PLAN\60721079_WINNIPEGTRANSITGARAGE_RP.APRX - FIGURE: H005_60721079_WINNIPEGTRANSITGARAGE_APEC1
DATE SAVED: 2025-07-28 USER NAME: RHONG.HE



Legend

- Borehole Location
- Monitoring Well Location
- Testhole Location (Geotech)
- Borehole Location (by others)
- Soil Sample Above Metals Guideline
- Soil Sample Above Routine Guideline
- Refuse (The City of Winnipeg (Brooklands Landfill Site Detail)
- Cinders and Ash (The City of Winnipeg (Brooklands Landfill Site Detail)
- Boundary of Former Brooklands Landfill Site

Site Development

- Berm – Impacted Soil Containment
- Building
- Paved / Asphalt Area
- Pond

Site Areas of Environmental Concern (AEC)

- AEC 1 - Former Brooklands Landfill
- AEC 2 - Former Brooklands Speedway
- AEC 3 - Former Gas Station
- AEC 4 - Former Imperial Oil Retail Fuel Outlet

Sample ID	BH24-08					
Parameter	Date	Depth (m)	Cu	Pb	Sn	Zn
Results	12-Feb-2024	1.0-1.5	5050	2610	367	2690
		2.0-3.0	33.5	22.5	<2.0	64.3
		3.0-3.4	17.2	12.1	<2.0	30.6

Sample ID	MW24-04			
Parameter	Date	Depth (m)	Cu	Pb
Results	12-Feb-2024	0.5-1.0	35.6	105
		2.0-3.0	997	1480
		3.0-4.0	81.8	70.4

Sample ID	TH24-03		
Parameter	Date	Depth (m)	pH
Results	30-Jan-2024	1.1	8.24

Sample ID	TH24-13			
Parameter	Date	Depth (m)	EC	SAR
Results	30-Jan-2024	0.8	4.99	17.3

Sample ID	BH23-23				
Parameter	Date	Depth (m)	EC (ds/m)	SAR	pH
Results	13-Sept-2023	0.8	14	43	8.13

Sample ID	BH23-28		
Parameter	Date	Depth (m)	Cu
Results	13-Sept-2023	2.3	110

Sample ID	BH23-07			
Parameter	Date	Depth (m)	Cu	EC
Results	12-Sept-2023	0.8	130	5.3

Sample ID	BH23-09			
Parameter	Date	Depth (m)	Cu	Zn
Results	12-Sept-2023	2.3	530	510

Parameter	Cu	Pb	Sn	Zn	pH	EC (mS/cm)	SAR
Soil Quality Guideline[a, b]	91	600	300	410	6-8	4	12

Notes:

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Accessed December 2024) - Industrial Land Use, Human Health Guidelines

[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).

Abbreviatio Cu - Copper; Pb - Lead; Sn - Tin; Zn - Zinc; EC - Conductivity; SAR - Sodium Adsorption Ratio

mg/kg Unit for all soil quality guideline criteria and analytical results is milligrams per kilogram, unless otherwise noted.

XX Red analytical results exceeded applied standards

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

AEC 2 - FORMER BROOKLANDS SPEEDWAY - SAMPLE LOCATIONS EXCEEDING SOIL QUALITY GUIDELINES

0 20 40 60 80 100

Metres

Datum: NAD 1983 UTM Zone 14N

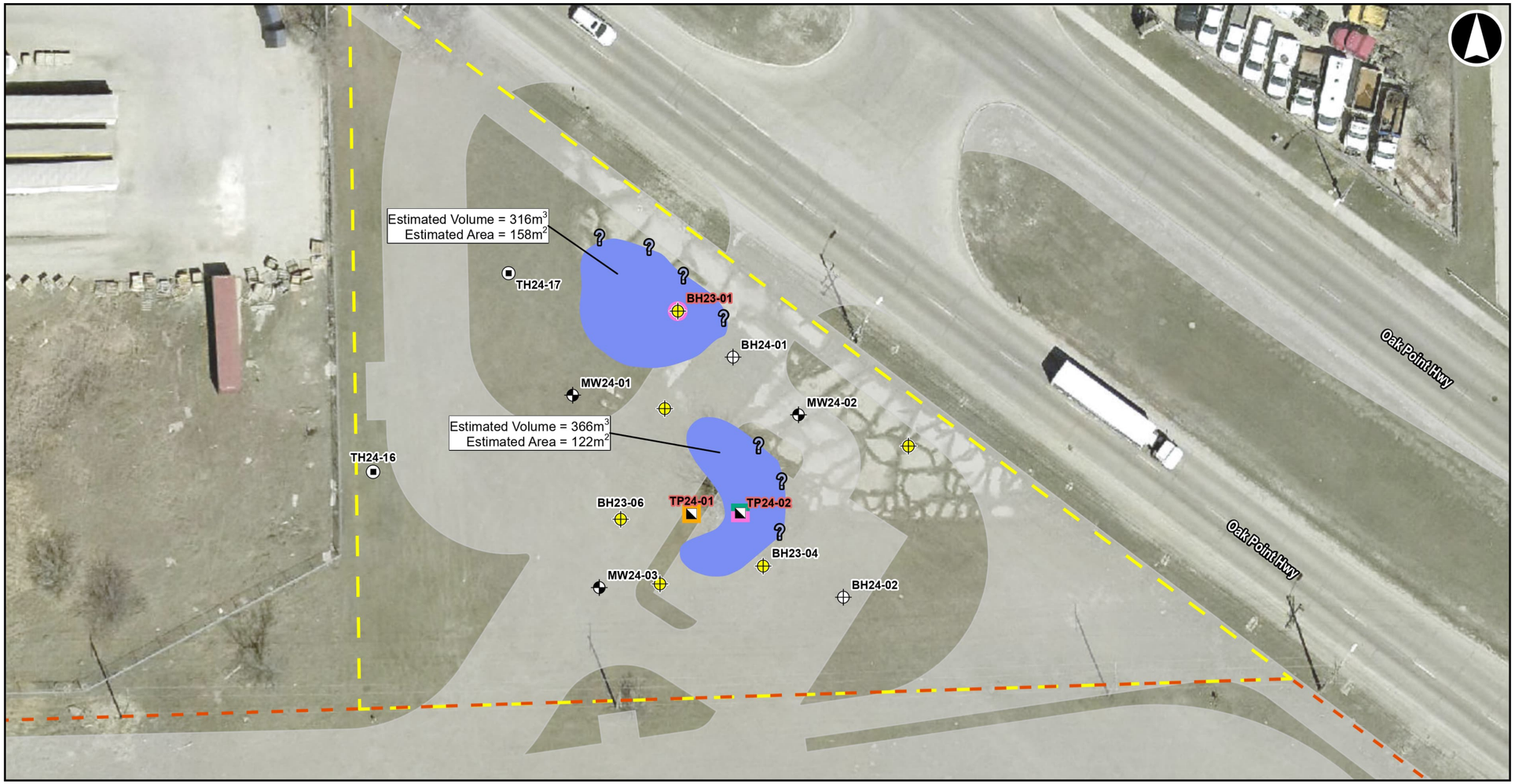
Jan, 2025 | PN#: 60721079 | 1:1,600 * when printed 11"x17"

Figure 6

AECOM

Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Maxar

MAP LOCATION: C:\USERS\WONG1\ONEDRIVE - AECOM\DOCUMENTS\AECOM GIS PROJECTS\GIS\2179\3 WINNIPEG NORTH GARAGE REPLACEMENT DESIGN\01_REPORTS\REMEDIAL PLAN\60721079_WINNIPEGTRANSITGARAGE_RPAPRX - FIGURE 6\006_60721079_WINNIPEGTRANSITGARAGE_AEC2
DATE SAVED: 2025-01-28 USER NAME: WONG1H



Legend

- Borehole Location
- Monitoring Well Location
- Test Pit Location
- Testhole Location (Geotech)
- Borehole Location (by others)
- Soil Sample Above Metals Guideline
- Soil Sample Above Petroleum Hydrocarbons Guideline
- Soil Sample Above Polycyclic Aromatic Hydrocarbons Guideline
- Estimated Extent of Impacted Soil

Site Development

- Building
- Paved / Asphalt Area
- Berm – Impacted Soil Containment

Site Areas of Environmental Concern (AEC)

- AEC 1 - Former Brooklands Landfill
- AEC 2 - Former Brooklands Speedway
- AEC 3 - Former Gas Station
- AEC 4 - Former Imperial Oil Retail Fuel Outlet

Sample ID	TP24-01		
Parameter	Date	Depth (m)	As
Results	1-Feb-2024	1.0-2.0	3.76
		2.0-3.0	9.19
		(DUP-02)2.0-3.0	9.05
		4.0 - 5.0	13.6

Sample ID	TP24-02			
Parameter	Date	Depth (m)	PHC F2	Acenaphthylene
Results	1-Feb-2024	0.0 - 1.0	4,920	0.417
		1.0 - 2.0	3,710	0.378
		3.0 - 4.0	<25	<0.0050

Sample ID	BH23-01				
Parameter	Date	Depth (m)	Benzene	PHC F1	PHC F2
Results	11-Sept-2023	1.5	3.1	1,700	510
		4.5	0.6	<10	<10

Parameter	Benzene	PHC F1	PHC F2	Acenaphthylene	As
Soil Quality Guideline[a, b]	2.8	320	260	0.17	12

Notes:

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Accessed December 2024) - Industrial Land Use, Human Health Guidelines

[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).

Abbreviations: As - Arsenic; PHC - Petroleum Hydrocarbon

mg/kg: Unit for all soil quality guideline criteria and analytical results is milligrams per kilogram, unless otherwise noted.

XX: Red analytical results exceeded applied standards

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

AEC 3 - FORMER GAS STATION - SAMPLE LOCATIONS EXCEEDING SOIL QUALITY GUIDELINES

0 5 10 15 20 25
Metres

Datum: NAD 1983 UTM Zone 14N

Jan, 2025 | PN#: 60721079 | 1:500 * when printed 11"x17"

Figure 7

AECOM

Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Pictometry International, Maxar

Sample ID	BH24-04		
Parameter	Date	Depth (m)	PHC F2
Results	12-Feb-2024	0.0 - 0.6	<25
		1.0 - 1.5	711
		2.0 - 3.0	<25

Sample ID	BH24-09			
Parameter	Date	Depth (m)	Cu	Zn
Results	12-Feb-2024	0.5-1.0	21.1	56.8
		1.5-2.0	31.1	52.7
		(DUP-04) 1.5-2.0	140	1140
		3.0-4.0	80.7	121

Sample ID	TP-5		
Parameter	Date	Depth (m)	PHC F2
Results	04-Nov-13	2.4	190
		3.7	370
		4.9	72

Sample ID	TP-6		
Parameter	Date	Depth (m)	PHC F2
Results	04-Nov-13	1.2	580
		(DUP) 1.2	340
		2.4	11

Sample ID	TP-7			
Parameter	Date	Depth (m)	PHC F2	PHC F3
Results	04-Nov-13	1.2	5400	3500
		(DUP) 1.2	5400	3500
		2.4	<10	<50
		3.7	29	78

Sample ID	TP-8		
Parameter	Date	Depth (m)	PHC F2
Results	08-Nov-13	1.8	3000
		(DUP) 1.8	3800
		3	53

Sample ID	TP-15		
Parameter	Date	Depth (m)	PHC F2
Results	12-Nov-13	0.6	1300
		(DUP) 0.6	2000
		1.8	<10
		2.4	<10

Sample ID	TP-19		
Parameter	Date	Depth (m)	PHC F2
Results	13-Nov-13	1.2	680
		2.4	<10

Sample ID	TP-21		
Parameter	Date	Depth (m)	PHC F2
Results	29-July-14	0.6	690
		1.2	<10

Sample ID	TP-22			
Parameter	Date	Depth (m)	PHC F2	PHC F3
Results	29-July-14	0.6	3800	2700
		(DUP) 0.6	3600	2500
		1.2	30	55
		1.8	<10	<50

Sample ID	TP-25			
Parameter	Date	Depth (m)	PHC F2	PHC F3
Results	29-July-14	0.6	<10	<50
		1.2	2000	1600
		(DUP) 1.2	3500	2800
		1.8	<10	<50

Sample ID	TP-27			
Parameter	Date	Depth (m)	Cu	Pb
Results	29-July-14	1.8	210	700
		(DUP) 1.8	240	1200
		2.4	28	44
		3.1	17	8.5

Sample ID	TP-36			
Parameter	Date	Depth (m)	PHC F2	PHC F3
Results	13-Aug-14	0.6	10	<50
		1.2	3600	2400
		(DUP) 1.2	4600	3200
		1.8	<10	<50

Sample ID	TP-44					
Parameter	Date	Depth (m)	As	Cu	Pb	Zn
Results	16-Oct-14	1.2	40	31	27	51
		1.8	2.9	13	5.7	30
		2.4	23	110	1100	760
		3.0	8.4	25	21	66

Sample ID	TP-30				
Parameter	Date	Depth (m)	As	Pb	Zn
Results	12-Aug-14	1.2	6.0	35	69
		(DUP) 1.2	7.0	38	78
		1.8	15	700	600
		2.4	3.8	5.8	31

Sample ID	TP-32		
Parameter	Date	Depth (m)	Cu
Results	12-Aug-13	1.2	94
		1.8	31
		2.4	19

Sample ID	TP-33		
Parameter	Date	Depth (m)	Cu
Results	12-Nov-13	1.2	190
		1.8	30
		(DUP) 1.8	29
		2.4	65

Sample ID	TP-47					
Parameter	Date	Depth (m)	PHC F3	As	Cu	Zn
Results	15-Nov-14	1.2	-	3.6	44	51
		1.8	200	6.3	210	620
		2.4	520	20	61	190
		(DUP) 2.4	9000	20	130	200
		3.0	-	2.9	9.9	21

Sample ID	TP-51				
Parameter	Date	Depth (m)	As	Cu	B(a)P TPE
Results	15-Oct-14	1.2	3.9	74	-
		1.8	6.0	250	5.97
		2.4	3.8	23	0.26
		3.0	17	75	-
		3.7	7.6	37	-
		(DUP) 3.7	7.6	35	-

Sample ID	TP-52		
Parameter	Date	Depth (m)	Cu
Results	15-Oct-14	1.2	73
		1.8	190
		2.4	<5.0
		3.0	190
		3.7	44

Sample ID	TP-65		
Parameter	Date	Depth (m)	Cu
Results	15-Dec-14	1.8	200
		3.0	19
		3.7	11
		4.3	36

Sample ID	TP-69					
Parameter	Date	Depth (m)	As	Pb	Se	Zn
Results	15-Dec-14	1.8	4.5	88	<0.50	93
		2.4	16	620	4.9	730
		3.0	5.9	16	<0.50	54
		3.7	2.2	5.1	<0.50	20

Sample ID	TP-70				
Parameter	Date	Depth (m)	As	Pb	Zn
Results	15-Dec-14	1.8	3.5	12	40
		2.4	9.8	27	77
		3.0	17	1700	1100
		3.7	2.9	40	62

Sample ID	TP-71				
Parameter	Date	Depth (m)	As	Pb	Zn
Results	15-Dec-14	1.2	5.0	170	72
		1.8	4.9	19	58
		2.4	12	740	450
		3.0	16	280	530
		3.7	6.8	21	75

Sample ID	TP-72						
Parameter	Date	Depth (m)	As	Cu	Pb	Se	Zn
Results	15-Dec-14	1.8	2.0	7.9	14	<5.0	27
		2.4	34	170	5700	3.8	2100
		(DUP) 2.4	32	85	4500	4.1	2100
		3.0	2.9	8.1	29	<0.50	33
		3.7	5.8	28	12	<0.50	64

Sample ID	TP-66			
Parameter	Date	Depth (m)	Benzo(a) anthracene	B(a)P TPE	Chysene
Results	15-Dec-14	1.8	20	23	14
		2.4	1.5	1.4	1.2
		3	0.21	0.27	0.16
		3.7	<0.0050	<0.0050	<0.0050
		4.3	<0.0050	<0.0050	<0.0050

Sample ID	TP-67		
Parameter	Date	Depth (m)	As
Results	15-Dec-14	1.8	4.9
		1.8 (dup)	4.0
		2.4	8.9
		3.0	14
		3.7	2.9

Sample ID	TH-07		
Parameter	Date	Depth (m)	PHC F2
Results	27-Jan-23	2.29	1150
		(DUP) 2.29	1800
		4.57	95

Sample ID	TH-08					
Parameter	Date	Depth (m)	PHC F2	PHC F3	As	Cu
Results	27-Jan-23	1.52	4550	3710	13	99.4
		3.81	55	89	12.3	33.1

Sample ID	BH-17		
Parameter	Date	Depth (m)	PHC F2
Results	09-Apr-14	0.6-1.2	470
		1.8-2.4	<10

Sample ID	BH-10		
Parameter	Date	Depth (m)	PHC F2
Results	08-Apr-14	0.6-1.2	520
		1.8-2.4	<10
		2.4-3.1	<10
		(DUP) 2.4-3.1	<10

Sample ID	BH-7		
Parameter	Date	Depth (m)	PHC F2
Results	08-Apr-14	0.6-1.2	470
		1.8-2.4	<10
		(DUP) 1.8-2.4	<10
		2.4-3.1	<10

Sample ID	BH-8		
Parameter	Date	Depth (m)	PHC F2
Results	08-Apr-14	1.8-2.4	550
		(DUP) 1.8-2.4	<10
		2.4-3.1	<10

Sample ID	BH-19		
Parameter	Date	Depth (m)	Cu
Results	16-Apr-26	0.0-0.6	110
		0.6-1.2	370
		2.4-3.0	29
		3.0-3.7	7.1
		3.7-4.3	39
		4.3-5.0	35

Sample ID	BH-20			
Parameter	Date	Depth (m)	As	pH
Results	16-Apr-26	0.0-0.6	6.3	7.52
		0.0-0.06 (dup)	6.0	7.51
		0.6-1.2	7.4	7.49
		1.2-1.8	9.8	7.56
		1.8-2.4	15	7.62
		2.4-3.0	8.1	8.69
		3.0-3.7	6.3	7.76
		3.7-4.3	9.5	7.54
		4.3-5.0	10	8.36

Sample ID	BH-21		
Parameter	Date	Depth (m)	pH
Results	16-Apr-26	4.3-5.0	8.19

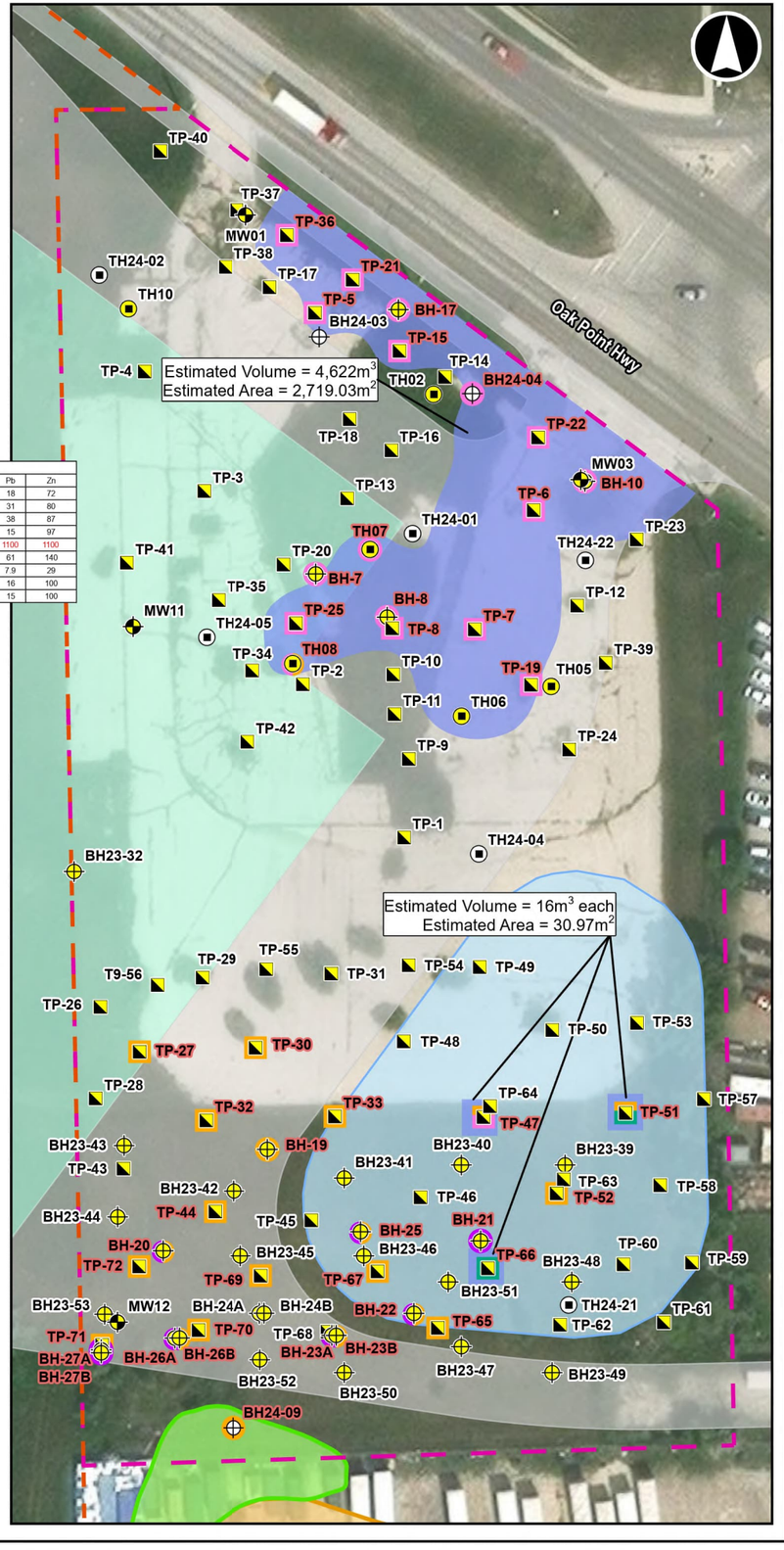
Sample ID	BH-22						
Parameter	Date	Depth (m)	pH	As	Cu	Pb	Zn
Results	16-Apr-26	0.0-0.6	7.38	6.5	27	18	72
		0.6-1.2	7.53	6.5	34	31	80
		0.6-1.2 (dup)	7.55	6.7	35	38	87
		1.2-1.8	7.44	9.4	38	15	97
		1.8-2.4	7.91	13	560	1100	1100
		2.4-3.0	8.09	4.8	25	61	140
		3.0-3.7	7.78	3.1	13	7.9	29
		3.7-4.3	7.63	9.6	42	16	100
		4.3-5.0	8.19	8.4	42	15	100

Sample ID	BH-23			
Parameter	Date	Depth (m)	pH	As
Results	16-Apr-27	0.0-0.6	7.52	5.5
		0.6-1.2	7.58	5.7
		1.2-1.8	7.53	8.3
		1.2-1.8 (dup)	7.42	8.5
		1.8-2.4	8.08	5.8
		2.4-3.0	7.62	13
		3.0-3.7	7.60	2.2
		3.7-4.3	7.52	7.4
		4.3-5.0	7.51	9.4

Sample ID	BH-25			
Parameter	Date	Depth (m)	pH	As
Results	16-Apr-26	0.0-0.6	7.44	5.7
		0.6-1.2	7.63	6.4
		1.2-1.8	7.52	6.8
		1.8-2.4	7.55	9.3
		2.4-3.0	7.47	14
		3.0-3.7	7.71	7.5
		3.7-4.3	7.65	10
		4.3-5.0	8.32	13

Sample ID	BH-26				
Parameter	Date	Depth (m)	pH	As	Zn
Results	16-Apr-27	0.0-0.6	7.46	4.4	53
		0.6-1.2	7.56	6.8	68
		0.6-1.2 (dup)	7.56	6.7	65
		1.2-1.8	7.60	5.5	60
		1.8-2.4	7.41	8.7	75
		2.4-3.0	7.95	15	890
		3.0-3.7	7.54	3.9	35
		3.7-4.4	7.60	8.6	81
		4.4-5.1	8.27	6.4	74

Sample ID	BH-27		
Parameter	Date	Depth (m)	pH
Results	16-Apr-26	0.0-0.6	8.89
		0.6-1.2	7.76
		1.2-1.8	7.67
		1.2-1.8 (dup)	7.91
		1.8-2.4	7.62
		2.4-3.0	7.69
		3.0-3.7	7.84
		3.7-4.3	7.59
		4.3-5.0	7.57



Legend

- Borehole Location
- Testhole Location (Geotech)
- Borehole Location (by others)
- Monitoring Well Location (by others)
- Test Pit Location (by others)
- Testhole Location (by others)
- Soil Sample Above Metals Guideline
- Soil Sample Above Routine Guideline
- Soil Sample Above Petroleum Hydrocarbons Guideline
- Soil Sample Above Polycyclic Aromatic Hydrocarbons Guideline
- Refuse (The City of Winnipeg (Brooklands Landfill Site Detail)
- Cinders and Ash (The City of Winnipeg (Brooklands Landfill Site Detail)
- Estimated Extent of Impacted Soil

Site Development

- Berm – Impacted Soil Containment
- Building
- Paved / Asphalt Area
- Pond

Site Areas of Environmental Concern (AEC)

- AEC 1 - Former Brooklands Landfill
- AEC 2 - Former Brooklands Speedway
- AEC 3 - Former Gas Station
- AEC 4 - Former Imperial Oil Retail Fuel Outlet

Parameter	PHC F2	PHC F3	Benzo(a)	B(a)P TPE	Chrysene	As	Cr	Cu	Pb	Se	Zn	pH
Soil Quality Guideline[a, b]	260	2,500	10	5.3	9.6	12	87	91	600	2.9	410	6-8

Notes:

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Accessed December 2024) - Industrial Land Use, Human Health Guidelines

[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).

Abbreviations	As - Arsenic; Benzo(a) - Benzo(a)anthracene; B(a)P TPE - Benzo(a)pyrene total potency equivalents; Cr - Chromium; Cu - Copper; Pb - Lead; Se - Selenium; Zn - Zinc.
mg/kg	Unit for all soil quality guideline criteria and analytical results is milligrams per kilogram, unless otherwise noted.
XX	Red analytical results exceeded applied standards.

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

AEC 4 - FORMER IMPERIAL OIL CARDLOCK - SAMPLE LOCATIONS EXCEEDING SOIL QUALITY GUIDELINES

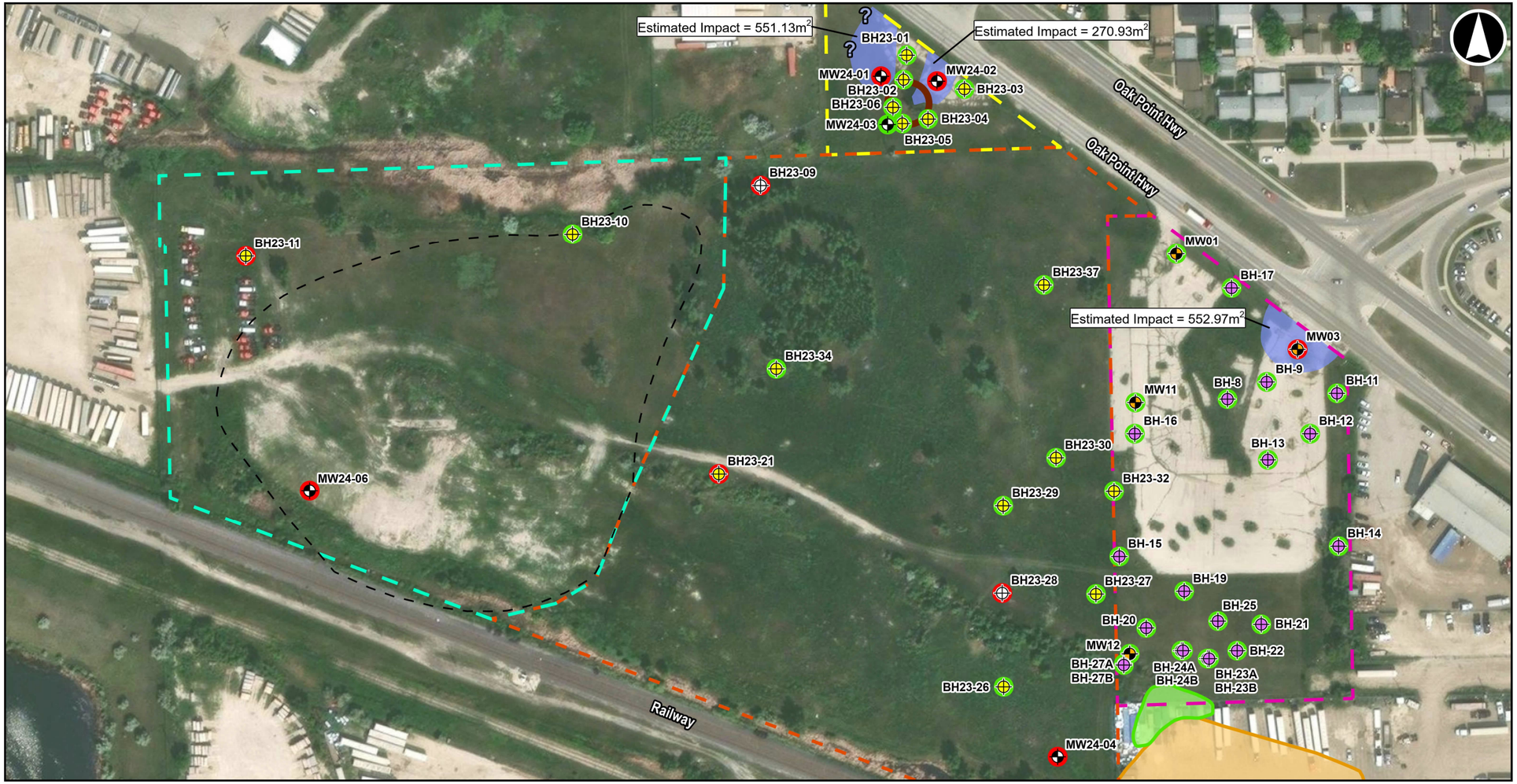
0 10 20 30 40 50
Metres

Datum: NAD 1983 UTM Zone 14N

Jan, 2025	PN#: 60721079	1:900 * when printed 11"x17"	AECOM

Figure 8

Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Maxar



Legend

- Monitoring Well Location - Sampled in 2024 by AECOM
- Borehole Location - Sampled in 2024 by AECOM
- Monitoring Well Location – Sampled in 2023 by WSP
- Borehole Location – Sampled in 2023 by Dillon
- Borehole Location – Sampled in 2017/2018 by Parsons
- Groundwater Sample Below Groundwater Quality Guideline
- Groundwater Sample Exceeds Groundwater Quality Guideline
- Possible Buried Tank (Dillon Phase II, 2023 (Magnetic Survey Results))
- Refuse (The City of Winnipeg (Brooklands Landfill Site Detail)
- Cinders and Ash (The City of Winnipeg (Brooklands Landfill Site Detail)
- Estimated Extent of Impacted Groundwater
- Boundary of Former Brooklands Landfill Site

Site Areas of Environmental Concern (AEC)

- AEC 1 - Former Brooklands Landfill
- AEC 2 - Former Brooklands Speedway
- AEC 3 - Former Gas Station
- AEC 4 - Former Imperial Oil Retail Fuel Outlet

Sample ID:	MW24-01
Date Sampled:	3/6/2024
Petroleum Hydrocarbon F2	3.88

Sample ID:	MW24-02
Date Sampled:	3/6/2024
Petroleum Hydrocarbon F3	1.2

Sample ID:	MW24-04
Date Sampled:	3/6/2024
Petroleum Hydrocarbon F3	0.52
Chloride	224
Benzo(g,h,i)perylene	0.00118
Benzo(k)fluoranthene	0.000878
Chrysene	0.0017
Indeno(1,2,3-cd)pyrene	0.001470

Sample ID:	MW24-06
Date Sampled:	3/6/2024
Chloride	3470

Sample ID:	BH23-09	
Date Sampled:	3/6/2024	10/3/2023
Chloride	3500	3100

Sample ID:	BH23-28	
Date Sampled:	3/6/2024	10/3/2023
Chloride	3600	-
Lead (Pb)	-	0.1

Sample ID:	BH23-11
Date Sampled:	10/3/2023
Sodium (Na)	2400
Uranium (U)	0.45

Sample ID:	BH23-21
Date Sampled:	10/3/2023
Lead (Pb)	0.043

Sample ID:	MW03	DUP-GW-1 (MW03)
Date Sampled:	2/1/2023	2/1/2023
Petroleum Hydrocarbon F2	9.65	8.29
Petroleum Hydrocarbon F3	7.1	6.08

Parameter	WQG [a, b]	Units
Petroleum Hydrocarbon F2	3.1	mg/L
Petroleum Hydrocarbon F3	0.500	mg/L
Benzo(g,h,i)perylene	0.0002	mg/L
Benzo(k)fluoranthene	0.0004	mg/L
Chrysene	0.001	mg/L
Indeno(1,2,3-cd)pyrene	0.0002	mg/L
Chloride	2300	mg/L
Sodium (Na)	2300	mg/L
Lead (Pb)	0.025	mg/L
Uranium (U)	0.42	mg/L

Notes:

a Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.

b Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)

WQG	Water Quality Guideline
mg/L	milligram per litre.
<	Denotes concentration less than RDL.
RDL	Laboratory reportable detection limit.
XX	Red and bold - analytical result exceeds applied WQG.

WINNIPEG NORTH TRANSIT GARAGE
CITY OF WINNIPEG
REMEDIAL PLAN

GROUNDWATER SAMPLE LOCATIONS EXCEEDING ENVIRONMENTAL QUALITY GUIDELINES

0 20 40 60 80 100
Metres

Datum: NAD 1983 UTM Zone 14N

Jan, 2025	PN#: 60721079	1:2,000 * when printed 11"x17"

Figure 9

AECOM

Data Sources:
Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, US Census Bureau, USDA, NRCan, Parks Canada, Maxar

Tables

Winnipeg North Transit Garage
Table 1: Soil Analytical Results - Particle Size Analysis

	Sample Location	TP24-06	BH24-06	MW24-05	BH24-02
	Sample Date (dd/mmm/yyyy):	30-Jan-2024	12-Feb-2024	12-Feb-2024	13-Feb-2024
	Sample ID	TP24-06-06	BH24-06-03	MW24-05-07	BH24-02-03
	Sample Depth (m bgs)	4.0-5.0	1.0-1.5	4.0-5.0	1.0-1.5
Parameter	Units				
Texture Class	N/A	Fine	Fine	Fine	Fine
Sieve - (>0.075mm)	%	7.1	37.6	1.1	21.8
Sieve - (<0.075mm)	%	92.9	62.4	98.9	78.2

Notes:

mbgs: meters below ground surface

N/A: not applicable

Winnipeg North Transit Garage
Table 2: Groundwater Monitoring Results

Monitoring Well	Date Monitored	Ground Surface Elevation* (m asl)	Stick-up/Stick Down	Top of MW Elevation (m asl)	Depth to Groundwater [a] (m)	Depth to Groundwater (m bgs)	Depth to Liquid Hydrocarbon [a] (m)	Liquid Hydrocarbon Thickness (mm)	Groundwater Elevation (m asl)	Monitoring Well Vapour Concentration [b] (ppm)	Temperature	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
MW24-01	5-Mar-2024	235.608	0.74	236.3484	3.050	2.310	-	-	233.298	20 % LEL	1.51	4.452	6.99	-125.1	9.51
MW24-02	5-Mar-2024	235.345	1.00	236.3454	4.530	3.530	-	-	231.815	15	-	-	-	-	-
MW24-03	5-Mar-2024	235.662	0.69	236.3522	3.030	2.340	-	-	233.322	15	1.66	0.065	6.7	17.5	13.52
MW24-04	5-Mar-2024	236.874	0.95	237.8238	3.400	2.450	-	-	234.424	0	3.31	2.346	6.73	-39.5	5.03
MW24-05	5-Mar-2024	237.866	0.91	238.7756	DRY	DRY	-	-	N/A	5	-	-	-	-	-
MW24-06	5-Mar-2024	238.088	0.95	239.0380	4.290	3.340	-	-	234.748	15	3.63	8.845	6.7	23.1	13.95
BH23-09 [d]	5-Mar-2024	236.200	-0.09	236.1100	2.280	2.370	-	-	233.830	25	3.85	8.504	7.03	26.2	9.84
BH23-11 [d]	5-Mar-2024	237.200	-0.13	237.0700	3.220	3.350	-	-	233.850	60	-	-	-	-	-
BH23-21 [d]	5-Mar-2024	237.900	-0.13	237.7700	3.640	3.770	-	-	234.130	35	-	-	-	-	-
BH23-28 [d]	5-Mar-2024	237.000	-0.14	236.8600	3.310	3.450	-	-	233.550	60	4.02	9.13	6.75	26.4	5.69

Notes:

** Ground suface elevation for wells installed in 2024 calculated by subtracting top of MW elevation from stick-up height.*

[a] *Measured from top of monitoring well.*

[b] *Measured using an RKI Eagle hydrocarbon vapour analyser set to "methane elimination" mode.*

[c] *Measured using a YSI 556 Multimeter*

[d] *Dillon Consulting, 2023*

m asl - metres above sea level.

"-" Value not present/obtainable.

Winnipeg North Transit Garage
Table 3: Soil Analytical Results - Petroleum Hydrocarbons

				AEC	1 - Landfill	2 - Speedway	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station
				Sample Location	TP24-04	TH24-20	TP24-01	TP24-01	TP24-01	TP24-01	TP24-02	TP24-02	TP24-02	TH24-17	TH24-17	TH24-16	TH24-16
				Sample Date (dd/mmm/yyyy):	30-Jan-2024	29-Jan-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024
				Sample ID	TP24-04-04	TH24-20-04	TP24-01-02	TP24-01-03	DUP-02 (Dup of TP24-01-03)	TP24-01-05	TP24-02-01	TP24-02-02	TP24-02-04	TH24-17-04	TH24-17-03	TH24-16-03	TH24-16-04
				Sample Depth (m bgs)	2.0-3.0	2.4	1.0-2.0	2.0-3.0	2.0-3.0	4.0-5.0	0.0-1.0	1.0-2.0	3.0-4.0	1.7	1.2	1.6	2.3
Parameter	CCME Surface Soil (<1.5 m bgs)[a,b]	CCME-Subsoil (>1.5 m bgs)[a,b]	Landfill Acceptance Criteria[c]	Units													
Benzene	2.8	2.9	310	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0422	0.0177	<0.0050	<0.0050	0.0237	<0.0050	<0.0050
Toluene	330	660	330	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	430	860	430	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	1.63	0.552	<0.015	<0.015	<0.015	<0.015	<0.015
Xylenes, Total	230	460	230	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.508	0.375	<0.050	<0.050	<0.050	<0.050	<0.050
PHC F1 (C6-C10) minus BTEX	320	800	320	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	213	135	<5.0	<5.0	<5.0	<5.0	<5.0
PHC F2 (>C10-C16)	260	1,000	260	mg/kg	30	<50	<25	<25	<25	<25	**4,920**	**3,710**	<25	<25	<25	<25	<25
PHC F3 (>C16-C34 range)	2,500	5,000	2,500	mg/kg	577	206	<50	53	<50	<50	2160	1650	<50	<50	<50	<50	<50
PHC F4 (>C34-C50 range)	6,600	10,000	6,600	mg/kg	86	326	<50	<50	<50	<50	<50	<50	<50	<50	62	<50	<50
Moisture	n/g	n/g	n/g	%	34.50	35.90	19.40	32.90	31.50	35.50	27.20	24.70	32.60	19	19.1	17.7	28.4

Notes:

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2004) - Industrial Land Use, Human Health Guidelines 10^{-5} incremental risk*

[b] *CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils*

[c] *Landfill Acceptance Criteria - CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils, Environmental Health Guideline, Soil Contact Pathway*

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

n/g: no guideline

PHC: Petroleum Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 3: Soil Analytical Results - Petroleum Hydrocarbons

			AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station
			Sample Location	BH24-02	BH24-02	BH24-02	BH24-01	DUP-07	BH24-01	BH24-01	MW24-02	MW24-02	MW24-02
			Sample Date (dd/mmm/yyyy):	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024
			Sample ID	BH24-02-03	BH24-02-04	BH24-02-06	BH24-01-03	DUP-07 (dup of BH24-01-03)	BH24-01-04	BH24-01-07	MW24-02-03	MW24-02-04	MW24-02-06
			Sample Depth (m bgs)	1.0-1.5	1.5-2.5	3.0-4.0	1.0-1.5	1.0-1.5	1.5-2.0	4.0-5.0	1.0-1.5	1.5-2.0	3.0-4.0
Parameter	CCME Surface Soil (<1.5 m bgs)[a,b]	CCME-Subsoil (>1.5 m bgs)[a,b]	Landfill Acceptance Criteria[c]	Units										
Benzene	2.8	2.9	310	mg/kg	<0.0050	<0.0050	<0.0050	0.0368	0.0056	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	330	660	330	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	430	860	430	mg/kg	<0.015	<0.015	<0.015	0.017	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Xylenes, Total	230	460	230	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
PHC F1 (C6-C10) minus BTEX	320	800	320	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PHC F2 (>C10-C16)	260	1,000	260	mg/kg	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
PHC F3 (>C16-C34 range)	2,500	5,000	2,500	mg/kg	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PHC F4 (>C34-C50 range)	6,600	10,000	6,600	mg/kg	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Moisture	n/g	n/g	n/g	%	18.1	23	36.5	21.3	23.4	19.2	32.9	18.8	20.4	30.5

Notes:

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2004) - Industrial Land Use, Human Health Guidelines 10^{-5} incremental risk*

[b] *CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils*

[c] *Landfill Acceptance Criteria - CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils, Environmental Health Guideline, Soil Contact Pathway*

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

n/g: no guideline

PHC: Petroleum Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 3: Soil Analytical Results - Petroleum Hydrocarbons

				AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station
				Sample Location	MW24-03	DUP-08	MW24-03	MW24-03	MW24-01	MW24-01	MW24-01	TH24-01	TH24-02	TH24-02	TH24-05	TH24-05	TH24-04	TH24-22
				Sample Date (dd/mmm/yyyy):	13-Feb-2024	14-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	29-Jan-2024	07-Feb-2024	07-Feb-2024	05-Feb-2024	05-Feb-2024	05-Feb-2024	29-Jan-2024
				Sample ID	MW24-03-02	DUP-08 (dup of MW24-03-02)	MW24-03-03	MW24-03-04	MW24-01-01	MW24-01-03	MW24-01-07	TH24-01-03	TH24-02-01	TH24-02-02	TH24-05-01	TH24-05-02	TH24-04-01	TH24-22-01
				Sample Depth (m bgs)	0.7-1.0	0.7-1.0	1.0-1.5	1.5-2.0	0.0-0.6	1.0-1.5	4.0-5.0	1.8	0.4	1.4	0.6	1.1	0.6	0.6
Parameter	CCME Surface Soil (<1.5 m bgs)[a,b]	CCME-Subsoil (>1.5 m bgs)[a,b]	Landfill Acceptance Criteria[c]	Units														
Benzene	2.8	2.9	310	mg/kg	0.0065	0.0099	0.123	<0.0050	0.0098	0.137	1.19	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	330	660	330	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.162	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	430	860	430	mg/kg	<0.015	<0.015	0.017	<0.015	<0.015	0.717	2.11	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Xylenes, Total	230	460	230	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	3.37	2.4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
PHC F1 (C6-C10) minus BTEX	320	800	320	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0	89.3	25.7	69.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PHC F2 (>C10-C16)	260	1,000	260	mg/kg	<25	<25	<25	<25	<25	180	<25	177	<25	<25	<25	<25	<25	<25
PHC F3 (>C16-C34 range)	2,500	5,000	2,500	mg/kg	<50	<50	<50	<50	<50	74	<50	124	99	<50	<50	<50	92	<50
PHC F4 (>C34-C50 range)	6,600	10,000	6,600	mg/kg	<50	<50	<50	<50	<50	<50	<50	<50	61	<50	<50	<50	161	<50
Moisture	n/g	n/g	n/g	%	13.3	13.2	26.1	18.9	14.5	8.04	30.8	22.30	18.2	25.6	6.51	22.2	20.8	11.40

Notes:

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2004) - Industrial Land Use, Human Health Guidelines 10^{-5} incremental risk*

[b] *CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils*

[c] *Landfill Acceptance Criteria - CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils, Environmental Health Guideline, Soil Contact Pathway*

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

n/g: no guideline

PHC: Petroleum Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 3: Soil Analytical Results - Petroleum Hydrocarbons

				AEC	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station
				Sample Location	TH24-22	BH24-04	BH24-04	BH24-04	BH24-03	BH24-03	DUP-05	BH24-03
				Sample Date (dd/mmm/yyyy):	29-Jan-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024
				Sample ID	TH24-22-02	BH24-04-01	BH24-04-03	BH24-04-05	BH24-03-02	BH24-03-04	DUP-05 (dup of BH24-03-04)	BH24-03-06
				Sample Depth (m bgs)	1.2	0.0-0.6	1.0-1.5	2.0-3.0	0.4-1.0	1.5-2.0	1.5-2.0	3.0-4.0
Parameter	CCME Surface Soil (<1.5 m bgs)[a,b]	CCME-Subsoil (>1.5 m bgs)[a,b]	Landfill Acceptance Criteria[c]	Units								
Benzene	2.8	2.9	310	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Toluene	330	660	330	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	430	860	430	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Xylenes, Total	230	460	230	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
PHC F1 (C6-C10) minus BTEX	320	800	320	mg/kg	<5.0	<5.0	7	<5.0	<5.0	<5.0	<5.0	<5.0
PHC F2 (>C10-C16)	260	1,000	260	mg/kg	<25	<25	**711**	<25	37	<25	<25	<25
PHC F3 (>C16-C34 range)	2,500	5,000	2,500	mg/kg	<50	64	743	<50	184	<50	<50	<50
PHC F4 (>C34-C50 range)	6,600	10,000	6,600	mg/kg	<50	58	<50	<50	132	<50	<50	<50
Moisture	n/g	n/g	n/g	%	24.80	9.05	7.04	30.8	24.2	26.1	26.7	32.7

Notes:

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2004) - Industrial Land Use, Human Health Guidelines 10^{-5} incremental risk*

[b] *CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils*

[c] *Landfill Acceptance Criteria - CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils, Environmental Health Guideline, Soil Contact Pathway*

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

n/g: no guideline

PHC: Petroleum Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 4: Soil Analytical Results - Polycyclic Aromatic Hydrocarbons

			AEC		1 - Landfill	2 - Speedway	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station
			Sample Location		TP24-04	TH24-20	TP24-01	TP24-01	TP24-01	TP24-01	TP24-02	TP24-02	TP24-02	BH24-02	BH24-02	BH24-02	BH24-01	DUP-07	BH24-01	BH24-01
			Sample Date (dd/mmm/yyyy):		30-Jan-2024	29-Jan-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024	13-Feb-2024
			Sample ID		TP24-04-04	TH24-20-04	TP24-01-02	TP24-01-03	DUP-02 (Dup of TP24-01-03)	TP24-01-05	TP24-02-01	TP24-02-02	TP24-02-04	BH24-02-03	BH24-02-04	BH24-02-06	BH24-01-03	DUP-07 (dup of BH24-01-03)	BH24-01-04	BH24-01-07
			Sample Depth (m bgs)		2.0-3.0	2.4	1.0-2.0	2.0-3.0	2.0-3.0	4.0-5.0	0.0-1.0	1.0-2.0	3.0-4.0	1.0-1.5	1.5-2.5	3.0-4.0	1.0-1.5	1.0-1.5	1.5-2.0	4.0-5.0
Parameter	CCME[a]	MOE[b]	Landfill Acceptance Criteria[d]	Units																
Acenaphthene	n/g	**96**	n/g	mg/kg	0.107	0.0388	<0.0050	<0.0050	<0.0050	<0.0050	1.38	1.21	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	n/g	**0.17**	n/g	mg/kg	<0.0050	0.0180	<0.0050	<0.0050	<0.0050	<0.0050	**0.417**	**0.378**	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acridine	**n/g**	n/g	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	2.65	2.35	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	**32**	0.74	32	mg/kg	0.0514	0.0973	<0.0040	<0.0040	<0.0040	<0.0040	0.0078	<0.0080	<0.0040	<0.0040	<0.0041	<0.0049	<0.0040	<0.0040	<0.0040	<0.0046
Benz(a)anthracene	**10** [c]	0.96	n/g	mg/kg	<0.010	0.164	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	**72**	0.3	72	mg/kg	<0.010	0.167	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j)fluoranthene	n/g	n/g	n/g	mg/kg	0.014	0.222	<0.010	<0.010	<0.010	0.010	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.016	<0.010	<0.010
Benzo(g,h,i)perylene	n/g	**9.6**	n/g	mg/kg	<0.010	0.132	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	**10** [c]	0.96	n/g	mg/kg	<0.010	0.080	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	n/g	**9.6**	n/g	mg/kg	0.014	0.210	<0.010	<0.010	<0.010	<0.010	0.027	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	**10** [c]	0.1	n/g	mg/kg	<0.0050	0.0247	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	**180**	9.6	180	mg/kg	0.037	0.367	<0.010	<0.010	<0.010	<0.010	0.113	0.029	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010
Fluorene	n/g	**69**	n/g	mg/kg	0.139	0.054	<0.010	<0.010	<0.010	<0.010	3.43	3.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	**10** [c]	0.95	n/g	mg/kg	<0.010	0.110	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 1-	n/g	**85**	n/g	mg/kg	0.138	0.029	<0.010	<0.010	<0.010	<0.010	20.6	17.1	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 2-	n/g	**85**	n/g	mg/kg	0.273	0.028	<0.010	<0.010	<0.010	<0.010	0.337	1.83	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene	**22**	28	n/g	mg/kg	0.561	0.043	<0.010	<0.010	<0.010	<0.010	<1.16	<1.52	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene	**50**	16	n/g	mg/kg	0.112	0.314	<0.010	<0.010	<0.010	<0.010	5.00	4.30	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pyrene	**100** [c]	96	n/g	mg/kg	0.026	0.343	<0.010	<0.010	<0.010	<0.010	0.160	0.151	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010
Quinoline	**n/g**	n/g	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.790	<0.660	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene total potency equivalents (B(a)P TPE)	**5.3**	n/g	n/g	mg/kg	<0.020	0.253	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2010) - Industrial Land Use, Fine Grain Soil, Human Health and Environmental Health Guidelines 10^{-5} incremental risk

[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).

[c] interim Soil Quality Criteria CCME 1991)

[d] Landfill Acceptance Criteria - Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2010) - Industrial Land Use, Fine Grain Soil, Environmental Health Guidelines, Soil Contact Pathway

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

- :Not analyzed

n/g: no guideline

PAH: Polycyclic Aromatic Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 4: Soil Analytical Results - Polycyclic Aromatic Hydrocarbons

					AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station
					Sample Location	MW24-02	MW24-02	MW24-02	DUP-08	MW24-03	MW24-03	MW24-03	MW24-01	MW24-01	MW24-01	TH24-17	TH24-17	TH24-16	TH24-16	TH24-22	TH24-22	TH24-01
					Sample Date (dd/mmm/yyyy):	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	09-Feb-	09-Feb-2024	09-Feb-2024	09-Feb-2024	29-Jan-2024	29-Jan-2024	29-Jan-2024
					Sample ID	MW24-02-03	MW24-02-04	MW24-02-06	DUP-08 (dup of BH24-02-06)	MW24-03-02	MW24-03-03	MW24-03-04	MW24-01-01	MW24-01-03	MW24-01-07	TH24-17-04	TH24-17-03	TH24-16-03	TH24-16-04	TH24-22-01	TH24-22-02	TH24-01-03
					Sample Depth (m bgs)	1.0-1.5	1.5-2.0	3.0-4.0	3.0-4.0	0.7-1.0	1.0-1.5	1.5-2.0	0.0-0.6	1.0-1.5	4.0-5.0	1.7	1.2	1.6	2.3	0.6	1.2	1.8
Parameter	CCME[a]	MOE[b]	Landfill Acceptance Criteria[d]	Units																		
Acenaphthene	n/g	**96**	n/g	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0321	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.141
Acenaphthylene	n/g	**0.17**	n/g	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0239	0.0192	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0352
Acridine	**n/g**	n/g	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.053	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.407
Anthracene	**32**	0.74	32	mg/kg	<0.0040	<0.0040	<0.0043	<0.0040	<0.0040	<0.0042	<0.0040	0.0119	0.0122	<0.0044	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0280
Benz(a)anthracene	**10** [c]	0.96	n/g	mg/kg	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	0.052	0.025	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	**72**	0.3	72	mg/kg	<0.010	<0.010	<0.010	0.010	<0.010	<0.010	<0.010	0.048	0.025	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j)fluoranthene	n/g	n/g	n/g	mg/kg	0.016	<0.010	<0.010	0.016	0.012	<0.010	<0.010	0.122	0.055	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(g,h,i)perylene	n/g	**9.6**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.068	0.036	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	**10** [c]	0.96	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.049	0.021	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	n/g	**9.6**	n/g	mg/kg	0.011	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	0.057	0.031	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	**10** [c]	0.1	n/g	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0239	0.0098	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	**180**	9.6	180	mg/kg	0.020	<0.010	<0.010	0.018	0.014	<0.010	<0.010	0.057	0.033	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	<0.010
Fluorene	n/g	**69**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.037	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.381
Indeno(1,2,3-c,d)pyrene	**10** [c]	0.95	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.076	0.032	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 1-	n/g	**85**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	1.97	0.030	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.070
Methylnaphthalene, 2-	n/g	**85**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	3.35	0.064	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020
Naphthalene	**22**	28	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.024	1.45	0.120	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.120
Phenanthrene	**50**	16	n/g	mg/kg	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.022	0.044	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.718
Pyrene	**100** [c]	96	n/g	mg/kg	0.015	<0.010	<0.010	0.014	0.011	<0.010	<0.010	0.052	0.036	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	0.107
Quinoline	**n/g**	n/g	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.037	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.040
Benzo(a)pyrene total potency equivalents (B(a)P TPE)	**5.3**	n/g	n/g	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.103	0.049	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2010) - Industrial Land Use, Fine Grain Soil, Human Health and Environmental Health Guidelines 10^{-5} incremental risk*

[b] *Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).*

[c] *interim Soil Quality Criteria CCME 1991)*

[d] *Landfill Acceptance Criteria - Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2010) - Industrial Land Use, Fine Grain Soil, Environmental Health Guidelines, Soil Contact Pathway*

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

- :Not analyzed

n/g: no guideline

PAH: Polycyclic Aromatic Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 4: Soil Analytical Results - Polycyclic Aromatic Hydrocarbons

					AEC	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station
					Sample Location	TH24-02	TH24-02	TH24-05	TH24-05	TH24-04	BH24-04	BH24-04	BH24-04	BH24-03	BH24-03	DUP-05	BH24-03
					Sample Date (dd/mmm/yyyy):	07-Feb-2024	07-Feb-2024	05-Feb-2024	05-Feb-2024	05-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024
					Sample ID	TH24-02-01	TH24-02-02	TH24-05-01	TH24-05-02	TH24-04-01	BH24-04-01	BH24-04-03	BH24-04-05	BH24-03-02	BH24-03-04	DUP-05 (dup of BH24-03-04)	BH24-03-06
					Sample Depth (m bgs)	0.4	1.4	0.6	1.1	0.6	0.0-0.6	1.0-1.5	2.0-3.0	0.4-1.0	1.5-2.0	1.5-2.0	3.0-4.0
Parameter	CCME[a]	MOE[b]	Landfill Acceptance Criteria[d]	Units													
Acenaphthene	n/g	**96**	n/g	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0086	<0.0050	0.0681	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	n/g	**0.17**	n/g	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0092	<0.0050	<0.0222	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acridine	**n/g**	n/g	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.292	<0.010	<0.017	<0.010	<0.010	<0.010
Anthracene	**32**	0.74	32	mg/kg	<0.0041	0.0040	<0.0040	<0.0040	0.0323	<0.0040	<0.0528	<0.0045	<0.0048	<0.0040	<0.0043	<0.0045
Benz(a)anthracene	**10** [c]	0.96	n/g	mg/kg	<0.010	0.013	<0.010	<0.010	0.061	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	**72**	0.3	72	mg/kg	<0.010	0.012	<0.010	<0.010	0.068	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010
Benzo(b+j)fluoranthene	n/g	n/g	n/g	mg/kg	<0.010	0.021	<0.010	<0.010	0.098	<0.010	<0.010	<0.010	0.026	<0.010	<0.010	<0.010
Benzo(g,h,i)perylene	n/g	**9.6**	n/g	mg/kg	<0.010	0.014	<0.010	<0.010	0.066	<0.010	0.010	<0.010	0.018	<0.010	<0.010	<0.010
Benzo(k)fluoranthene	**10** [c]	0.96	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	0.035	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene	n/g	**9.6**	n/g	mg/kg	<0.010	0.017	<0.010	<0.010	0.069	<0.010	<0.019	<0.010	<0.045	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene	**10** [c]	0.1	n/g	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0136	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	**180**	9.6	180	mg/kg	<0.010	0.032	<0.010	<0.010	0.134	<0.010	<0.029	<0.010	0.011	<0.010	<0.010	<0.010
Fluorene	n/g	**69**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	0.014	<0.010	0.092	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	**10** [c]	0.95	n/g	mg/kg	<0.010	0.012	<0.010	<0.010	0.052	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010
Methylnaphthalene, 1-	n/g	**85**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	0.016	<0.010	<0.034	<0.010	<0.010	<0.010	<0.010	<0.010
Methylnaphthalene, 2-	n/g	**85**	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	0.027	<0.010	<0.014	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene	**22**	28	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	0.016	<0.010	<0.051	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene	**50**	16	n/g	mg/kg	<0.010	0.023	<0.010	<0.010	0.109	<0.010	<0.051	<0.010	0.011	<0.010	<0.010	<0.010
Pyrene	**100** [c]	96	n/g	mg/kg	<0.010	0.028	<0.010	<0.010	0.125	<0.010	0.137	<0.010	0.024	<0.010	<0.010	<0.010
Quinoline	**n/g**	n/g	n/g	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene total potency equivalents (B(a)P TPE)	**5.3**	n/g	n/g	mg/kg	<0.020	<0.020	<0.020	<0.020	0.108	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2010) - Industrial Land Use, Fine Grain Soil, Human Health and Environmental Health Guidelines 10^{-5} incremental risk*

[b] *Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use, Fine Grain Soil).*

[c] *interim Soil Quality Criteria CCME 1991)*

[d] *Landfill Acceptance Criteria - Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2010) - Industrial Land Use, Fine Grain Soil, Environmental Health Guidelines, Soil Contact Pathway*

m bgs: meters below ground surface

mg/kg: milligrams per kilogram

< :Denotes concentration less than indicated detection limit

- :Not analyzed

n/g: no guideline

PAH: Polycyclic Aromatic Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Soil Quality Guideline*

Blue *Exceeds Landfill Acceptance Criteria*

Winnipeg North Transit Garage
Table 5: Soil Analytical Results - Volatile Organic Carbons

				AEC	1 - Landfill	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station
				Sample Location	TP24-04	TP24-01	TP24-01	TP24-01	TP24-02	TP24-02	TP24-02	BH24-02	BH24-02	BH24-02	BH24-01	DUP-07	BH24-01	BH24-01	MW24-02	MW24-02	MW24-02	MW24-03	DUP-08	MW24-03	MW24-03	MW24-01	MW24-01	MW24-01
				Sample Date (dd/mmm/yyyy)	30-Jan-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024
				Sample ID	TP24-04-04	TP24-01-02	TP24-01-03	TP24-01-05	TP24-02-01	TP24-02-02	TP24-02-04	BH24-02-03	BH24-02-04	BH24-02-06	BH24-01-03	DUP-07 (dup of BH24-01-03)	BH24-01-04	BH24-01-07	MW24-02-03	MW24-02-04	MW24-02-06	MW24-03-02	DUP-08 (dup of MW24-03-02)	MW24-03-03	MW24-03-04	MW24-01-01	MW24-01-03	MW24-01-07
				Sample Depth (m bgs)	2.0-3.0	1.0-2.0	2.0-3.0	4.0-5.0	0.0-1.0	1.0-2.0	3.0-4.0	1.0-1.5	1.5-2.5	3.0-4.0	1.0-1.5	1.0-1.5	1.5-2.0	4.0-5.0	1.0-1.5	1.5-2.0	3.0-4.0	0.7-1.0	0.7-1.0	1.0-1.5	1.5-2.0	0.0-0.6	1.0-1.5	4.0-5.0
Parameter	CCME [a]	MOE [b]	Landfill Acceptance Criteria [c]	Units																								
Bromodichloromethane	n/g	**18**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	n/g	**1.7**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	n/g	**0.05**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloromethane (Carbon Tetrachloride)	**50**	1.5	50	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroethane (Ethyl Chloride)	**n/g**	n/g	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloromethane (Chloroform)	**50**	0.18	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052
Chloromethane (Methyl Chloride)	**n/g**	n/g	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane [DBCM]	n/g	**13**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromoethane, 1,2-	**n/g**	n/g	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	**10**	8.5	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene,1,3-	**10**	12	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene,1,4-	**10**	0.84	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	**50**	21	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	**50**	0.05	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	**50**	0.48	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,2- cis-	n/g	**37**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,2- trans-	n/g	**9.3**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane (Methylene chloride)	**50**	2	n/g	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	**50**	0.68	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, 1,3- cis-	n/g	**0.21**	n/g	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dichloropropylene, 1,3- trans-	**n/g**	n/g	n/g	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Chlorobenzene	**n/g**	2.7	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	**50**	0.094	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane,1,1,1,2-	n/g	**0.11**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	**n/g**	21	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	**50**	12	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	**50**	0.11	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	**0.92**	0.61	50	mg/kg	<0.010	<0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.013	<0.011	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	n/g	**5.8**	n/g	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	n/g	**0.25**	n/g	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Accessed in December 2024) - Industrial Land Use, Human Health Guidelines 10^{-5} incremental risk

[b] Ontario Ministry of the Environment (MOE) Soil Standards (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial Land Use).

[c] Landfill Acceptance Criteria - CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Industrial, Fine Grained Soils, Environmental Health Guideline, Soil Contact Pathway

m bgs: meters below ground surface
mg/kg: milligrams per kilogram
< :Denotes concentration less than indicated detection limit
n/g: no guideline
BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*
Yellow *Exceeds Applied Soil Quality Guideline*

Winnipeg North Transite Garage
Table 6: Soil Analytical Results - Metals

			AEC	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill
			Sample ID:	TP24-03-03	TP24-03-07	TP24-04-04	TP24-04-07	TP24-11-07	TP24-06-06	TP24-10-07	TP24-07-07	TP24-12-04	TP24-12-07	DUP-01 (Dup of TP24-12-07)	TP24-08-03	TP24-08-06	TP24-09-07	TP24-13-07	TP24-05-05	TH24-18-03	TH24-19-03	TH24-19-06	TH24-19-4.4	MW24-06-03
			Date Sampled (dd/mmm/yyyy):	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	30-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	31-Jan-2024	29-Jan-2024	29-Jan-2024	29-Jan-2024	29-Jan-2024	12-Feb-2024
			Depth (m bgs)	1.0-2.0	5.0-5.5	2.0-3.0	5.0-6.0	5.0-6.0	4.0-5.0	5.0-6.0	5.0-6.0	2.0-3.0	5.0-6.0	5.0-6.0	2.0-3.0	4.0-5.0	5.0-6.0	5.0-6.0	3.0-4.0	1.8	1.6	4.2	4.4	1.0-1.5
	SQG [a]	Landfill Acceptance Criteria [b]	**Units**																					
Aluminum (Al)	**NG**	**NG**	mg/kg	26,700	3,720	25,000	19,600	25,400	27,300	25,400	19,100	10,100	26,200	19,400	13,200	21,500	23,900	16,800	18,400	14,900	17,500	11,600	-	15,100
Antimony (Sb)	**40**	**NG**	mg/kg	0.19	<0.10	1.64	0.40	0.40	0.49	0.41	0.30	5.71	0.50	<0.10	0.46	0.75	0.59	0.73	5.46	4.58	0.43	8.26	-	0.64
Arsenic (As)	**12**	**26**	mg/kg	6.17	1.49	**12.7**	9.48	9.94	8.98	9.67	7.16	**30.1**	9.81	10.4	4.34	11.3	9.83	8.12	9.18	8.78	5.16	7.63	-	5.38
Barium (Ba)	**2,000**	**NG**	mg/kg	143	31.5	294	207	226	335	237	237	506	184	330	122	182	608	148	269	409	138	299	-	155
Beryllium (Be)	**8**	**NG**	mg/kg	0.94	0.13	1.01	0.87	1.16	1.06	1.14	0.84	0.35	1.03	0.91	0.52	0.99	1.04	0.74	0.63	0.70	0.64	0.42	-	0.59
Bismuth (Bi)	**NG**	**NG**	mg/kg	0.21	<0.20	1.32	0.24	0.30	0.27	0.29	0.21	0.54	0.26	0.32	<0.20	0.27	0.30	0.21	0.37	0.20	<0.20	0.21	-	<0.20
Boron (B)	**NG**	**NG**	mg/kg	20.1	14.5	26.6	14.2	16.4	18.5	16.7	14.5	56.6	17.1	10.9	14.1	18.3	14.5	14.8	22.8	36.7	18.4	39.6	-	17.5
Cadmium (Cd)	**22**	**22**	mg/kg	0.27	0.02	0.34	0.20	0.40	0.28	0.31	0.25	2.72	0.35	0.83	0.22	0.32	3.65	0.26	0.78	0.91	0.21	0.79	-	0.19
Calcium (Ca)	**NG**	**NG**	mg/kg	4,850	122,000	31,600	48,200	26,400	32,600	24,600	58,200	31,100	21,600	30,800	60,200	25,200	30,300	57,800	47,100	61,400	57,100	64,000	-	78,400
Chromium (Cr)	**87**	**87**	mg/kg	44.4	12.1	48.0	35.8	48.2	59.9	47.4	35.9	51.6	50.5	43.7	25.1	46.3	47.9	34.4	49	35.8	34	44.8	-	28.6
Cobalt (Co)	**300**	**NG**	mg/kg	12.2	2.39	13.2	11.3	17.2	15.1	19.4	9.2	14.3	13.0	16.6	6.93	14.0	13.1	10.4	10.6	8.95	8.7	7.34	-	7.84
Copper (Cu)	**91**	**91**	mg/kg	25.3	4.71	42.9	27.1	40.6	40.5	33.6	24.4	**146**	35.5	**104**	16.6	34.1	70	30.7	**197**	**263**	20.4	79.9	-	19.7
Iron (Fe)	**NG**	**NG**	mg/kg	24,400	5,740	34,000	26,100	31,100	36,100	31,100	24,000	146,000	32,700	50,000	15,300	36,400	35,200	27,000	46,400	31,100	19,800	38,500	-	18,800
Lead (Pb)	**600**	**600**	mg/kg	12.4	2.67	53.3	11.9	16.4	31.8	13.8	11.5	**940**	36.6	**3,120**	18.7	40.1	217	23.8	320	460	21.1	**1,280**	265	24.8
Lithium (Li)	**NG**	**NG**	mg/kg	25.5	7.5	28.4	22.4	28.9	36.3	27.9	22.2	11.4	25.9	26.5	14.8	25.1	28.1	22.5	18.7	17.0	20.6	15.1	-	20.9
Magnesium (Mg)	**NG**	**NG**	mg/kg	11,800	57,800	17,900	26,400	16,800	19,200	15,500	30,600	14,200	17,400	19,000	28,200	18,000	17,400	30,900	28,100	25,300	29,500	31,400	-	47,600
Manganese (Mn)	**NG**	**NG**	mg/kg	428	177	587	350	979	452	585	347	749	384	626	325	453	514	493	503	441	435	391	-	375
Molybdenum (Mo)	**40**	**NG**	mg/kg	0.41	0.37	1.40	1.06	1.66	1.32	1.24	0.81	5.09	1.07	0.92	0.46	1.44	1.18	1.44	1.68	2.18	0.60	6.02	-	0.78
Nickel (Ni)	**89**	**89**	mg/kg	29.8	7.5	43	33.2	51.9	47.3	43.4	31.1	**96.7**	44.4	49	19.8	42.8	39.5	31.9	**104**	32.1	26.2	51.4	-	22
Phosphorus (P)	**NG**	**NG**	mg/kg	609	227	1,640	528	519	513	541	429	1,610	498	628	483	526	961	434	542	717	444	682	-	466
Potassium (K)	**NG**	**NG**	mg/kg	5,520	1,150	4,690	3,310	4,670	5,300	4,610	3,470	3,080	5,120	3,850	2,590	4,460	4,290	3,290	3,450	2,740	3,330	2,250	-	2,710
Selenium (Se)	**2.9**	**2.9**	mg/kg	0.34	<0.20	0.53	0.50	0.53	<0.20	0.92	0.30	0.61	0.54	0.26	<0.20	0.58	0.50	0.24	0.30	0.28	<0.20	0.28	-	<0.20
Silver (Ag)	**40**	**NG**	mg/kg	<0.10	<0.10	0.25	<0.10	0.13	<0.10	0.11	0.12	0.33	0.10	0.19	<0.10	0.13	0.17	0.10	0.43	0.35	<0.10	0.29	-	<0.10
Sodium (Na)	**NG**	**NG**	mg/kg	2,310	448	2,050	1,680	1,330	1,130	1,530	1,400	706	1,320	1,220	303	1,090	1,540	732	772	1,240	913	1,310	-	1,010
Strontium (Sr)	**NG**	**NG**	mg/kg	59.5	59.5	82.3	69.6	78	94.7	79.7	69.2	118	60.4	81.1	66.6	63.1	94.3	72	148	248	73.5	234	-	64.4
Sulfur (S)	**NG**	**NG**	mg/kg	1,400	<1000	1,600	<1000	<1000	<1000	<1000	<1000	2,100	<1000	1,000	<1000	<1000	1,200	1,200	2,700	<1000	<1000	<1000	-	<1000
Thallium (Tl)	**1**	**3.6**	mg/kg	0.27	<0.050	0.26	0.24	0.32	0.35	0.30	0.25	0.10	0.29	0.30	0.17	0.26	0.32	0.22	0.19	0.16	0.21	0.14	-	0.18
Tin (Sn)	**300**	**NG**	mg/kg	<2.0	<2.0	53.3	<2.0	<2.0	10.1	<2.0	<2.0	**1,170**	5.2	4.6	<2.0	11.5	35.4	2.9	92.8	25	<2.0	132	-	<2.0
Titanium (Ti)	**NG**	**NG**	mg/kg	256	335	147	74.6	69	250	87.8	74.1	131	123	15.8	143	65.9	38	107	141	239	210	387	-	278
Tungsten (W)	**NG**	**NG**	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.91	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.62	-	<0.50
Uranium (U)	**300**	**2,000**	mg/kg	1.46	0.80	1.97	1.5	2.1	1.8	1.93	1.47	0.83	1.35	1.35	0.99	1.66	1.76	1.33	1.11	1.25	0.94	1.3	-	1.03
Vanadium (V)	**130**	**130**	mg/kg	67.8	10.5	70.4	55.7	76.5	79.6	76.1	55.4	22.4	78.1	46.7	36	60.2	68	48.4	49.1	40.6	47.9	29	-	44.9
Zinc (Zn)	**410**	**450**	mg/kg	89.8	11	176	72.8	91.2	114	89.7	66.1	**3,010**	106	328	55.5	118	**694**	201	**640**	403	63.7	374	-	48.9
Zirconium (Zr)	**NG**	**NG**	mg/kg	10.3	5.6	8.9	8.7	8.8	14.7	9.6	7.4	1.8	9.7	7.8	5	11.8	7.2	11	10	7.3	5.8	4.3	-	10.1

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use.*
[b] Landfill Acceptance Criteria - *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use, Soil Contact Pathway*
SQG - soil quality guideline.
m bgs - metres below ground surface.
mg/kg - milligram per kilogram.
NG - No Guideline.
< - Denotes concentration less than indicated detection limit.
BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*
Yellow *Exceeds Applied Soil Quality Guideline*
Blue *Exceeds Applied Landfill Acceptance Guideline*

Winnipeg North Transite Garage
Table 6: Soil Analytical Results - Metals

			AEC	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway
			Sample ID:	MW24-06-05	MW24-06-06	BH24-05-02	BH24-05-05	BH24-05-07	BH24-06-03	DUP-09 (dup of BH24-06-03)	BH24-06-05	BH24-06-06	BH24-07-02	BH24-07-04	DUP-03 (dup of BH24-07-04)	BH24-07-06	MW24-05-03	MW24-05-05	DUP-10 (dup of MW24-05-05)	MW24-05-07	TH24-20-02	TH24-20-04	TH24-03-02	TH24-12-03
			Date Sampled (dd/mmm/yyyy):	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	29-Jan-2024	29-Jan-2024	30-Jan-2024	31-Jan-2024
			Depth (m bgs)	2.0-3.0	3.0-4.0	0.5-1.0	2.0-3.0	4.0-5.0	1.0-1.5	1.0-1.5	2.0-3.0	3.0-4.0	0.5-1.0	1.5-2.0	1.5-2.0	3.0-4.0	1.0-1.5	2.0-3.0	2.0-3.0	4.0-5.0	1.2	2.4	1.1	1.7
	SQG [a]	Landfill Acceptance Criteria [b]	**Units**																				
Aluminum (Al)	**NG**	**NG**	mg/kg	23,300	26,200	19,700	20,000	21,000	18,100	22,200	26,200	5,190	22,200	17,300	19,500	21,000	19,300	13,300	17,400	23,200	16,700	21,700	24,300	10,100
Antimony (Sb)	**40**	**NG**	mg/kg	2.08	0.48	0.91	2.81	0.42	5.32	11.10	0.83	<0.10	0.84	1.82	0.68	0.42	0.54	21.10	19.20	0.54	0.87	1.28	0.36	0.99
Arsenic (As)	**12**	**26**	mg/kg	9.3	9.58	8.54	11.4	8.06	12	**18.2**	10.7	1.93	6.22	6.94	4.41	7.34	4.9	**49.9**	**64.7**	9.52	5.09	7.44	7.55	4.12
Barium (Ba)	**2,000**	**NG**	mg/kg	240	220	187	616	138	1,030	1,870	258	39.3	139	206	154	190	175	1,920	**2,260**	257	149	215	203	134
Beryllium (Be)	**8**	**NG**	mg/kg	1.02	1.08	0.74	0.94	0.86	1.05	1.42	1.19	0.21	0.80	0.60	0.64	0.87	0.76	<2.00	<2.00	1.15	0.61	0.90	0.92	0.40
Bismuth (Bi)	**NG**	**NG**	mg/kg	0.24	0.27	<0.20	1.10	0.22	0.35	0.44	0.32	<0.20	<0.20	<0.20	<0.20	0.23	<0.20	<4.00	<4.00	0.30	<0.20	0.24	0.24	<0.20
Boron (B)	**NG**	**NG**	mg/kg	29.8	22.4	19.8	71.7	20	52.6	97.4	22.4	18	23.4	45.9	53.5	18.7	18	<100	<100	20.2	18.1	27.5	38.8	20.3
Cadmium (Cd)	**22**	**22**	mg/kg	0.43	0.21	0.26	3.57	0.25	3.15	5.42	0.38	0.04	0.31	1.60	0.45	0.27	0.19	11.20	16.80	0.30	0.36	0.35	0.20	0.34
Calcium (Ca)	**NG**	**NG**	mg/kg	46,200	43,200	55,800	44,400	62,600	59,400	64,800	28,000	143,000	72,000	65,400	46,300	54,400	58,200	49,100	57,400	31,100	87,200	40,600	40,600	109,000
Chromium (Cr)	**87**	**87**	mg/kg	41.1	48.2	38.1	43.7	36.9	43.6	64.4	49.5	11.9	35.9	35.3	33.3	39.5	33.7	**95.1**	**107**	43.3	32	44.3	49.6	23.4
Cobalt (Co)	**300**	**NG**	mg/kg	14.4	14.3	10.7	10.6	10.5	11.5	20.5	18.2	3.14	9.64	8.69	8.3	10	9	23.2	28.2	14.2	8	10.5	13.1	5.16
Copper (Cu)	**91**	**91**	mg/kg	43	32.2	27.5	90.5	26.2	**97.8**	**250**	51.2	7.3	34.2	73.2	29.7	28	23.3	**4,700**	**1,360**	35.4	20.7	39.8	30.8	23.4
Iron (Fe)	**NG**	**NG**	mg/kg	28,500	31,600	27,800	32,800	25,700	48,200	71,000	34,400	8,270	22,900	35,600	20,500	26,800	21,400	202,000	241,000	29,500	18,100	29,600	28,600	12,800
Lead (Pb)	**600**	**600**	mg/kg	100	15	33.6	298	11.8	368	**719**	40.3	4.71	66.3	133	46	13.4	27.6	**6,020**	**4,530**	14.6	32.4	98	14.2	44.1
Lithium (Li)	**NG**	**NG**	mg/kg	24.9	31.6	23.8	21.7	23.6	20.7	21.9	29.7	9.5	21.6	18.3	19.9	24.6	21.6	<40.0	<40.0	30.7	18.8	26.4	31.6	14.4
Magnesium (Mg)	**NG**	**NG**	mg/kg	25,800	17,200	30,300	17,800	33,600	24,600	20,800	20,200	66,200	42,400	21,200	21,700	31,600	31,200	14,600	20,800	18,400	41,900	23,600	27,000	48,700
Manganese (Mn)	**NG**	**NG**	mg/kg	600	457	453	494	445	735	880	649	199	412	445	374	362	381	1,110	1,360	427	331	310	466	263
Molybdenum (Mo)	**40**	**NG**	mg/kg	1.74	1.25	1.18	1.69	0.98	3.94	5.87	1.46	0.29	0.93	5.57	5.92	1.02	0.53	22.5	14.2	1.27	0.52	0.88	1.08	0.64
Nickel (Ni)	**89**	**89**	mg/kg	40	41.1	31.2	31.8	31.9	38	59.3	49.2	8.42	28	30.2	22.5	34.6	25.8	**172**	**154**	41.2	23.6	33.5	39.2	16.3
Phosphorus (P)	**NG**	**NG**	mg/kg	574	497	574	2,100	502	1,080	1,620	589	270	411	809	796	509	488	1,710	2,270	596	364	468	475	396
Potassium (K)	**NG**	**NG**	mg/kg	4,290	4,480	3,770	5,150	3,850	2,980	2,980	5,120	1,500	4,020	3,980	4,550	3,970	3,660	<2000	2,310	4,310	3,160	4,460	5,290	2,090
Selenium (Se)	**2.9**	**2.9**	mg/kg	0.62	0.36	0.33	0.86	0.62	0.66	0.87	<0.20	<0.20	0.32	0.73	0.69	0.27	0.20	<4.00	<4.00	0.54	<0.20	0.26	0.22	<0.20
Silver (Ag)	**40**	**NG**	mg/kg	0.17	0.12	0.12	0.58	0.10	0.49	1.40	0.12	<0.10	0.12	0.24	0.11	<0.10	<0.10	<2.00	<2.00	0.14	<0.10	0.12	0.11	<0.10
Sodium (Na)	**NG**	**NG**	mg/kg	1,830	2,510	710	1,800	1,640	1,120	1,570	1,740	363	528	696	664	1,310	319	<1000	1,140	2,190	274	732	1,490	404
Strontium (Sr)	**NG**	**NG**	mg/kg	168	108	91.3	279	74.4	528	745	85.5	68.1	71.1	372	213	69.8	107	291	369	77.4	85.8	104	79.7	94.5
Sulfur (S)	**NG**	**NG**	mg/kg	3,200	22,700	<1000	2,000	<1000	<1000	1,700	<1000	<1000	<1000	6,000	2,600	<1000	<1000	<20000	<20000	<1000	<1000	4,800	<1000	<1000
Thallium (Tl)	**1**	**3.6**	mg/kg	0.26	0.30	0.23	0.24	0.23	0.17	0.16	0.33	0.07	0.22	0.17	0.20	0.25	0.22	<1.00	<1.00	0.31	0.17	0.26	0.31	0.13
Tin (Sn)	**300**	**NG**	mg/kg	2.2	<2.0	<2.0	154	<2.0	40.4	85.2	2.4	<2.0	3.4	86.5	4.4	<2.0	<2.0	**967**	**1,570**	<2.0	<2.0	4.3	<2.0	3.2
Titanium (Ti)	**NG**	**NG**	mg/kg	196	232	284	306	190	321	475	187	260	213	313	343	198	235	344	401	148	169	122	301	229
Tungsten (W)	**NG**	**NG**	mg/kg	<0.50	<0.50	<0.50	0.65	<0.50	<0.50	2.08	<0.50	<0.50	<0.50	0.61	<0.50	<0.50	<0.50	<10.0	<10.0	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium (U)	**300**	**2,000**	mg/kg	1.64	2.2	1.61	1.3	1.44	1.63	1.89	2.14	0.79	1.05	1.07	1.04	1.49	1.21	2.55	2.44	2.07	0.85	1.32	1.47	0.83
Vanadium (V)	**130**	**130**	mg/kg	71.2	80.4	58.6	50.3	61.2	45	47.5	80.7	14.9	62.2	35	36.3	61.6	52.3	28.1	37.8	73	47	62.5	71.7	31.1
Zinc (Zn)	**410**	**450**	mg/kg	114	84.6	72.7	**510**	68.4	**1,560**	**3,100**	126	19	85.1	398	177	77.8	66	**7,340**	**6,960**	88.6	66.5	130	78.8	55.6
Zirconium (Zr)	**NG**	**NG**	mg/kg	12.5	20.6	8.7	7	13.2	11	11.6	14.2	7.8	9.1	4.1	3.8	13.6	9.8	<20.0	<20.0	13.5	6.4	14.3	14	4.4

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Winnipeg North Transite Garage
Table 6: Soil Analytical Results - Metals

			AEC	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	3 - Former Gas Station	3 - Former Gas Station
			Sample ID:	TH24-14-02	TH24-13-02	TH24-13-04	TH24-15-04	TH24-15-06	TH24-11-03	TH24-10-02	TH24-10-04	TH24-09-04	TH24-09-05	TH24-08-02	TH24-07-04	TH24-06-02	BH24-08-03	BH24-08-05	BH24-08-06	MW24-04-02	MW24-04-05	MW24-04-06	TP24-01-02	TP24-01-03
			Date Sampled (dd/mmm/yyyy):	09-Feb-2024	09-Feb-2024	09-Feb-2024	07-Feb-2024	07-Feb-2024	07-Feb-2024	07-Feb-2024	07-Feb-2024	06-Feb-2024	06-Feb-2024	02-Feb-2024	05-Feb-2024	02-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	01-Feb-2024	01-Feb-2024
			Depth (m bgs)	1.2	0.8	2.4	2.6	3.8	2	1.2	2.3	2.7	3.4	1.5	2.4	1	1.0-1.5	2.0-3.0	3.0-3.4	0.5-1.0	2.0-3.0	3.0-4.0	1.0-2.0	2.0-3.0
	SQG [a]	Landfill Acceptance Criteria [b]	**Units**																					
Aluminum (Al)	**NG**	**NG**	mg/kg	20,200	22,300	15,400	15,500	23,500	17,900	18,800	27,700	15,000	8,420	14,800	22,100	12,600	15,200	15,200	9,000	10,500	14,900	26,500	7,640	26,100
Antimony (Sb)	**40**	**NG**	mg/kg	0.82	0.61	0.36	0.86	0.66	1.26	1.02	0.55	0.62	0.13	0.50	0.33	0.30	37.80	0.40	0.20	1.68	15.90	1.53	0.14	0.41
Arsenic (As)	**12**	**26**	mg/kg	5.26	5.87	4.16	4.73	7.6	7.48	5.37	9	4.66	3.37	4.77	5.25	3.96	8.48	3.9	2.67	4.5	5.09	9.3	3.76	9.19
Barium (Ba)	**2,000**	**NG**	mg/kg	179	176	149	133	222	157	178	179	308	63.2	146	200	93.7	242	126	65.8	222	195	199	71.4	236
Beryllium (Be)	**8**	**NG**	mg/kg	0.70	0.84	0.59	0.59	1.05	0.80	0.83	1.37	0.72	0.32	0.53	0.89	0.57	<2.00	0.56	0.35	0.41	<2.00	1.22	0.30	1.17
Bismuth (Bi)	**NG**	**NG**	mg/kg	<0.20	<0.20	<0.20	<0.20	0.22	0.21	<0.20	0.34	<0.20	<0.20	<0.20	<0.20	<0.20	<4.00	<0.20	<0.20	<0.20	<4.00	0.31	<0.20	0.30
Boron (B)	**NG**	**NG**	mg/kg	26.8	28.1	19.3	20.6	27.7	21.5	23.8	21.7	52.6	17.9	24.7	23.3	27.2	<100	16	15.4	22.6	<100	18.6	13	13.3
Cadmium (Cd)	**22**	**22**	mg/kg	0.50	0.38	0.22	0.22	0.42	0.33	0.41	0.31	0.18	0.09	0.19	0.33	0.15	0.83	0.21	0.12	0.51	0.42	0.28	0.10	0.23
Calcium (Ca)	**NG**	**NG**	mg/kg	96,800	65,900	82,600	99,600	49,900	71,800	72,300	30,500	92,600	140,000	96,600	63,300	103,000	32,500	77,500	108,000	105,000	60,100	29,400	102,000	19,800
Chromium (Cr)	**87**	**87**	mg/kg	36.6	35.5	29.8	28.2	40.9	32.4	33.0	49.9	34.6	17.7	26.8	38.1	23.6	44	26.9	18.6	27.8	26	47.3	19	50.8
Cobalt (Co)	**300**	**NG**	mg/kg	8.26	9.22	7.38	7.72	11.7	10	9.24	15	8	4.48	6.36	10.6	6.17	8.15	6.77	4.31	5.89	6.23	15.5	4.34	15.1
Copper (Cu)	**91**	**91**	mg/kg	27.7	28.1	18.5	19.3	30.1	27.8	21.7	36.1	20.8	9.55	16.4	23.1	15.7	**5,050**	33.5	17.2	35.6	**997**	81.8	10.9	33.6
Iron (Fe)	**NG**	**NG**	mg/kg	20,100	22,100	17,700	17,700	26,100	23,100	21,300	33,700	15,900	10,400	15,700	23,800	16,500	30,700	15,900	10,500	16,000	16,700	32,200	11,000	32,200
Lead (Pb)	**600**	**600**	mg/kg	90.4	26	21.4	45.3	78.3	59.3	23.5	15.9	41	4.48	28.1	15.1	13.6	**2,610**	22.5	12.1	105	**1,480**	70.4	4.92	14.9
Lithium (Li)	**NG**	**NG**	mg/kg	21.9	21.6	17.5	20.1	26.2	24.3	23.3	33.7	20.3	14.8	21.5	30.4	17.2	<40.0	18.1	13.9	14.4	<40.0	33	13.6	31.8
Magnesium (Mg)	**NG**	**NG**	mg/kg	46,000	40,900	42,300	49,800	26,600	38,000	31,000	18,600	43,700	63,700	52,800	25,000	41,600	15,100	33,400	60,200	44,100	33,200	19,600	58,900	17,600
Manganese (Mn)	**NG**	**NG**	mg/kg	435	418	535	341	551	554	407	574	330	260	317	636	278	1,000	374	230	440	463	565	237	438
Molybdenum (Mo)	**40**	**NG**	mg/kg	0.42	1.34	0.45	0.53	0.58	0.90	0.54	1.27	0.69	0.24	0.35	0.63	0.60	<2.00	0.27	0.24	1.70	<2.00	1.26	0.17	1.12
Nickel (Ni)	**89**	**89**	mg/kg	24.8	27.4	21.2	22.6	34.2	28.6	26.4	43.9	20.9	12.9	18.9	29.5	18.8	52.6	20.4	13.6	20.1	22.2	41.2	12.6	41.1
Phosphorus (P)	**NG**	**NG**	mg/kg	663	436	499	457	592	528	467	536	496	370	486	520	363	<1000	475	393	516	<1000	534	302	501
Potassium (K)	**NG**	**NG**	mg/kg	3,840	3,860	2,750	2,950	4,480	3,550	3,810	4,850	2,780	1,570	2,800	3,710	2,610	2,230	2,640	1,490	1,990	2,900	4,470	1,700	5,000
Selenium (Se)	**2.9**	**2.9**	mg/kg	0.22	0.31	<0.20	<0.20	0.33	0.37	0.28	0.81	0.30	<0.20	<0.20	0.30	<0.20	<4.00	0.25	<0.20	0.21	<4.00	1.74	<0.20	<0.20
Silver (Ag)	**40**	**NG**	mg/kg	<0.10	0.10	<0.10	<0.10	0.14	0.10	<0.10	0.14	<0.10	<0.10	<0.10	0.13	0.65	<2.00	0.13	<0.10	0.62	<2.00	0.16	<0.10	0.12
Sodium (Na)	**NG**	**NG**	mg/kg	1,390	3,270	720	433	365	653	687	1,710	1,600	698	441	1,020	885	<1000	578	368	415	<1000	2,050	456	1,960
Strontium (Sr)	**NG**	**NG**	mg/kg	124.0	112	90.2	88.9	93.8	91.8	98.1	80.7	192	68.8	98.7	124	76.7	87	93.5	56.6	118	208	68.1	62.5	67.9
Sulfur (S)	**NG**	**NG**	mg/kg	<1000	<1000	<1000	<1000	<1000	2,200	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<20000	1,400	<1000	<1000	<20000	5,400	<1000	<1000
Thallium (Tl)	**1**	**3.6**	mg/kg	0.19	0.20	0.16	0.18	0.26	0.23	0.22	0.35	0.17	0.10	0.16	0.24	0.15	<1.00	0.18	0.11	0.13	<1.00	0.30	0.12	0.33
Tin (Sn)	**300**	**NG**	mg/kg	<2.0	<2.0	<2.0	2.6	3.5	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**367**	<2.0	<2.0	2.3	<40.0	4.1	<2.0	<2.0
Titanium (Ti)	**NG**	**NG**	mg/kg	324	225	325	309	230	198	222	177	443	365	370	300	246	250	301	336	229	242	178	332	77.2
Tungsten (W)	**NG**	**NG**	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
Uranium (U)	**300**	**2,000**	mg/kg	1.07	1.16	0.98	1.26	1.17	1.36	1.19	2.22	1.4	1.23	1.31	1.58	0.87	1.64	2.7	1.74	0.85	1.92	2.24	0.67	1.85
Vanadium (V)	**130**	**130**	mg/kg	53.8	60.8	44.5	44	64.2	51.7	55	83.6	37.3	29.7	40.4	60.1	36	42.4	38.2	27.2	27.3	34.7	76.9	24.5	73.1
Zinc (Zn)	**410**	**450**	mg/kg	76.9	85.2	59.2	58.2	96.1	70.9	62.7	91.4	64.7	19.2	49.6	69.3	40.2	**2,690**	64.3	30.6	115	277	103	23.8	93.6
Zirconium (Zr)	**NG**	**NG**	mg/kg	5.9	8.8	5.4	7.3	8.2	10.1	6.9	17.8	6	5.1	5.4	5.6	7.8	<20.0	3.8	4	2.3	<20.0	14.9	8.9	13.1

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use.*
[b] Landfill Acceptance Criteria - *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use, Soil Contact Pathway*
SQG - soil quality guideline.
m bgs - metres below ground surface.
mg/kg - milligram per kilogram.
NG - No Guideline.
< - Denotes concentration less than indicated detection limit.
BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*
Yellow *Exceeds Applied Soil Quality Guideline*
Blue *Exceeds Applied Landfill Acceptance Guideline*

Winnipeg North Transite Garage
Table 6: Soil Analytical Results - Metals

			AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station	4 - Former IOL Station
			Sample ID:	DUP-02 (Dup of TP24-01-03)	TP24-01-05	TP24-02-01	TP24-02-02	TP24-02-04	BH24-02-03	DUP-06 (dup of BH24-02-03)	BH24-02-04	BH24-02-06	MW24-03-02	DUP-08(dup of MW24-03-02)	MW24-03-03	MW24-03-04	BH24-09-02	BH24-09-04	DUP-04 (dup of BH24-09-04)	BH24-09-05	TH24-21-04
			Date Sampled (dd/mmm/yyyy):	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	01-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	29-Jan-2024
			Depth (m bgs)	2.0-3.0	4.0-5.0	0.0-1.0	1.0-2.0	3.0-4.0	1.0-1.5	1.0-15	1.5-2.5	3.0-4.0	0.7-1.0	0.7-1.0	1.0-1.5	1.5-2.0	0.5-1.0	1.5-2.0	1.5-2.0	3.0-4.0	2.4
	SQG [a]	Landfill Acceptance Criteria [b]	**Units**																		
Aluminum (Al)	**NG**	**NG**	mg/kg	21,500	26,900	14,200	28,500	24,900	19,500	16,900	31,900	25,700	8,320	8,300	17,300	8,360	17,300	13,800	22,500	22,600	19,200
Antimony (Sb)	**40**	**NG**	mg/kg	<0.10	0.50	0.15	0.27	0.36	0.13	0.20	0.41	0.56	0.20	0.12	0.23	0.11	0.38	0.62	2.21	4.85	1.08
Arsenic (As)	**12**	**26**	mg/kg	9.05	**13.6**	3.82	6.3	7.54	4.53	4.49	8.13	8.12	2.5	2.3	5.08	2.7	4.42	4.40	8.07	7.43	5.26
Barium (Ba)	**2,000**	**NG**	mg/kg	256	187	107	265	266	105	102	236	197	55.8	53.1	162	55.8	120	170	218	351	498
Beryllium (Be)	**8**	**NG**	mg/kg	1.09	1.30	0.49	0.96	1.16	0.68	0.54	1.24	1.27	0.32	0.28	0.65	0.34	0.67	0.54	1.02	1.15	0.93
Bismuth (Bi)	**NG**	**NG**	mg/kg	0.27	0.34	<0.20	0.27	0.29	<0.20	<0.20	0.29	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.24	0.24	<0.20
Boron (B)	**NG**	**NG**	mg/kg	6.7	12.2	20.2	18.2	16.3	20.6	26.6	24.3	17.8	13.3	13.5	24.6	14.9	18.5	20.8	29.1	45.4	91.9
Cadmium (Cd)	**22**	**22**	mg/kg	0.29	0.29	0.23	0.13	0.23	0.19	0.25	0.19	0.31	0.18	0.13	0.19	0.09	0.23	0.17	0.26	0.24	0.33
Calcium (Ca)	**NG**	**NG**	mg/kg	18,100	16,600	71,400	31,900	35,000	20,200	37,800	34,100	28,000	79,900	91,600	109,000	106,000	79,400	89,700	52,200	54,600	26,500
Chromium (Cr)	**87**	**87**	mg/kg	43.2	48.6	26.4	62.7	45.9	32.1	27.3	61.6	46.2	14.4	16.4	29.6	19.1	29.5	26.4	40.3	40	34.2
Cobalt (Co)	**300**	**NG**	mg/kg	16.4	21.5	6.21	16.4	13.2	8.35	6.83	16.8	12.6	4.19	4.1	7.12	4.49	8.19	6.6	12.1	11.1	6.39
Copper (Cu)	**91**	**91**	mg/kg	34.3	34.5	14.3	37.3	30.3	17.5	17.7	37.5	33.6	10	9.18	19.2	10.5	21.1	31.1	**140**	80.7	22.8
Iron (Fe)	**NG**	**NG**	mg/kg	29,700	35,300	15,200	32,800	29,500	19,700	16,400	35,200	31,200	11,100	10,900	17,000	11,300	18,400	15,800	27,400	25,700	20,500
Lead (Pb)	**600**	**600**	mg/kg	16.1	17	9.27	12.6	13.6	9.28	11.1	13.5	13.9	7.30	6.42	7.97	4.38	19	25.4	418	120	80.2
Lithium (Li)	**NG**	**NG**	mg/kg	32.6	29.7	17.0	48.4	30.4	18.2	17.3	42.1	30.4	12.3	11.1	27	15.2	19.7	21.2	27.7	27.2	18.6
Magnesium (Mg)	**NG**	**NG**	mg/kg	16,200	14,200	21,000	21,600	21,000	12,100	19,400	19,900	16,500	34,500	42,000	31,700	63,300	37,600	51,800	29,500	27,100	11,900
Manganese (Mn)	**NG**	**NG**	mg/kg	793	641	377	456	392	286	405	491	465	259	271	313	244	325	310	454	408	157
Molybdenum (Mo)	**40**	**NG**	mg/kg	0.38	1.40	0.30	0.43	0.98	0.18	0.33	0.68	1.59	0.30	0.45	0.28	0.26	0.33	0.49	1.02	1.04	4.41
Nickel (Ni)	**89**	**89**	mg/kg	59.1	46.6	18.6	51	39.7	22.7	19.1	49.4	46	10.3	10.4	21.9	13.3	23.2	20	38.3	33.1	23
Phosphorus (P)	**NG**	**NG**	mg/kg	493	532	593	560	471	616	752	584	512	909	810	598	337	412	448	642	588	831
Potassium (K)	**NG**	**NG**	mg/kg	4,180	4,790	3,080	6,000	4,710	4,000	3,690	5,520	4,420	1,550	1,540	2,780	1,620	3,350	2,550	4,080	3,880	3,890
Selenium (Se)	**2.9**	**2.9**	mg/kg	<0.20	0.73	0.30	<0.20	0.40	0.31	0.50	<0.20	1.93	<0.20	<0.20	0.29	<0.20	0.20	<0.20	0.46	0.49	0.83
Silver (Ag)	**40**	**NG**	mg/kg	<0.10	0.12	<0.10	<0.10	0.11	0.11	<0.10	0.12	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	0.18	0.15
Sodium (Na)	**NG**	**NG**	mg/kg	1,930	2,470	710	1,350	1,560	570	660	1,010	1,570	520	492	930	451	349	458	790	1,060	1,600
Strontium (Sr)	**NG**	**NG**	mg/kg	62.4	64.3	172	97.5	78.2	68.6	97.8	97.7	79.2	44	48	187	48.6	71.7	112	116	226	328
Sulfur (S)	**NG**	**NG**	mg/kg	<1000	<1000	10,100	<1000	<1000	1,000	1,400	<1000	<1000	<1000	<1000	1,700	<1000	<1000	<1000	<1000	1,300	3,200
Thallium (Tl)	**1**	**3.6**	mg/kg	0.31	0.33	0.17	0.42	0.29	0.21	0.17	0.37	0.30	0.10	0.09	0.19	0.11	0.20	0.15	0.26	0.26	0.27
Tin (Sn)	**300**	**NG**	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5.3	59.2	8.1	2.2
Titanium (Ti)	**NG**	**NG**	mg/kg	10	41	183	733	71.3	351	295	458	155	290	290	327	537	253	380	237	340	379
Tungsten (W)	**NG**	**NG**	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium (U)	**300**	**2,000**	mg/kg	1.8	2.14	1.86	1.63	1.87	1.12	1.45	1.64	1.77	0.48	0.54	1.89	0.71	1.13	1	1.36	1.69	2.92
Vanadium (V)	**130**	**130**	mg/kg	51	76.1	34.5	76.7	69.7	41.9	36.8	95.5	78	22.5	22.6	56.9	26	48.3	42.1	68.4	65.6	43.4
Zinc (Zn)	**410**	**450**	mg/kg	91	99.2	55.3	89.8	85.1	69	67	88.7	90.2	65	52.6	50	23.2	56.8	52.7	**1,140**	121	116
Zirconium (Zr)	**NG**	**NG**	mg/kg	6.2	10.9	3.2	15.7	10	3.8	2.4	18.7	13	1.2	1.1	4.2	10	6.3	6.4	12.4	14.1	7.2

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use.*
[b] Landfill Acceptance Criteria - *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use, Soil Contact Pathway*
SQG - soil quality guideline.
m bgs - metres below ground surface.
mg/kg - milligram per kilogram.
NG - No Guideline.
< - Denotes concentration less than indicated detection limit.
BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*
Yellow *Exceeds Applied Soil Quality Guideline*
Blue *Exceeds Applied Landfill Acceptance Guideline*

Winnipeg North Transite Garage
Table 7: Soil Analytical Results - EC/pH/SAR

			AEC	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	3 - Former Gas Station
			Sample ID:	TP24-06-06	TP24-12-07	MW24-06-03	BH24-06-03	MW24-05-07	TH24-03-02	TH24-13-02	TH24-15-04	TH24-11-03	BH24-02-03
			Date Sampled (dd/mmm/yyyy):	30-Jan-2024	31-Jan-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	30-Jan-2024	09-Feb-2024	07-Feb-2024	07-Feb-2024	13-Feb-2024
			Depth (m bgs)	4.0-5.0	5.0-6.0	1.0-1.5	1.0-1.5	4.0-5.0	1.1	0.8	2.6	2.0	1.0-1.5
	SQG Surface Soil [a]	**Landfill Acceptance Criteria** [b]	**Units**										
Conductivity (1:2 leachate)	**4**	**NG**	mS/cm	1.60	1.90	1.09	0.835	1.52	3.43	**4.99**	1.91	1.93	1.47
pH (1:2 soil:water	**6-8**	**NG**	pH units	**8.56**	**8.23**	**8.09**	**8.21**	**8.10**	**8.24**	7.92	7.87	7.97	7.94
Calcium, soluble ion content	**NG**	**NG**	mg/L	38.80	95.8	12.1	26.5	22.4	212.00	78.30	79.1	87.4	74.5
Magnesium, soluble ion content	**NG**	**NG**	mg/L	69.4	114	8.20	28.3	26.2	167	71.8	89.3	107	84.7
Sodium, soluble ion content	**NG**	**NG**	mg/L	182	158	189	84.7	254	356	880	191	174	135
Sodium adsorption ratio [SAR]	**12**	**NG**	-	4.05	2.58	10.3	2.73	8.64	4.44	**17.30**	3.50	2.95	2.54

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Accessed in December 2024) Industrial Land Use.*

[b] Landfill Acceptance Criteria - *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use, Environmental Soil Contact Pathway*

SQG - soil quality guideline.
m bgs - metres below ground surface.
mg/kg - milligram per kilogram.
NG - No Guideline.
< - Denotes concentration less than indicated detection limit.
BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*
Yellow *Exceeds Applied Soil Quality Guideline*
Blue *Exceeds Applied Landfill Acceptance Guideline*

Winnipeg North Transite Garage
Table 8: Soil Analytical Results - Dioxins and Furans

AEC	SQG Surface Soil (<1.5 m bgs) [a]	SQG Subsoil (>1.5 m bgs) [a]	Landfill Acceptance Criteria [b]	Units	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	1 - Landfill	2 - Speedway	2 - Speedway	2 - Speedway	2 - Speedway	4 - Former IOL Station
Sample ID:					TP24-08-03	MW24-06-03	BH24-05-05	BH24-06-03	BH24-07-04	TH24-12-04	TH24-14-02	MW24-04-05	BH24-08-03	BH24-09-04
Date Sampled (dd/mmm/yyyy):					31-Jan-24	12-Feb-24	12-Feb-24	12-Feb-24	12-Feb-24	31-Jan-24	9-Feb-24	12-Feb-24	12-Feb-24	12-Feb-24
Depth (m bgs)					1.0-2.0	1.0-1.5	2.0-3.0	1.0-1.5	1.5-2.0	2.2-2.4	1.2-1.4	2.0-3.0	1.0-1.5	1.5-2.0
2,3,7,8-TCDD	**NG**	**NG**	**NG**	pg/g	0.04	0.09	0.11	2.76	1.02	0.28	0.34	0.10	0.28	0.13
1,2,3,7,8-PeCDD	**NG**	**NG**	**NG**	pg/g	0.167	0.171	0.194	10.7	3.71	1.32	1.45	0.49	1.16	0.27
1,2,3,4,7,8-HxCDD	**NG**	**NG**	**NG**	pg/g	0.11	0.10	0.11	7.80	2.78	1.99	0.66	0.30	1.13	0.16
1,2,3,6,7,8-HxCDD	**NG**	**NG**	**NG**	pg/g	0.25	0.633	0.667	32.3	8.73	13.2	7.33	0.972	2.65	0.651
1,2,3,7,8,9-HxCDD	**NG**	**NG**	**NG**	pg/g	0.21	0.37	0.41	20.40	6.25	5.15	3.89	0.54	1.94	0.45
1,2,3,4,6,7,8-HpCDD	**NG**	**NG**	**NG**	pg/g	5.09	11	5.14	723	139	633	73	20.3	29.8	10.4
OCDD	**NG**	**NG**	**NG**	pg/g	34.8	87.4	22.7	4320	593	6200	500	109	154	80.5
Total-TCDD	**NG**	**NG**	**NG**	pg/g	6.61	16.9	12.3	91.4	62	23.9	14.6	8.34	20.7	34.4
Total-PeCDD	**NG**	**NG**	**NG**	pg/g	9.75	29.6	15.6	142	83.4	30.9	23.4	3.06	34.8	50.7
Total-HxCDD	**NG**	**NG**	**NG**	pg/g	8.7	22.1	14.3	300	109	108	55	7.24	46.9	36.2
Total-HpCDD	**NG**	**NG**	**NG**	pg/g	10.2	19.6	9.29	1260	243	1180	132	36.5	61.3	19.7
2,3,7,8-TCDF	**NG**	**NG**	**NG**	pg/g	0.663	0.16	0.93	23.8	8.2	2.76	0.56	2.33	4.41	0.44
1,2,3,7,8-PeCDF	**NG**	**NG**	**NG**	pg/g	0.77	5.8	0.62	48	11	5.5	14	3.4	16	2.9
2,3,4,7,8-PeCDF	**NG**	**NG**	**NG**	pg/g	0.362	5.6	0.779	25	13.1	3.76	4	4.93	8.16	1.2
1,2,3,4,7,8-HxCDF	**NG**	**NG**	**NG**	pg/g	0.15	0.34	0.65	17.90	9.39	3.15	0.99	4.49	6.11	0.4
1,2,3,6,7,8-HxCDF	**NG**	**NG**	**NG**	pg/g	0.218	0.972	0.59	14.8	7.9	2.46	1.14	2.66	4.85	0.382
1,2,3,7,8,9-HxCDF	**NG**	**NG**	**NG**	pg/g	0.07	0.35	0.10	4.11	2.38	0.59	0.46	0.70	2.00	0.16
2,3,4,6,7,8-HxCDF	**NG**	**NG**	**NG**	pg/g	0.165	0.944	0.56	15.4	11.3	1.8	1.21	1.11	6.56	0.27
1,2,3,4,6,7,8-HpCDF	**NG**	**NG**	**NG**	pg/g	1.5	6.08	5.33	243	58.9	42.1	16.2	7.94	28	3.59
1,2,3,4,7,8,9-HpCDF	**NG**	**NG**	**NG**	pg/g	0.12	0.407	0.22	12.7	3.03	2.98	1.04	0.916	2.93	0.23
OCDF	**NG**	**NG**	**NG**	pg/g	5.12	23.1	2.9	954	49.4	162	50.7	11	27.8	14.7
Total-TCDF	**NG**	**NG**	**NG**	pg/g	1.42	12.4	19.7	468	196	85.1	22.7	50.2	76.9	9.12
Total-PeCDF	**NG**	**NG**	**NG**	pg/g	2.18	70	4.56	337	159	57.1	62.1	60.4	109	16.1
Total-HxCDF	**NG**	**NG**	**NG**	pg/g	3.05	34.1	4.9	401	111	54.5	35.8	30.5	66.9	8.66
Total-HpCDF	**NG**	**NG**	**NG**	pg/g	3.67	19.20	8.68	937	102	126	46.80	16	46.2	12.4
PCDD/F TEQ	**175**	**175**	**NG**	ng TEQ/kg	0.604	2.71	1.07	47.4	16.9	14.7	6.1	3.81	7.99	1.31

[a] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2002), Industrial Land Use.*
PCDD/F TEQ: polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans total toxicity equivalent, CCME 2002
[b] Landfill Acceptance Criteria - *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use, Environmental Soil Contact Pathway*
m bgs - metres below ground surface.
p/g - picogram per gram.
NG - No Guideline.
< - Denotes concentration less than indicated detection limit.
BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*
Yellow *Exceeds Applied Soil Quality Guideline*
Blue *Exceeds Applied Landfill Acceptance Guideline*

Winnipeg North Transite Garage
Table 9: Soil Analytical Results - Toxicity Characteristic Leaching Procedure

AEC	EQG [a]	Landfill Acceptance Criteria [c]	Units	1 - Landfill
Sample ID:				TH24-19-4.4
Date Sampled (dd/mmm/yyyy):				29-Jan-2024
Depth (m bgs)				4.4
Parameter				
pH, TCLP 1st preliminary	**NG**	**NG**	pH units	9.37
pH, TCLP 2nd preliminary	**NG**	**NG**	pH units	5.64
pH, TCLP extraction fluid initial	**NG**	**NG**	pH units	2.87
pH, TCLP final	**NG**	**NG**	pH units	5.14
Lead, TCLP	**5**	**5** [a]	mg/L	<0.25
Total Lead	**600** [b]	**600**	mg/kg	265

[a] *Government of Manitoba Hazardous Waste Regulation 195/2015. The Dangerous Goods Handling and Transportation Act (C.C.S.M.c.D12). November 25, 2015.*

[b] *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use.*

[c] Landfill Acceptance Criteria - *Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (Acessed in December 2024) , Industrial Land Use, Environmental Soil Contact Pathway*

m bgs - metres below ground surface.

mg/L - miligram per litre.

NG - No Guideline.

< - Denotes concentration less than indicated detection limit.

Yellow *Exceeds Applied Guideline*

Blue *Exceeds Applied Landfill Acceptance Guideline*

Winnipeg North Transit Garage
Table 10: Groundwater Analytical Results - Petroleum Hydrocarbons

			AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	2 - Speedway
			Sample Location	MW24-01	MW24-02	MW24-03	DUP-01 (Duplicate of MW24-03)	MW24-04
			Sample Date (dd/mmm/yyyy):	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024
			Sample ID	MW24-01	MW24-02	MW24-03	DUP-01	MW24-04
Parameter	GQG [a]	Units						
Benzene	**19**	mg/L	2.17	0.00051	0.00161	0.00079	<0.00050
Toluene	**240**	mg/L	0.1	<0.00050	0.00056	<0.00050	<0.00050
Ethylbenzene	**150**	mg/L	1.99	0.00104	0.00109	0.00055	<0.00050
Xylenes, Total	**74**	mg/L	2.74	0.00146	0.00097	<0.50	0.00059
PHC F1 (C6-C10) minus BTEX	**9.9**	mg/L	2.04	<0.10	<0.10	<0.10	<0.10
PHC F2 (>C10-C16)	**3.1**	mg/L	**3.88**	0.45	<0.10	<0.10	0.15
PHC F3 (>C16-C34 range)	**0.500** [b]	mg/L	0.28	**1.2**	<0.25	<0.25	**0.52**
PHC F4 (>C34-C50 range)	**0.500** [b]	mg/L	<0.25	0.45	<0.25	<0.25	<0.25

[a] *Federal Contaminated Sites Action Plan (FCSAP), Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.*

[b] *Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)*

mg/L: milligrams per litres

< :Denotes concentration less than indicated detection limit

n/g: no guideline

PHC: Petroleum Hydrocarbons

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Groundwater Quality Guideline*

Winnipeg North Transit Garage
Table 11: Groundwater Analytical Results - Polycyclic Aromatic Hydrocarbons

			AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	1 - Landfill	2 - Speedway	2 - Speedway	2 - Speedway
			Sample Location	MW24-01	MW24-02	MW24-03	DUP-01 (Duplicate of MW24-03)	MW24-06	MW24-04	BH23-09	BH23-28
			Sample Date (dd/mmm/yyyy):	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024
			Sample ID	MW24-01	MW24-02	MW24-03	DUP-01	MW24-06	MW24-04	BH23-09	BH23-28
Parameter	GQG [a]	MOE [b]	Units								
Acenaphthene	NG	**1.7**	mg/L	0.000594	<0.000060	<0.000010	<0.000010	<0.000010	0.000427	<0.000010	<0.000010
Acenaphthylene	NG	**0.0018**	mg/L	<0.000150	<0.000030	<0.000010	<0.000010	<0.000010	0.000064	<0.000010	<0.000010
Acridine	NG	NG	mg/L	<0.000230	<0.000200	<0.000010	<0.000010	<0.000010	<0.000470	<0.000010	<0.000010
Anthracene	**0.32**	0.0024	mg/L	<0.000060	<0.000040	<0.000010	<0.000010	<0.000010	0.00118	<0.000010	<0.000010
Benzo(a)anthracene	NG	**0.0047**	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.0025	<0.000010	<0.000010
Benzo(a)pyrene	**0.0066**	0.00081	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.0022300	<0.0000050	<0.0000050
Benzo(b&j)fluoranthene	NG	NG	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.002660	<0.000010	<0.000010
Benzo(g,h,i)perylene	NG	**0.0002**	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	**0.00118**	<0.000010	<0.000010
Benzo(k)fluoranthene	NG	**0.0004**	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	**0.000878**	<0.000010	<0.000010
Chrysene	NG	**0.001**	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	**0.0017**	<0.000010	<0.000010
Dibenz(a,h)anthracene	NG	**0.00052**	mg/L	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	0.00029	<0.0000050	<0.0000050
Fluoranthene	**0.86**	0.13	mg/L	<0.000030	0.000013	<0.000010	<0.000010	<0.000010	0.005280	<0.000010	0.000014
Fluorene	NG	**0.4**	mg/L	0.000459	<0.000140	<0.000010	<0.000010	<0.000010	0.000648	<0.000010	<0.000010
Indeno(1,2,3-cd)pyrene	NG	**0.0002**	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	**0.001470**	<0.000010	<0.000010
1-Methylnaphthalene	**150**	1.8	mg/L	0.067600	0.000098	0.000019	0.000014	<0.000010	0.000144	<0.000010	0.000014
2-Methylnaphthalene	**150**	1.8	mg/L	0.144000	0.000075	0.000035	0.000018	<0.000010	0.000157	<0.000010	0.000019
Naphthalene	NG	**6.4**	mg/L	0.467	<0.000075	<0.000100	<0.000050	<0.000050	0.000268	<0.000050	<0.000050
Phenanthrene	NG	**0.580**	mg/L	0.000331	0.000216	<0.000020	<0.000020	<0.000020	0.0038	<0.000020	<0.000020
Pyrene	NG	**0.068**	mg/L	0.000046	0.000067	<0.000010	0.000012	<0.000010	0.004670	<0.000010	0.000022
Quinoline	NG	NG	mg/L	<0.0184	<0.000150	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050

[a] *Federal Contaminated Sites Action Plan (FCSAP), Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.*

[b] *Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)*

mg/L: milligrams per litres

< :Denotes concentration less than indicated detection limit

n/g: no guideline

NA: Not Analyzed

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Groundwater Quality Guideline*

				Monitoring Well ID	MW24-01	MW24-02	MW24-03	DUP-01 (Duplicate of MW24-03)	MW24-04
				Date Sampled (dd/mmm/yyyy):	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024
	GQG [a]	GQG [b]	Units						
Acetone	**110,000**	130	mg/L		0.034	<0.0020	<0.0020	<0.0020	<0.0020
Benzene	**19**	0.43	mg/L		2.17	0.00051	0.00161	0.00079	<0.00050
Bromodichloromethane	NG	**85**	mg/L		0.00112	<0.00050	<0.00050	<0.00050	<0.00050
Bromoform	**13**	0.77	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bromomethane	**0.23**	0.056	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Carbon disulfide	**NG**	NG	mg/L		0.0013	<0.0010	<0.0010	<0.0010	<0.0010
Carbon Tetrachloride	**0.078**	0.0084	mg/L		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	**2.2**	0.630	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dibromochloromethane	**250**	82	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chloroethane	**NG**	NG	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chloroform	NG	**0.022**	mg/L		0.0111	<0.00050	<0.00050	<0.00050	<0.00050
Chloromethane	**NG**	NG	mg/L		0.0052	<0.0020	<0.0020	<0.0020	<0.0020
1,2-Dibromoethane	**NG**	NG	mg/L		0.00042	<0.00020	<0.00020	<0.00020	<0.00020
1,2-Dichlorobenzene	NG	**9.6**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,3-Dichlorobenzene	NG	**9.6**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,4-Dichlorobenzene	**32**	0.067	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichlorodifluoromethane	NG	**4.4**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1-Dichloroethane	**44**	3.1	mg/L		0.001	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichloroethane	**1.2**	0.012	mg/L		0.0119	<0.00050	<0.00050	<0.00050	<0.00050
1,1-Dichloroethylene	NG	**0.017**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichloroethylene, cis+trans-1,2-	**NG**	NG	mg/L		<0.00071	<0.00071	<0.00071	<0.00071	<0.00071
Dichloroethylene, cis-1,2-	NG	**0.017**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichloroethylene, trans-1,2-	NG	**0.017**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dichloromethane	**410**	NG	mg/L		0.213	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dichloropropane	**2**	0.140	mg/L		0.00405	<0.00050	<0.00050	<0.00050	<0.00050
Dichloropropylene, cis+trans-1,3-	**NG**	NG	mg/L		0.0009	<0.00050	<0.00050	<0.00050	<0.00050
Dichloropropylene, cis-1,3-	**NG**	NG	mg/L		0.0009	<0.00030	<0.00030	<0.00030	<0.00030
Dichloropropylene, trans-1,3-	**NG**	NG	mg/L		<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	**150**	2.300	mg/L		1.990	0.00104	0.00109	0.00055	<0.00050
Hexane	NG	**0.520**	mg/L		0.483	<0.00050	<0.00050	<0.00050	<0.00050
2-Hexanone (Methyl butyl ketone)	**2,500**	580	mg/L		<0.020	<0.020	<0.020	<0.020	<0.020
MEK	**NG**	NG	mg/L		0.026	<0.020	<0.020	<0.020	<0.020
MIBK	**NG**	NG	mg/L		<0.020	<0.020	<0.020	<0.020	<0.020
MTBE	**40**	1.4	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	NG	**9.1**	mg/L		0.0032	<0.00050	<0.00050	<0.00050	<0.00050
1,1,1,2-Tetrachloroethane	**0.38**	0.028	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1,2,2-Tetrachloroethane	**0.21**	0.015	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Tetrachloroethylene	NG	**0.017**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	**240**	18	mg/L		0.1	<0.00050	0.00056	<0.00050	<0.00050
1,1,1-Trichloroethane	**95**	6.7	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,1,2-Trichloroethane	**0.41**	0.030	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichloroethylene	**0.27**	0.017	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Trichlorofluoromethane	NG	**2.5**	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Vinyl Chloride	**0.12**	0.0017	mg/L		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Xylene, m+p-	**NG**	NG	mg/L		2.72	0.00146	0.00097	0.00043	0.00059
Xylene, o-	**NG**	NG	mg/L		0.0164	<0.00030	<0.00030	<0.00030	<0.00030
Xylenes, total	**74**	4.2	mg/L		2.74	1.46	0.97	<0.50	0.59
BTEX, total	**NG**	NG	mg/L		7.00	0.003	0.0042	0.0018	<0.001

[a] Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.

[b] Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)

All results and water quality guidelines in mg/L, unless otherwise noted.

GQG - groundwater quality guideline.

mg/L - milligram per Litre.

NG - No Guideline.

< - Denotes concentration less than indicated detection limit.

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Groundwater Quality Guideline*

Winnipeg North Transit Garage
Table 13: Groundwater Analytical Results - Nutrients

			AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	1 - Landfill	2 - Speedway	2 - Speedway	2 - Speedway
			Monitoring Well ID	MW24-01	MW24-02	MW24-03	DUP-01 (Duplicate of MW24-03)	MW24-06	BH23-09	BH23-28	MW24-04
			Date Sampled (dd/mmm/yyyy):	6-Mar-2024	6-Mar-2024	6-Mar-2024	7-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024	6-Mar-2024
	GQG [a]	GQG [b]	Units								
Ammonia, total (as N)	**NG**	NG	mg/L	1.51	N/A	0.0333	0.0387	0.0155	0.136	0.196	1.3
Bromide	**NG**	NG	mg/L	<5.00	N/A	<2.00	<5.00	<10.0	<5.00	<10.0	<2.00
Chloride	NG	**2300**	mg/L	1040	N/A	678	670	**3470**	**3500**	**3600**	224
Fluoride	**NG**	NG	mg/L	<1.00	N/A	<0.400	<1.00	<2.00	<1.00	<2.00	<0.400
Kjeldahl nitrogen, total [TKN]	**NG**	NG	mg/L	4.53	N/A	0.528	0.6	1.25	1.1	1.14	3.81
Nitrate (as N)	**NG**	NG	mg/L	<1.00	N/A	<0.400	<1.00	2.86	<1.00	<2.00	<0.400
Nitrite (as N)	**NG**	NG	mg/L	<0.500	N/A	<0.200	<0.500	<1.00	<0.500	<1.00	<0.200
Phosphorus, total	**NG**	NG	mg/L	0.778	N/A	0.061	0.234	0.142	0.057	0.043	0.745
Sulfate (as SO4)	**NG**	NG	mg/L	2580	N/A	2150	2140	4440	3890	4460	172

[a] *Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.*

[b] *Ontario Ministry of the Environment (MOE) Soil Quality Guidelines (2011) - Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use)*

All results and water quality guidelines in mg/L, unless otherwise noted.

GQG - groundwater quality guideline.

mg/L - milligram per Litre.

NG - No Guideline.

< - Denotes concentration less than indicated detection limit.

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Groundwater Quality Guideline*

Winnipeg North Transit Garage
Table 14: Groundwater Analytical Results - Dissolved Metals

			AEC	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	3 - Former Gas Station	1 - Landfill	2 - Speedway	2 - Speedway	2- Speedway
			Monitoring Well ID	MW24-01	MW24-02	MW24-03	DUP-01 (Duplicate of MW24-03)	MW24-06	BH23-09	BH23-28	MW24-04
			Date Sampled (dd/mmm/yyyy):	06-Mar-2024	06-Mar-2024	06-Mar-2024	7-Mar-2024	06-Mar-2024	06-Mar-2024	06-Mar-2024	06-Mar-2024
	GQG [a]	MOE [b]	Units								
Aluminum (Al)-Dissolved	**NG**	NG	mg/L	0.0151	N/A	0.0047	0.0198	<0.0100	<0.0100	0.0105	0.0068
Antimony (Sb)-Dissolved	NG	**20**	mg/L	0.00164	N/A	0.00023	<0.00100	<0.00100	0.00101	<0.00100	0.00963
Arsenic (As)-Dissolved	NG	**1.9**	mg/L	0.0462	N/A	0.00142	<0.00100	0.00133	0.00224	0.00145	0.00352
Barium (Ba)-Dissolved	NG	**29**	mg/L	0.108	N/A	0.0228	0.021	0.0357	0.0238	0.0298	0.353
Beryllium (Be)-Dissolved	NG	**0.067**	mg/L	<0.000200	N/A	<0.000020	<0.000200	<0.000200	<0.000200	<0.000200	<0.000020
Bismuth (Bi)-Dissolved	**NG**	NG	mg/L	<0.000500	N/A	<0.000050	<0.000500	<0.000500	<0.000500	<0.000500	<0.000050
Boron (B)-Dissolved	NG	**45**	mg/L	0.145	N/A	0.392	0.413	0.414	0.264	0.244	1.56
Cadmium (Cd)-Dissolved	NG	**0.0027**	mg/L	<0.0000500	N/A	0.0000371	<0.0000500	0.000134	0.000148	0.0000773	0.0000122
Calcium (Ca)-Dissolved	**NG**	NG	mg/L	423	N/A	547	508	569	550	488	243
Cesium (Cs)-Dissolved	**NG**	NG	mg/L	<0.000100	N/A	<0.000010	<0.000100	<0.000100	<0.000100	<0.000100	<0.000010
Chromium (Cr)-Dissolved	NG	**0.810**	mg/L	<0.00500	N/A	<0.00050	<0.00500	<0.00500	<0.00500	<0.00500	0.00232
Cobalt (Co)-Dissolved	NG	**0.066**	mg/L	<0.00100	N/A	0.0105	0.0101	<0.00100	0.00309	0.00264	0.00317
Copper (Cu)-Dissolved	NG	**0.087**	mg/L	<0.00200	N/A	0.00237	0.00256	0.00728	0.003	0.00392	0.00484
Iron (Fe)-Dissolved	**NG**	NG	mg/L	0.22	N/A	0.184	<0.100	<0.100	<0.100	<0.100	0.189
Lead (Pb)-Dissolved	NG	**0.025**	mg/L	0.00412	N/A	<0.000050	<0.000500	<0.000500	0.000885	<0.000500	0.0022
Lithium (Li)-Dissolved	**NG**	NG	mg/L	0.199	N/A	0.342	0.288	0.611	0.539	0.64	0.21
Magnesium (Mg)-Dissolved	**NG**	NG	mg/L	766	N/A	518	426	1020	1120	1440	322
Manganese (Mn)-Dissolved	**NG**	NG	mg/L	0.924	N/A	2.75	3.23	0.158	1.17	1.15	0.783
Molybdenum (Mo)-Dissolved	NG	**9.2**	mg/L	0.00132	N/A	0.00964	0.012	0.0032	0.00842	0.0152	0.00497
Nickel (Ni)-Dissolved	NG	**0.490**	mg/L	<0.00500	N/A	0.0248	0.0269	0.0188	0.0198	0.0218	0.0106
Phosphorus (P)-Dissolved	**NG**	NG	mg/L	0.634	N/A	0.076	<0.500	<0.500	<0.500	<0.500	0.118
Potassium (K)-Dissolved	**NG**	NG	mg/L	5.14	N/A	4.15	2.61	10.7	9.42	4.75	15.8
Rubidium (Rb)-Dissolved	**NG**	NG	mg/L	<0.00200	N/A	0.00117	<0.00200	0.00469	<0.00200	0.00268	0.00242
Selenium (Se)-Dissolved	NG	**0.063**	mg/L	0.00058	N/A	0.000255	<0.000500	0.00094	0.00063	<0.000500	0.000342
Silicon (Si)-Dissolved	**NG**	NG	mg/L	17.3	N/A	9.33	7.04	11.2	9.29	6.28	11.5
Silver (Ag)-Dissolved	NG	**0.0015**	mg/L	<0.000100	N/A	0.000011	<0.000100	<0.000100	<0.000100	<0.000100	0.000024
Sodium (Na)-Dissolved	NG	**2300**	mg/L	750	N/A	411	394	2270	1520	1290	328
Strontium (Sr)-Dissolved	**NG**	NG	mg/L	1.9	N/A	4.93	4.87	4.91	3.29	3.35	2.78
Sulfur (S)-Dissolved	**NG**	NG	mg/L	978	N/A	761	734	1660	1390	1400	80.5
Tellurium (Te)-Dissolved	**NG**	NG	mg/L	<0.00200	N/A	0.00021	<0.00200	<0.00200	<0.00200	<0.00200	<0.00020
Thallium (Tl)-Dissolved	NG	**0.510**	mg/L	<0.000100	N/A	<0.000010	<0.000100	<0.000100	<0.000100	<0.000100	<0.000010
Thorium (Th)-Dissolved	**NG**	NG	mg/L	<0.00100	N/A	<0.00010	<0.00100	<0.00100	<0.00100	<0.00100	<0.00010
Tin (Sn)-Dissolved	**NG**	NG	mg/L	0.00185	N/A	0.00069	<0.00100	0.0024	0.00124	0.00109	0.002
Titanium (Ti)-Dissolved	**NG**	NG	mg/L	<0.00300	N/A	<0.00030	<0.00300	<0.00300	<0.00300	<0.00300	0.00124
Tungsten (W)-Dissolved	**NG**	NG	mg/L	<0.00100	N/A	<0.00010	<0.00100	<0.00100	<0.00100	<0.00100	0.00019
Uranium (U)-Dissolved	NG	**0.420**	mg/L	0.00435	N/A	0.036	0.034	0.161	0.134	0.0976	0.00732
Vanadium (V)-Dissolved	NG	**0.250**	mg/L	0.00544	N/A	0.00064	<0.00500	<0.00500	<0.00500	<0.00500	0.00236
Zinc (Zn)-Dissolved	NG	**1.1**	mg/L	<0.0100	N/A	0.0033	<0.0100	0.0289	0.0148	0.0133	0.0123
Zirconium (Zr)-Dissolved	**NG**	NG	mg/L	0.00615	N/A	0.00206	<0.00300	<0.00300	<0.00300	0.00905	0.00902

[a] *Federal Contaminated Sites Action Plan (FCSAP), Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.*

[b] *Ontario Ministry of Environment (MOE), Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, July 1, 2011.*

All results and water quality guidelines in mg/L, unless otherwise noted.

mg/L - milligram per Litre.

NG - No Guideline.

< - Denotes concentration less than indicated detection limit.

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Groundwater Quality Guideline*

Winnipeg North Transit Garage
Table 15: Groundwater Analytical Results - Dioxin and Furans

			AEC	1 - Landfill
			Monitoring Well ID	MW24-06
			Date Sampled (dd/mmm/yyyy):	06-Mar-2024
	GQG [a]	MOE [b]	Units	
2,3,7,8-TCDD	**NG**	NG	pg/L	<0.58
1,2,3,7,8-PeCDD	**NG**	NG	pg/L	<0.79
1,2,3,4,7,8-HxCDD	**NG**	NG	pg/L	<0.73
1,2,3,6,7,8-HxCDD	**NG**	NG	pg/L	<0.74
1,2,3,7,8,9-HxCDD	**NG**	NG	pg/L	<0.69
1,2,3,4,6,7,8-HpCDD	**NG**	NG	pg/L	0.74
OCDD	**NG**	NG	pg/L	4.5
Total-TCDD	**NG**	NG	pg/L	<0.58
Total-PeCDD	**NG**	NG	pg/L	<0.79
Total-HxCDD	**NG**	NG	pg/L	<0.74
Total-HpCDD	**NG**	NG	pg/L	<0.68
2,3,7,8-TCDF	**NG**	NG	pg/L	<0.53
1,2,3,7,8-PeCDF	**NG**	NG	pg/L	<0.36
2,3,4,7,8-PeCDF	**NG**	NG	pg/L	<0.37
1,2,3,4,7,8-HxCDF	**NG**	NG	pg/L	<0.35
1,2,3,6,7,8-HxCDF	**NG**	NG	pg/L	<0.37
1,2,3,7,8,9-HxCDF	**NG**	NG	pg/L	<0.51
2,3,4,6,7,8-HxCDF	**NG**	NG	pg/L	<0.37
1,2,3,4,6,7,8-HpCDF	**NG**	NG	pg/L	0.47
1,2,3,4,7,8,9-HpCDF	**NG**	NG	pg/L	<0.56
OCDF	**NG**	NG	pg/L	2.0
Total-TCDF	**NG**	NG	pg/L	<0.53
Total-PeCDF	**NG**	NG	pg/L	<0.37
Total-HxCDF	**NG**	NG	pg/L	<0.51
Total-HpCDF	**NG**	NG	pg/L	<0.56
Toxic Equivalency (Water)				
Lower Bound PCDD/F TEQ (WHO 2005)	**NG**	NG	pg/L	0.0047
Mid Point PCDD/F TEQ (WHO 2005)	NG	**23,000**	pg/L	0.977
Upper Bound PCDD/F TEQ (WHO 2005)	**NG**	NG	pg/L	1.94

[a] *Federal Contaminated Sites Action Plan (FCSAP), Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (2016) - Generic Guidelines for Commercial and Industrial Land Uses, Fine Grained Soil.*

[b] *Ontario Ministry of Environment (MOE), Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, July 1, 2011.*

All results and water quality guidelines in pg/L, unless otherwise noted.

mg/L - milligram per Litre.

NG - No Guideline.

< - Denotes concentration less than indicated detection limit.

BOLD *Reportable Detection Limit (RDL) exceeds the regulatory standard*

Yellow *Exceeds Applied Groundwater Quality Guideline*

Appendix A Borehole Logs

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-01**
LOCATION: UTM: 14U, 5532433.279 m N, 0628334.527 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Core	ELEVATION (m): 234.84

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		ASPHALT - 100 mm thick					234
1		FILL: biege poorly graded gravel with sand - moist, loose to compact		01 02			
2		FILL: black fat CLAY (CH) - moist, firm to stiff		03		Sample TH24-01-03 submitted for analysis of BTEX, PHC F1 - F4, and PAHs.	233
3		firm to stiff brown fat CLAY (CH) - moist below 1.98 m - silt inclusions		04			232
4				05 06			231
5							230
6		- grey					229
7		- soft to firm					228
8		very loose to loose grey silt (ML) TILL -moist below 3.05 m					227
9		- dense to very dense					226
10							225
11		- cobbles and boulders					224
12							223
13							222
14		- boulders					221
15		CLAY MUDSTONE (Stony Mountain Formation, Gunn Member) - dark greyish red to purplish grey					220
16		- calcareous shale to argillaceous dolomite - interbeds of relatively clean limestone					219
17							218
18		DOLOMITE (Stony Mountain Formation, Gunton Member) - buff - finely crystalline					217
19		- sparsely fossiliferous - nodular-bedded					216
20		END OF TEST HOLE - auger refusal at a depth of 10.67 m in silt (ML) TILL					215
21		- sloughing observed at a depth of 10.36 m in silt (ML) TILL - heavy seepage observed at a depth of 8.53 m in silt (ML) TILL					214
22		- water level unavailable due to uuse of coring method					213
23							212
24							211
25							210

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 19.81 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-30
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-02**
LOCATION: UTM: 14U, 5532473.116 m N, 0628286.160 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 235.07

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					
		FILL: brown gravelly fat CLAY (CH) - moist, soft to firm, high plastic	■	01		Sample TH24-02-01 submitted for analysis of BTEX, PHC F1 - F4, and PAHs. Sample TH24-02-02 submitted for analysis of BTEX, PHC F1 - F4, and PAHs.	234
1		- black	■	02			
2		soft to firm brown fat CLAY (CH) - moist below 1.83 m	■	03			233
			■	04			
3							232
			■	05			
4			■	06			231
		- silt inclusions - grey					
5							230
6							229
7							228
8							227
9		very loose to loose grey silt (ML) TILL - moist below 8.53 m					226
10		END OF TEST HOLE - auger refusal at a depth of 9.45 m in silt (ML) TILL - heavy seepage observed at a depth of 8.53 m in silt (ML) TILL - no sloughing observed - groundwater was observed at a depth 7.47 m					225
11							224
12							223
13							222
14							221
15							220
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 9.60 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-7
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-03**
LOCATION: UTM: 14U, 5532502.090 m N, 0628225.720 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Core	ELEVATION (m): 235.53

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					235
1		FILL: brown gravelly fat CLAY (CH) with sand - moist, soft to firm, high plastic - wood debris		01 02		Sample TH24-03-02 submitted for analysis of metals, EC, SAR, and pH.	234
2		- black		03			
		loose to compact brown SILT (ML) - moist below 1.83 m		04			233
3		firm to stiff brown sandy fat CLAY (CH) - moist below 2.13 m		05			232
4				06			231
5		- grey					230
6							229
7							228
8							227
9		loose to compact grey silt (ML) TILL - moist below 8.69 m					226
10							225
11		- compact to dense - cobbles and boulders					224
12							223
13		CLAY MUDSTONE (Stony Mountain Formation, Gunn Member) - dark greyish red to purplish grey - calcareous shale to argillaceous dolomite - interbeds of relatively clean limestone					222
14							221
15							220
16							219
17							218
18		DOLOMITE (Stony Mountain Formation, Gunton Member) - buff - finely crystalline - sparsely fossiliferous - nodular-bedded					217
19							216
20		END OF TESTHOLE - auger refusal at a depth of 11.43 m in silt (ML) TILL - heavy seepage observed at a depth of 9.14 m in silt (ML) TILL - sloughing observed at a depth of 10.97 m in silt (ML) TILL - water level unavailable due to use of coring method					215
21							214
22							213
23							212
24							211
25							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 19.96 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-04**
LOCATION: UTM: 14U, 5532383.943 m N, 0628344.708 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 235.39

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		ASPHALT - 100 mm thick					235
		FILL: tan clayey gravel (GC) with sand FILL - moist, loose to compact		01		Sample TH24-04-01 submitted for analysis of BTEX, PHC F1 - F4, and PAHs.	
1		FILL: tan gravelly fat clay (CH) FILL - moist, loose to compact		02			234
				03			
		loose to compact brown SILT (ML) - moist below 1.52 m					
2		stiff to very stiff brown sandy fat CLAY (CH) - high plastic - moist below 1.83 m		04			233
3							
				05			232
4				06			
		- grey - very soft to soft					231
5							
							230
6							
							229
7							
							228
8							
							227
9		very loose to loose grey silt (ML) TILL - moist below 8.84 m					
							226
10							
							225
		END OF TESTHOLE - testhole was terminated at a depth of 10.06 m in silt (ML) TILL - heavy seepage observed at 10.06 m silt (ML) TILL - sloughing was observed at a depth of 9.14 m in silt (ML) TILL - groundwater was observed at a depth of 9.14 m					
11							224
12							
							223
13							
							222
14							
							221
15							
							220
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 10.52 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-5
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-05**
LOCATION: UTM: 14U, 5532417.307 m N, 0628302.753 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 234.95

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		ASPHALT - 100 mm thick					
		FILL: tan clayey gravel (GC) with sand FILL					
		- moist, loose to compact		01	⊗	Sample TH24-05-01 submitted for analysis of BTEX, PHC F1 - F4, and PAHs.	
1		FILL: tan gravelly fat clay (CH) FILL					234
		- moist, loose to compact		02	⊗		
		stiff to very stiff brown fat CLAY (CH)		03	⊗		
		- high plastic					
2		- moist below 1.22 m					233
				04	⊗	Sample TH24-05-02 submitted for analysis of BTEX, PHC F1 - F4, and PAHs.	
3		- grey					232
		- firm to stiff		05	⊗		
4				06	⊗		231
5							230
6		- very soft to soft					229
7							228
8							227
9							226
		very loose to loose grey silt (ML) TILL					
10		- moist below 9.14 m					225
		END OF TESTHOLE					
11		- testhole was terminated at a depth of 10.06 m in silt (ML) TILL					224
		- heavy seepage observed at 9.14 m silt (ML) TILL					
12		- sloughing was observed at a depth of 9.14 m in silt (ML) TILL					223
		- no groundwater observed					
13							222
14							221
15							220
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 10.52 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-5
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-06**
LOCATION: UTM: 14U, 5532462.977 m N, 0628231.994 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Hollow Stem Auger	ELEVATION (m): 235.64

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					235
		FILL: tan clayey gravel (GC) with sand FILL - moist, loose to compact		01			
1		FILL: tan gravelly fat clay (CH) FILL - moist, firm to stiff - high plastic		02 03		Sample TH24-06-02 submitted for analysis of metals.	234
2		very loose to loose brown SILT (ML) - moist below 1.83 m		04			233
3				05			232
4				06			231
5		firm to stiff grey fat CLAY (CH) - high plastic - moist below 4.57 m					230
6							229
7							228
8							227
9		very loose to loose grey silt (ML) TILL - moist below 8.84 m					226
10		END OF TESTHOLE - auger refusal at a depth of 9.14 m in silt (ML) TILL - heavy seepage was observed at a depth of 8.84 m in silt (ML) TILL - sloughing observed at 2.13 m in SILT (ML) - no groundwater observed					225
11							224
12							223
13							222
14							221
15							220
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 9.60 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-2
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-07**
LOCATION: UTM: 14U, 5532375.238 m N, 0628273.388 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Hollow Stem Auger	ELEVATION (m): 236.17

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ▨ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					236
		FILL: black gravelly fat clay (CH) with sand FILL					
		- moist, firm to stiff		01			
1		- high plastic					235
		- grey		02			
				03			
2		- black					234
				04		Sample TH24-07-04 submitted for analysis of metals.	
		very loose to loose brown SILT (ML)					
3		- moist below 2.44 m					233
4							232
		firm to stiff grey fat CLAY (CH)					
5		- high plastic					231
		- moist below 4.57 m					
6							230
7							229
		- soft to firm					
8							228
9							227
		loose to compact grey silt (ML) TILL					
10		- moist below 8.84 m					226
		- tan					
11		- dense to very dense					225
12							224
		END OF TESTHOLE					
13		- auger refusal at a depth of 12.19 m in silt (ML) TILL					223
		- heavy seepage was observed at a depth of 9.14 m in silt (ML) TILL					
14		- sloughing observed at 2.44 m in SILT (ML) and at 10.67 m in silt (ML) TILL					222
		- final groundwater depth at 4.11 m					
15							221
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 12.50 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-5
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-08**
LOCATION: UTM: 14U, 5532449.508 m N, 0628193.277 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 236.84

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					
		FILL: black gravelly fat clay (CH) with sand FILL					
1		- moist, firm to stiff		01			236
		- high plastic					
		- brown		02			
				03		Sample TH24-08-02 submitted for analysis of metals.	
2		- black		04			235
3		very loose to loose brown SILT (ML)					234
		- moist below 3.05 m		05			
		- very wet					
4		firm to stiff grey fat CLAY (CH)		06			233
		- high plastic					
5		- moist below 4.11 m					232
6		- soft to firm					231
7							230
8							229
9							228
10		compact to dense grey silt (ML) TILL					227
		- moist below 9.75 m					
11							226
12							225
13		END OF TESTHOLE					224
		- auger refusal at a depth of 12.50 m in silt (ML) TILL					
		- heavy seepage was observed at a depth of 9.75 m in silt (ML) TILL					
		- sloughing observed at 3.05 m in SILT (ML) and at 10.67 m in silt (ML) TILL					
14		- final groundwater depth at 7.77 m					223
15							222
16							221

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 12.65 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-2
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-09**
LOCATION: UTM: 14U, 5532323.360 m N, 0628267.783 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Core	ELEVATION (m): 236.91

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0	TOPSOIL: black, moist, with organic content					236
1	FILL: brown gravelly fat CLAY (CH) - moist, soft to firm - high plastic	■	01 02 03			235
2	very loose to loose brown SILT (ML) - moist below 0.30 m	■	04			234
3	firm to stiff black gravelly fat CLAY (CH) - moist below 0.76 m - black layer	■	05		Sample TH24-09-04 submitted for analysis of metals.	233
4	very loose to loose brown SILT (ML) - moist below 3.35 m	■	06		Sample TH24-09-05 submitted for analysis of metals.	232
5	firm to stiff brown gravelly fat CLAY (CH) - moist below 0.76 m - black layer					231
6	- grey					230
7						229
8	- very soft to soft					228
9						227
10						226
11	compact to dense grey silt (ML) TILL - boulders					225
12						224
13						223
14						222
15						221
16						220
17	CLAY MUDSTONE (Stony Mountain Formation, Gunn Member) - dark greyish red to purplish grey - calcareous shale to argillaceous dolomite - interbeds of relatively clean limestone					219
18						218
19						217
20	END OF TEST HOLE - auger refusal at a depth of 10.82 m in silt (ML) TILL - sloughing observed at a depth of 3.35 m in SILT (ML) - heavy seepage observed at a depth of 9.14 m in silt (ML) TILL - water level unavailable due to use of cor					216
21						215
22						214
23						213
24						
25						

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 20.12 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-6
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-10**
LOCATION: UTM: 14U, 5532349.209 m N, 0628235.631 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 236.91

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					
		FILL: black gravelly fat CLAY (CH) with sand - moist, firm to stiff - high plastic		01			
1				02		Sample TH24-10-02 submitted for analysis of metals.	236
				03			
2				04			235
3		very loose to loose brown sandy SILT (ML) - moist below 3.05 m		05		Sample TH24-10-04 submitted for analysis of metals.	234
4				06			233
		firm to stiff brown fat CLAY (CH) - high plastic - moist below 4.11 m					
5							232
6		- grey - soft to firm					231
7							230
8							229
9		- very soft to soft					228
10							227
11		compact to dense grey silt (ML) TILL - moist below 10.67 m					226
12							225
13		END OF TESTHOLE - auger refusal at a depth of 12.19 m in silt (ML) TILL - heavy seepage was observed at a depth of 9.14 m in silt (ML) TILL - sloughing observed at 3.05 m in SILT (ML) and at 10.67 m in silt (ML) TILL - final groundwater depth observed at 3.69 m					224
14							223
15							222
16							221

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 12.65 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-7
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-11**
LOCATION: UTM: 14U, 5532387.627 m N, 0628183.369 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 237.43

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					237
		FILL: brown silty sand (SM) with with gravel - moist, loose to compact		01			
1		FILL: black gravelly fat CLAY (CH) with sand - moist, firm to stiff - high plastic		02			236
				03			
2				04		Sample TH24-11-03 submitted for analysis of metals.	235
3							
				05			234
4		very loose to loose brown sandy SILT (ML) - moist below 3.81 m		06			
		firm to stiff brown fat CLAY (CH) - high plastic - moist below 4.11 m					233
5							
		- grey - very soft to soft					232
6							
							231
7							
							230
8							
							229
9							
							228
10							
							227
11							
							226
12							
		compact to dense grey silt (ML) TILL - moist below 10.67 m					225
13							
							224
14		END OF TESTHOLE - auger refusal at a depth of 13.41 m in silt (ML) TILL - heavy seepage was observed at a depth of 6.10 m in fat CLAY (CH) - no sloughing observed - final groundwater depth observed at 4.42 m					223
15							
							222
16							

AECOM	LOGGED BY: CW	COMPLETION DEPTH: 13.87 m
	REVIEWED BY: GL	COMPLETION DATE: 24-2-7
	PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-12**
LOCATION: UTM: 14U, 5532443.423 m N, 628118.013 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Core	ELEVATION (m): 237.93

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					
1		FILL: brown gravelly fat CLAY (CH) with sand - moist, soft to firm - low plastic		01 02 03			237
2		- black organics		04		Sample TH24-12-03 submitted for analysis of metals. Sample TH24-12-04 submitted for analysis of dioxins and furans.	236
3		- boulder		05			235
4		loose to compact brown sandy SILT (ML) - moist below 3.66 m		06			234
5		firm to stiff grey fat CLAY (CH) - high plastic - moist below 4.57 m - cobbles and boulders					233
6							232
7							231
8		- soft to firm					230
9							229
10							228
11		compact to dense grey silt (ML) TILL - moist below 10.67 m					227
12							226
13		- dense to very dense - cobbles and boulders					225
14							224
15							223
16							222
17							221
18		CLAY MUDSTONE (Stony Mountain Formation, Gunn Member) - dark greyish red to purplish grey - calcareous shale to argillaceous dolomite - interbeds of relatively clean limestone					220
19							219
20							218
21		DOLOMITE (Stony Mountain Formation, Gunton Member) - buff - finely crystalline - sparsely fossiliferous - nodular-bedded - bedrock poor quality Void in bedrock to 24.69 m					217
22							216
23							215
24							214
25		Sand seam					213
26							212
27		END OF TESTHOLE - auger refusal at a depth of 12.19 m in silt (ML) TILL - heavy seepage was observed at a depth of 9.14 m in fat CLAY (CH) - sloughing was observed at a depth of 10.36 m in silt (ML) TILL - water level unavailable due to use of coring method					211
28							210
29							209
30							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 25.76 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-1
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-13**
LOCATION: UTM: 14U, 55323326.097 m N, 0628171.223 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 237.98

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					
		FILL: brown gravelly fat CLAY (CH) with sand					
		- moist, soft to firm		01			
1		- high plastic		02		Sample TH24-13-02 submitted for analysis of metals, EC, SAR, and pH.	237
		- black		03			
2							236
		- black to grey		04		Sample TH24-13-04 submitted for analysis of metals.	
		- firm to stiff					
3		- asphalt debris					235
				05			
		firm to stiff brown fat CLAY (CH)					
4		- high plastic		06			234
		- moist below 3.66 m					
		- silt inclusions					
5							233
6							232
7							231
8		- and silt					230
9							229
		- grey					
		- soft to firm					
10							228
11		- very soft to soft					227
12							226
		dense to very dense tan silt (ML) TILL					
13		- moist below 12.19 m					225
		END OF TESTHOLE					
14		- auger refusal at a depth of 12.80 m in silt (ML) TILL					224
		- heavy seepage was observed at a depth of 12.19 m in silt (ML) TILL					
		- sloughing observed at a depth of 12.19 m in silt (ML) TILL					
15		- final groundwater depth observed at 4.79 m					223
16							222
17							221
18							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 13.26 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-9
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-14**
LOCATION: UTM: 14U, 5532381.560 m N, 0628082.716 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 238.45

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					238
		FILL: brown gravelly fat CLAY (CH) with sand					
1		- moist, soft to firm		01			
		- high plastic		02		Sample TH24-14-02 submitted for analysis of metals, dioxins and furans.	237
		- black		03			
2				04			236
3		firm to stiff brown fat CLAY (CH)					
		- high plastic					
		- moist below 2.74 m		05			235
4		- black		06			
							234
5		- brown					
							233
6							
							232
7							
							231
8							
							230
9		- soft to firm					
							229
10							
							228
11		dense to very dense tan silt (ML) TILL					
		- moist below 10.67 m					227
12							
							226
13		END OF TESTHOLE					
		- auger refusal not met					225
14		- no seepage observed					
		- no sloughing observed					224
15		- final groundwater depth observed at 5.33 m					
							223
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 12.65 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-9
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-15**
LOCATION: UTM: 14U, 5532334.920 m N, 0628084.718 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger/Core	ELEVATION (m): 238.21

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					238
1		FILL: brown gravelly fat CLAY (CH) with sand - moist, soft to firm - high plastic		01 02 03			237
2		very loose to loose brown SILT (ML) - moist		04			236
3		FILL: black gravelly fat CLAY (CH) with sand - moist, firm to stiff - high plastic		05 06		Sample TH24-15-04 submitted for analysis of metals, EC, SAR, and pH. Sample TH24-15-06 submitted for analysis of metals.	235
4							234
5		firm to stiff brown fat CLAY (CH) - high plastic - moist below 3.05 m - black organics layer - brown - silt inclusions					233
6							232
7							231
8		- grey					230
9		- some silt					229
10		dense to very dense tan silt (ML) TILL - moist below 9.91 m					228
11							227
12							226
13		- cobbles and boulders					225
14							224
15							223
16							222
17							221
18							220
19							219
20							218
21		DOLOMITE (Stony Mountain Formation, Gunton Member) - buff - finely crystalline - sparsely fossiliferous - nodular-bedded - poor bedrock					217
22							216
23							215
24							214
25							213
26		END OF TESTHOLE - auger refusal at a depth of 12.19 m in silt (ML) TILL - heavy seepage was observed at a depth of 12.19 m in silt (ML) TILL - no sloughing observed - water level unavailable due to use of coring method					212
27							211
28							210
29							209
30							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 25.91 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-8
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-16**
LOCATION: UTM: 14U, 5532549.964 m N, 0628161.513 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 235.6

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					235
		FILL: brown sandy silt (ML)					
1		- moist, loose to compact		01			
				02			
				03			234
2		FILL: black fat CLAY (CH)					
		- moist, firm to stiff					
		- high plastic		04			
		FILL: brown silt (ML)					233
3		- moist, loose to compact					
		firm to stiff brown fat CLAY (CH)		05			
		- high plastic				Sample TH24-16-03 submitted for analysis of BTEX, PHC F1 - F4, PAHs.	232
		- moist below 2.44 m					
4		- silt inclusions		06		Sample TH24-16-04 submitted for analysis of BTEX, PHC F1 - F4, PAHs.	
							231
		- some silt					
5		- soft to firm					
		- silt inclusions					230
		- firm to stiff					
6							
		- grey					229
7							
							228
		- soft to firm					
8							
							227
9							
							226
10							
							225
11		dense to very dense tan silt (ML) TILL					
		- moist below 10.67 m					224
12							
		END OF TESTHOLE					223
13		- auger refusal at a depth of 12.19 m in silt (ML) TILL					
		- heavy seepage was observed at a depth of 10.67 m in silt (ML) TILL					222
14		- sloughing observed at a depth of 2.13 m					
		- final groundwater depth observed at 6.10 m					221
15							
							220
16							

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 12.19 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-9
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-17**
LOCATION: UTM: 14U, 5532571.153 m N, 0628175.964 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 235.33

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					235
1		FILL: black gravelly fat CLAY (CH) - moist, firm to stiff - high plastic		01 02 03			234
2		very loose to loose grey SILT (ML) - moist below 1.83 m		04		Sample TH24-17-03 submitted for analysis of BTEX, PHC F1 - F4, PAHs.	233
3		firm to stiff brown fat CLAY (CH) - high plastic - moist below 2.74 m		05			232
4				06		Sample TH24-17-04 submitted for analysis of BTEX, PHC F1 - F4, PAHs.	231
5		- some silt - soft to firm					230
6							229
7							228
8		- very soft					227
9							226
10		dense to very dense tan silt (ML) TILL - moist below 10.67 m					225
11		END OF TESTHOLE - auger refusal at a depth of 9.91 m in silt (ML) TILL - no seepage observed - sloughing observed at a depth of 1.83 m - no groundwater observed					224
12							223
13							222
14							221
15							220
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 9.91 m
REVIEWED BY: GL	COMPLETION DATE: 24-2-9
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-18**
LOCATION: UTM: 14U, 5532504.346 m N, 0628098.352 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 236.67

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					236
		FILL: tan poorly graded gravel with sand - moist, loose		01			
1		FILL: brown gravelly fat CLAY with sand (CH) containing metal debris -moist, soft to firm		02			235
		FILL: grey gravelly fat CLAY (CH) - moist		03		Sample TH24-18-03 submitted for analysis of metals.	
2		FILL: black fat CLAY (CH) - moist		04			234
3		- silt Inclusions - grey - firm to stiff - metal debris		05			233
4		firm to stiff grey fat CLAY (CH) - moist below 4.00 m		06			232
5		END OF TEST HOLE - testhole terminated at a depth of 4.57 m in fat CLAY (CH). - no seepage or sloughing observed.					231
6							230
7							229
8							228
9							227
10							226
11							225
12							224
13							223
14							222
15							221
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 4.57 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-29
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-19**
LOCATION: UTM: 14U, 5532455.565 m N, 0628067.835 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 238.19

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					238
		FILL: clayey gravel with sand					
		- moist, black, loose	■	01			
1			■	02			237
		- brown	■	03		Sample TH24-19-03 submitted for analysis of metals.	
2			■	04			236
3		FILL: brown fat CLAY (CH) debris (wood, glass, ceramic, and black organics)					235
		- moist	■	05			
4			■	06		Sample TH24-19-06 submitted for analysis of metals.	234
		firm to stiff grey fat CLAY (CH)					
		- moist below 4.11 m					
5		END OF TEST HOLE					233
		- testhole terminated at a depth of 4.57 m in fat CLAY (CH).					
		- no seepage or sloughing observed.					
6							232
7							231
8							230
9							229
10							228
11							227
12							226
13							225
14							224
15							223
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 4.57 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-29
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-20**
LOCATION: UTM: 14U, 5532269.874 m N, 0628254.992 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 236.85

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					236
1		FILL: black to brown gravelly fat CLAY (CH) with sand - moist, firm to stiff - high plastic	■	01			235
2		firm to stiff brown fat CLAY (CH) - high plastic - moist below 1.22 m -black, wet, debris (waste and plywood) - soft to firm - black	■ ■	02 03		Sample TH24-20-02 submitted for analysis of metals.	234
3			■	04		Sample TH24-20-04 submitted for analysis of BTEX, PHC F1 - F4, and PAHs.	233
4		END OF TESTHOLE - testhole terminated at a depth of 3.05 m in fat CLAY (CH). - no seepage observed - no sloughing observed - no groundwater observed					232
5							231
6							230
7							229
8							228
9							227
10							226
11							225
12							224
13							223
14							222
15							221
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 3.05 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-29
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-21**
LOCATION: UTM: 14U, 5532314.445 m N, 0628358.535 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 236.47

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		TOPSOIL: black, moist, with organic content					236
		FILL: black gravelly fat CLAY (CH)					
		- moist, firm to stiff		01	⊗		
1		- high plastic		02	⊗	Sample TH24-21-02 submitted for analysis of metals.	235
				03	⊗		
		- brown					
2							234
		- black		04	⊗	Sample TH24-21-04 submitted for analysis of metals.	
		- firm to stiff					
3		FILL: grey poorly graded sand (SP)					233
		- moist, loose to compact					
		END OF TESTHOLE					
4		- testhole terminated at a depth of 3.05 m in fat clay (CH) FILL.					232
		- no seepage observed					
		- no sloughing observed					
5		- no groundwater observed					231
6							230
7							229
8							228
9							227
10							226
11							225
12							224
13							223
14							222
15							221
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 3.05 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-29
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TH24-22**
LOCATION: UTM: 14U, 5532429.165 m N, 0628361.120 m E		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling	METHOD: Solid Stem Auger	ELEVATION (m): 234.2

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		ASPHALT - 100 mm thick					234
		FILL: biege poorly graded gravel with sand - moist, loose to compact		01	⊗	Sample TH24-22-01 submitted for analysis of BTEX, PHC F1 - F4, PAHs. Sample TH24-21-02 submitted for analysis of BTEX, PHC F1 - F4, PAHs.	
1		FILL: brown fat CLAY (CH) - moist, firm to stiff		02			233
				03	⊗		
2		firm to stiff black fat CLAY (CH) - high plastic - moist below 2.13 m		04	⊗		232
3		END OF TESTHOLE - testhole terminated at a depth of 3.05 m in fat clay (CH) FILL. - no seepage observed - no sloughing observed - no groundwater observed					231
4							230
5							229
6							228
7							227
8							226
9							225
10							224
11							223
12							222
13							221
14							220
15							219
16							

AECOM

LOGGED BY: CW	COMPLETION DEPTH: 3.05 m
REVIEWED BY: GL	COMPLETION DATE: 24-1-29
PROJECT ENGINEER: Russ Golightly	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 - TEST HOLE LOGS - DRAFT LOGS_ENV.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-01**
LOCATION: 628195.4907 5532545.493		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		SAND and GRAVEL (fill) - dark brown, moist, loose, fine sand, fine to coarse grained gravel.	■	01			0
1		CLAY and SILT - grey, moist, soft, medium plasticity, debris (metal pipes), slight hydrocarbon odour.	■	02		Sample TP24-01-02 submitted for analysis of BTEX F1-F4, PAHs	1
2			■	03		Sample TP24-01-03 submitted for analysis of BTEX F1-F4, PAHs	2
3		CLAY - brown, moist, firm, medium plasticity, no debris.	■	04			3
4			■	05		Sample TP24-01-05 submitted for analysis of BTEX F1-F4, PAHs	4
5			■	06			5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY					6
7							7
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material upon completion.
3. DUP-02 is associated with sample TP24-01-03.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-1
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-02**
LOCATION: 628200.6999 5532545.57		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		SAND and GRAVEL - some clay, brown/black, moist, loose, fine to coarse grained sand, fine to coarse grained gravel, hydrocarbon odour.		01		Sample TP24-02-01 submitted for analysis of BTEX F1-F4, PAHs	0
1		CLAY and SILT - grey, moist, soft, medium plasticity, debris (metal pipes), hydrocarbon odour.		03		Sample TP24-02-02 submitted for analysis of BTEX F1-F4, PAHs	1
2		CLAY - brown, moist, firm, medium plasticity, no debris.		05			2
3				06		Sample TP24-02-04 submitted for analysis of BTEX F1-F4, PAHs	3
4				02			4
5				04			5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY					6
7							7
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material upon completion.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-1
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-03**
LOCATION: 627931.0651 5532443.414		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ☰ BULK ⧄ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY and SILT - some sand and gravel, light brown, moist, soft, medium plasticity, fine to coarse sand, fine to coarse grained gravel.	■	01			0
		CLAY - some silt, trace gravels, brown, moist, stiff, medium plasticity, fine grained gravels.	■	02			
1		- black, low plasticity below 1.3 m	■	03		Sample TP24-03-03 submitted for analysis of metals	1
2		- brown below 2.5 m	■	04			2
3		- light brown, stiff, medium plasticity below 3.5 m	■	05			3
4		- trace cobbles, high plasticity below 4.5 m.	■	06			4
5		END OF TESTPIT @ 5.5 M BELOW GROUND SURFACE IN CLAY Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavated material upon completion.	■	07		Sample TP24-03-07 submitted for analysis of metals	5
6							6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-30
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-04**
LOCATION: 627970.2185 5532468.144		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY and SILT - some sand and gravel, light brown, moist, firm, medium plasticity, fine to coarse sand, fine to coarse grained gravel.	■	01			0
		CLAY - trace gravels, light brown, moist,stiff, medium plasticity, fine grained gravels, debris (wood and metal).	■	02			
1			■	03			1
		- black, low plasticity below 1.5 m					
2			■	04	⊗	Sample TP24-04-04 submitted for analysis of BTEX F1-F4, PAHs and metals	2
		- grey, debris (glass bottles, ceramics, cobble, wood), slight hydrocarbon odour below 2.5 m					
3			■	05			3
4			■	06			4
5		CLAY - light brown, wet, stiff, high plasticity, no debris.	■	07		Sample TP24-04-07 submitted for analysis of metals	5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavated material upon completion.					6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-30
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-05**
LOCATION: 628082.8757 5532465.868		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, some gravel, light brown, moist, soft, non-plastic, fine grained gravel.	■	01			0
			▥	02			
1		CLAY - trace gravel, brown, moist, stiff, medium plasticity, fine grained gravels, debris (wood, roots), organics.	■	03			1
2		- dark brown, wet, soft, debris (metal, wood, concrete) below 2 m.	■	04			2
3		ORGANICS - some clay, black, wet, soft, debris (glass, plastic, tires, metal, bricks) to 4.1 m.	■	05		Sample TP24-05-05 submitted for analysis of metals	3
4		END OF TESTPIT @ 4.1 M BELOW GROUND SURFACE IN ORGANICS					4
5							5
6							6
7							7
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Groundwater encountered at 2.5 m bgs.
3. Borehole backfilled with excavated material upon completion.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 5.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-06**
LOCATION: 627995.2033 5532400.078		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, brown, moist, stiff, medium plasticity.		01			0
		- some fine gravel, light brown, below 0.6 m.		02			
1		- brown/black, debris (bricks, glass, wood, ceramics, metal) below 1 m to 3 m.		03			1
2				04			2
3		CLAY - light brown, moist, stiff, high plasticity, no debris.		05			3
4				06		Sample TP24-06-06 submitted for analysis of SAR, EC, pH, and metals	4
5		- brown, wet, soft below 5 m.		07			5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY. Notes: 1. Soil description is primarily based on visual observation. 2. Groundwater encountered at 5.0 m bgs. 3. Borehole backfilled with excavated material upon completion.					6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-30
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-07**
LOCATION: 627980.2203 5532425.771		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ☰ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, some gravel, brown, moist, stiff, medium plasticity, fine grained gravel.	■	01			0
				02			
1		- dark brown, debris (wood, glass) below 1 m.					1
				03			
2							2
				04			
3		- black/grey, wet, low plasticity, debris (metal, plastic, glass, cables, wood), slight hydrocarbon smell below 3 m to 5 m.					3
				05	⊗		
4							4
				06			
5		CLAY - grey, moist, stiff, high plasticity, no debris.		07		Sample TP24-07-05 submitted for analysis of metals	5
6		END OF TESTPIT @ 6.1 M IN BELOW GROUND SURFACE CLAY.					6
		Notes: 1. Soil description is primarily based on visual observation. 2. Groundwater encountered at 3.5 m bgs. 3. Borehole backfilled with bentonite upon completion.					
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-08**
LOCATION: 628069.4647 5532409.132		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY and GRAVEL - some silt, light brown, moist, soft, low plasticity, fine to coarse grained gravel.		01			0
				02			
1							1
				03		Sample TP24-08-03 submitted for analysis of Dioxins/Furans and metals	
2		CLAY - trace gravel, dark brown, moist, stiff, medium plasticity, fine grained gravel.					2
				04			
3		- wet, stiff, debris (tree material, wood, metal, tires, plastic, rebar) below 3 m to 5.5 m.					3
				05			
4							4
				06		Sample TP24-08-06 submitted for analysis of metals	
5							5
		END OF TESTPIT @ 5.5 M BELOW GROUND SURFACE IN CLAY.		07			
6		Notes: 1. Soil description is primarily based on visual observation. 2. Groundwater encountered at 5.5 m bgs. 3. Sloughing noted at 5.5 m bgs. 4. Borehole backfilled with excavation materials upon completion.					6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-09**
LOCATION: 628025.0115 5532416.703		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, some sand, some gravel, light brown, moist, soft, non-plastic, fine grained gravel.		01			0
				02			
1		- some fine gravel, dark brown/orange, moist, soft, low plasticity, debris (glass, roots, ceramics) below 1m.					1
				03			
2		- brown, stiff, medium plasticity, debris (wood, cobble, glass) below 2 m to 5 m.					2
				04			
3							3
				05			
4							4
				06			
5		CLAY - light brown and grey, moist, firm, medium plasticity.					5
				07		Sample TP24-09-07 submitted for analysis of metals	
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY					6
		Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavated material upon completion.					
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-10**
LOCATION: 628032.7363 5532348.058		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		SILT and CLAY - brown, moist, stiff, medium plasticity.	■	01			0
		CLAY - trace gravel, dark brown, moist, stiff, medium plasticity, fine gravel, debris (tree roots and wood).	■	02			
1		- black, low plasticity, below 1 m.	■	03			1
2			■	04			2
3		- brown and no gravel below 3 m.	■	05			3
4			■	06			4
5		CLAY - grey, moist, stiff, high plasticity, no debris.	■	07		Sample TP24-10-07 submitted for analysis of metals	5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavated material upon completion.					6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-11**
LOCATION: 628003.0269 5532472.907		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ▨ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, light brown, moist, stiff, medium plasticity.		01			0
		- dark brown, debris (tires, concrete, metal, glass, wood) below 0.5 m to 5 m.		02			
1				03			1
2				04			2
3				05			3
4				06			4
5		CLAY - brown, moist, stiff, high plasticity.		07		Sample TP24-11-07 submitted for analysis of metals.	5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY.					6
7							7
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material upon completion.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-30
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-12**
LOCATION: 628012.9499 5532442.059		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, some gravel, light brown, moist, stiff, medium plasticity, fine to coarse gravel.		01			0
		- trace fine to coarse gravels, brown below 0.5 m		02			
1				03			1
2		- some fine to coarse gravel, dark brown/orange, soft, low plasticityl, debris (metal, wood, glass, ceramic, bricks) below 2 m.		04		Sample TP24-12-04 submitted for analysis of metals	2
3		- trace fine gravels, light brown, stiff, debris (wood, metal, glass) below 3 m to 5m.		05			3
4				06			4
5		CLAY - light brown, moist, firm, high plasticity.		07		Sample TP-24-12-07 submitted for analysis of SAR, EC, pH, and metals	5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY.					6
7							7
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated materials upon completion.
3. DUP-01 is associated with TP24-12-07.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **TP24-13**
LOCATION: 628086.3485 5532494.89		PROJECT NO.: 60721079
CONTRACTOR: KBL Projects Ltd.	METHOD: Excavator	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ⊠ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		CLAY - some silt, some sand and gravel, light brown, moist, soft, non-plastic, fine to coarse sand, fine to coarse grained gravel.		01			0
				02			
1				03			1
2		- brown (some orange colouration) , moist, stiff, medium plasticity below 2 m.		04			2
3				05			3
4		- black, wet, debris (wood, metal, springs, plastic, glass) below 4 m to 6.1 m.		06			4
5				07		Sample TP24-13-07 submitted for analysis of metals	5
6		END OF TESTPIT @ 6.1 M BELOW GROUND SURFACE IN CLAY Notes: 1. Soil description is primarily based on visual observation. 2. Groundwater encountered at 3.0 m bgs. 3. Borehole backfilled with excavated material upon completion.					6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-1-31
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 TESTPIT LOGS.GPJ UMA.GDT 24-3-26

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-01**
LOCATION: 628201.9, 553256.9		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 235.32

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		CONCRETE and ASPHALT		01			
		SAND and GRAVEL - some silt, brown, moist, compact, fine to coarse sand, fine graned gravel.		02			235
1				03		Sample BH24-01-03 submitted for analysis of BTEX F1-F4, VOCs, PAHs	234
		SILT - some clay, trace sand, light brown, moist, firm, medium plasticity, fine to coarse sand.		04		Sample BH24-01-04 submitted for analysis of BTEX F1-F4, VOCs, PAHs	
2		CLAY and SILT - brown, moist, firm, medium plasticity.					233
				05			
3		CLAY - trace of silt, brown, moist, firm, high plasticity.					232
				06			
4							
				07		Sample BH24-01-07 submitted for analysis of BTEX F1-F4, VOCs, PAHs	231
5							
				08			230
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY					229
7							
							228
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material and bentonite upon completion.
3. DUP-07 is associated with sample BH24-01-03.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-13
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-02**
LOCATION: 628208.6, 5532537		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 235.32

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		CLAY and SAND - some gravel, brown, moist, firm, high plasticity, fine grained gravel.		01			235
1		SAND and GRAVEL - dark brown, moist, compact, fine to coarse sand, fine to coarse grained gravel.		02			
				03		Sample BH24-02-03 submitted for analysis of BTEX F1-F4, PAHs, VOCs, metals, SAR, EC, pH.	234
2		SILT and CLAY - grey, moist, firm, medium plasticity.		04		Sample BH24-02-04 submitted for analysis of BTEX F1-F4, PAHs, VOCs, metals.	
		CLAY and SILT - light brown, moist, firm, medium plasticity.		05			233
3		CLAY - some silt, brown, moist, soft, high plasticity.					232
				06		Sample BH24-02-06 submitted for analysis of BTEX F1-F4, PAHs, VOCs, metals.	
4							231
				07			
5							230
				08			
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY					229
7							228
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material and bentonite upon completion.
3. DUP-06 is associated with BH24-02-03.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-13
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-03**
LOCATION: 0628319, 5532464		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 234.41

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		SAND and GRAVEL - light brown, moist, compact, fine to coarse sand, fine to coarse grained gravel (fill).		01			234
1		SILT and CLAY - trace of sand, brown, moist, firm, medium plasticity.		02		Sample BH24-03-02 submitted for analysis of BTEX F1-F4, PAHs.	233
2		CLAY - some silt, brown, moist, firm, medium plasticity.		03			232
3		- soft, high plasticity below 3 m.		04		Sample BH24-03-04 submitted for analysis of BTEX F1-F4, PAHs.	231
4				05			230
5				06		Sample BH24-03-06 submitted for analysis of BTEX F1-F4, PAHs.	229
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY		07			228
7				08			227
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material and bentonite upon completion.
3. DUP-05 is associated with BH24-03-04.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-13
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-04**
LOCATION: 628344.1, 5532456		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 234.51

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		SAND and GRAVEL, light brown, moist, loose, fine to coarse sand, fine to coarse grained gravel (fill).		01		Sample BH24-04-01 submitted for analysis of BTEX F1-F4, PAHs	
				02			234
1				03		Sample BH24-04-03 submitted for analysis of BTEX F1-F4, PAHs	233
		CLAY - brown, moist, stiff, medium plasticity.		04			
2							
				05		Sample BH24-04-05 submitted for analysis of BTEX F1-F4, PAHs	232
3							
				06			231
4							
				07			230
5							
				08			229
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY					
							228
7							
							227
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material and bentonite upon completion.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-05**
LOCATION: 627947.2, 5532410		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 238.19

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		CLAY and SILT - some sand, brown, moist, firm, medium plasticity, fine to coarse sand (fill).		01			238
				02		Sample BH24-05-02 submitted for analysis of metals.	
1							
				03			237
				04			
2		-black and soft below 2 m					
							236
				05		Sample BH24-05-05 submitted for analysis of dioxins and furans, and metals.	
3		CLAY - brown, moist, firm, medium plasticity.					
							235
				06			
4		-some sand and soft, fine to coarse sand below 4 m					
							234
				07		Sample BH24-05-07 submitted for analysis of metals.	
5							
							233
				08			
6		END OF BOREHOLE @ 6.1 BELOW GROUND SURFACE IN CLAY					232
		Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavated material and bentonite upon completion.					
7							231
8							

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-06**
LOCATION: 0627889, 5532507		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m):

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	DEPTH (m)
0		SILT and CLAY - some gravel, brown, moist, stiff, medium plasticity, fine grained gravel.		01			0
		CLAY and SILT - trace gravels, dark brown, some orange, moist, firm, non-plastic, fine grained gravel, debris (metals) to 1.5 m.		02			
1				03		Sample BH24-06-03 submitted for analysis of dioxins and furans, metals, SAR, EC, pH.	1
		CLAY - trace of sand, brown, moist, stiff, high plasticity, fine to coarse sand.		04			
2				05		Sample BH24-06-05 submitted for analysis of metals.	2
3		CLAY and SAND - trace gravels, light brown, moist, soft, medium plasticity, fine to coarse sand, fine grained gravel.		06		Sample BH24-06-06 submitted for analysis of metals.	3
4				07			4
5				08			5
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY and SAND. Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavated material and bentonite upon completion.					6
7							7
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-07**
LOCATION: 627923.2, 5532491		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 237.12

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		SILT and GRAVEL - light brown, moist, firm, medium plasticity, fine to coarse grained gravel (fill).		01			237
		SAND and GRAVEL - some silt, some clay, brown, moist, compact, fine to coarse sand, fine to coarse grained gravel.		02		Sample BH24-07-02 submitted for analysis of metals.	
1				03			236
		CLAY and SILT - black, moist, firm, medium plasticity.		04		Sample BH24-07-04 submitted for analysis of dioxins and furans, and metals.	
2		SAND - some silt, light brown, moist, compact, fine.					235
				05			
3		CLAY - some silt, trace of sand, brown, moist, stiff, high plasticity.					234
				06		Sample BH24-07-06 submitted for analysis of metals.	
4							233
		- some sand, fine to coarse below 4.5 m		07			
5							232
				08			
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY					231
7							230
8							

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material and bentonite upon completion.
3. DUP-03 is associated with BH24-07-04

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-08**
LOCATION: 628217.1, 5532415		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 236.61

SAMPLE TYPE ■ GRAB ▥ SHELBY TUBE ☒ SPLIT SPOON ▤ BULK ⊘ NO RECOVERY ◧ CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		SILT and CLAY - some gravel, brown, moist, stiff, medium plasticity, fine grained gravel.	■	01			
		SAND and GRAVEL - some silt, moist, compact, brown, fine to coarse sand, fine to coarse grained gravel.	■	02			236
1			■	03		Sample BH24-08-03 submitted for analysis of dioxins and furans, and metals.	
		CLAY - trace of sand, trace gravels, brown, moist, firm, medium plasticity.	■	04			235
2		- some silt, light brown below 2 m. - black, organic odour below 2.3 m. - grey below 2.6 m.	■	05		Sample BH24-08-05 submitted for analysis of metals.	234
3		SILT - some sand, light brown, wet, soft, medium plasticity, fine to coarse sand.	■	06		Sample BH24-08-06 submitted for analysis of metals.	233
4		CLAY - some silt, brown, moist, firm, high plasticity.	■	07			232
5			■	08			231
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY Notes: 1. Soil description is primarily based on visual observation. 2. Borehole backfilled with excavation materials and bentonite upon completion.					230
7							229
8							

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **BH24-09**
LOCATION: 628305.5, 5532295		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 236.88

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0		SILT and CLAY - some gravel, dark brown, moist, stiff, medium plasticity, coarse grained gravel.		01			
				02		Sample BH24-09-02 submitted for analysis of metals.	
1				03			236
		SILT - some clay, trace gravels, dark brown, moist, stiff, medium plasticity.		04		Sample BH24-09-04 submitted for analysis of dioxins and furans, and metals.	
2							235
				05			
3		CLAY - some silt, brown, moist, firm, medium plasticity.					234
				06		Sample BH24-09-06 submitted for analysis of metals.	
4							233
				07			
5							232
				08			
6		END OF BOREHOLE @ 6.1 M BELOW GROUND SURFACE IN CLAY					231
7							230
8							229

Notes:
1. Soil description is primarily based on visual observation.
2. Borehole backfilled with excavated material and bentonite upon completion.
3. DUP-04 is associated with BH24-09-04.

AECOM

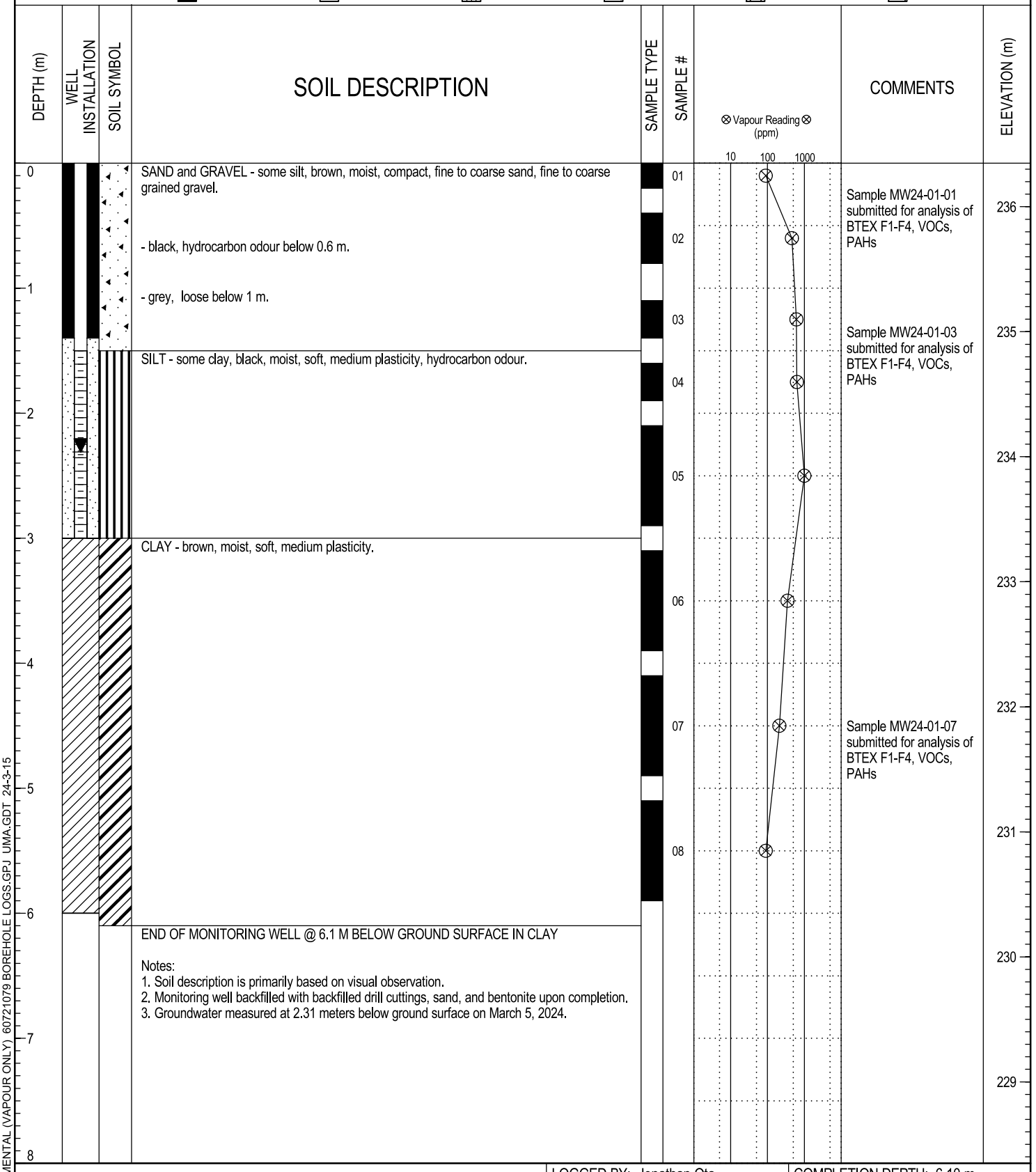
LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **MW24-01**
LOCATION: 0628180, 5532558		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 236.35

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND



LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-13
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

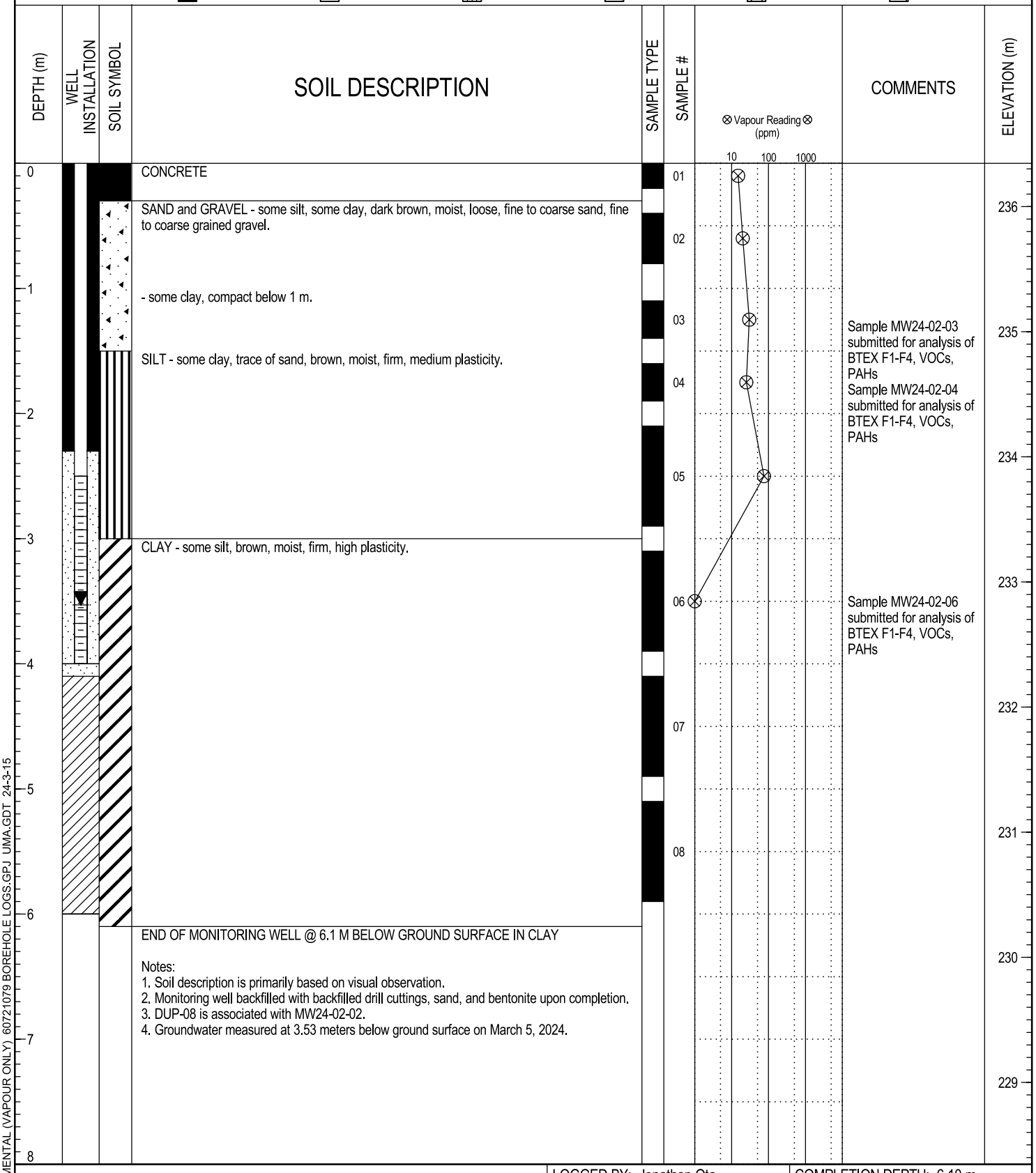
AECOM

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **MW24-02**
LOCATION: 628206.9, 5532556		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 236.35

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND



Notes:
1. Soil description is primarily based on visual observation.
2. Monitoring well backfilled with backfilled drill cuttings, sand, and bentonite upon completion.
3. DUP-08 is associated with MW24-02-02.
4. Groundwater measured at 3.53 meters below ground surface on March 5, 2024.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-13
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **MW24-03**
LOCATION: 628184.3, 5532538		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 236.35

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

DEPTH (m)	WELL INSTALLATION	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0			SILT and GRAVEL - light brown, moist, soft, fine to coarse grained gravel (fill).		01		Sample MW24-03-02 submitted for analysis of BTEX F1-F4, VOCs, PAHs, metals	236
1			SAND and SILT - dark brown, moist, compact, fine to coarse sand.		02			
					03		Sample MW24-03-03 submitted for analysis of BTEX F1-F4, VOCs, PAHs, metals	235
2			SILT - some sand, light brown, wet, soft, medium plasticity, fine to coarse sand.		04		Sample MW24-03-04 submitted for analysis of BTEX F1-F4, VOCs, PAHs, metals	
					05			234
3			CLAY - brown, moist, high plasticity.					
					06			233
4								
					07			232
5								
					08			231
6			END OF MONITORING WELL @ 6.1 M BELOW GROUND SURFACE IN CLAY					
								230
7								
								229
8								

Notes:
1. Soil description is primarily based on visual observation.
2. Monitoring well backfilled with backfilled drill cuttings, sand, and bentonite upon completion.
3. DUP-08 is associated with MW24-03-02.
4. Groundwater measured at 2.34 meters below ground surface on March 5, 2024.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-13
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **MW24-04**
LOCATION: 628256.5, 5532266		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 237.82

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

DEPTH (m)	WELL INSTALLATION	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0			SILT - some gravel, trace clay, brown, moist, firm, coarse grained gravel, debris (plastic, wood, cloth, glass).		01			
					02		Sample MW24-04-02 submitted for analysis of metals.	237
1					03			
			CLAY - some silt, trace gravel, brown, moist, firm, medium plasticity, debris (wood material) to 2 m.		04			236
2			SILT - some sand, black, moist, stiff, medium plasticity, fine to coarse grained sand, organic odour.		05		Sample MW24-04-05 submitted for analysis of dioxins and furans, and metals.	235
3			CLAY - trace of silt, brown, moist, firm, medium plasticity.		06		Sample MW24-04-06 submitted for analysis of metals.	234
4					07			233
5					08			232
6			END OF MONITORING WELL @ 6.1 M BELOW GROUND SURFACE IN CLAY					231
7								230
8								

Notes:
1. Soil description is primarily based on visual observation.
2. Monitoring well backfilled with backfilled drill cuttings, sand, and bentonite upon completion.
3. Groundwater measured at 2.45 meters below ground surface on March 5, 2024.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **MW24-05**
LOCATION: 627992.6, 5532503		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 238.78

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

DEPTH (m)	WELL INSTALLATION	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0			SILT and CLAY - some gravel, dark brown, moist, stiff, medium plasticity, fine to coarse grained gravel.		01			
					02			238
1					03		Sample MW24-05-03 submitted for analysis of metals.	
			SILT - some clay, brown, moist, firm, medium plasticity.		04			237
2			SILT and SAND - some gravel, brown and orange, moist, firm, fine to coarse sand, fine grained gravel, debris (glass) to 3 m.		05		Sample MW24-05-05 submitted for analysis of metals.	
3			CLAY - trace of silt, brown, moist, stiff, high plasticity.					236
					06			235
4								
					07		Sample MW24-05-06 submitted for analysis of metals, SAR, EC, pH.	234
5								
					08			233
6			END OF MONITORING WELL @ 6.1 M BELOW GROUND SURFACE IN CLAY					
			Notes: 1. Soil description is primarily based on visual observation. 2. Monitoring well backfilled with backfilled drill cuttings, sand, and bentonite upon completion. 3. DUP-10 associated with MW24-05-05. 4. Groundwater measured on March 5, 2024 and well was dry.					232
7								
8								231
9								230
10								229

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

PROJECT: Winnipeg North Transit Garage	CLIENT: City of Winnipeg	TESTHOLE NO: **MW24-06**
LOCATION: 627937.1, 5532383		PROJECT NO.: 60721079
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Solid Stem Auger	ELEVATION (m): 239.04

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

DEPTH (m)	WELL INSTALLATION	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	⊗ Vapour Reading ⊗ (ppm) 10 100 1000	COMMENTS	ELEVATION (m)
0			SILT - some clay, some sand, trace gravels, light brown, moist, stiff, fine to coarse sand.		01			
			SAND and SILT - light brown, moist, loose, fine sand.		02			
1					03		Sample MW24-06-03 submitted for analysis of dioxins and furans, metals, SAR, EC, pH.	238
					04			
2			SILT - some clay, some sand, trace gravels, dark brown, moist, stiff, low plasticity, fine sand.					237
					05		Sample MW24-06-05 submitted for analysis of metals.	
3			CLAY - some silt, dark brown, moist, stiff, medium plasticity.					236
					06		Sample MW24-06-06 submitted for analysis of metals.	
4								235
					07			
5			CLAY and SAND - light brown, light brown, wet, firm, medium plasticity, fine to coarse grained sand.					234
					08			
6			END OF MONITORING WELL @ 6.1 M BELOW GROUND SURFACE IN CLAY					233
7								232
8								231
9								230
10								

Notes:
1. Soil description is primarily based on visual observation.
2. Monitoring well backfilled with backfilled drill cuttings, sand, and bentonite upon completion.
3. Groundwater measured at 3.34 meters below ground surface on March 5, 2024.

AECOM

LOGGED BY: Jonathan Ota	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Jen Murray	COMPLETION DATE: 24-2-12
PROJECT ENGINEER: Kimber Osiowy	Page 1 of 1

ENVIRONMENTAL (VAPOUR ONLY) 60721079 BOREHOLE LOGS.GPJ UMA.GDT 24-3-15

Appendix B Historical Borehole Logs

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-01

Northing: 5532568 Easting: 628194

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 4
Drilling Method: Direct Push
Date Started: 2023-09-11 Date Completed: 2023-09-11

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
0	ASHPALT - Grey, dry	0.05	Flushmount Casing				
	GRAVEL FILL - Brown, some sand, strong odour					210	100
	CLAY - Black, soft to hard, high plasticity, odour	0.65					
1.0	CLAY - Brown, some silty pockets, hard	1	2" PVC riser with bentonite backfill from surface to 2.3 mbgs.		*	590	100
2.0						20	100
			2" PVC riser with silica sandpack from 2.3 to 3.0 mbgs.			20	100
3.0	CLAY - Brown, hard, high plasticity	3				20	100
	CLAY - Brown, damp, medium stiff, high plasticity	3.8			*	30	100
4.0			2" PVC screen with silica sandpack from 3.0 to 6.0 mbgs.				
	CLAY - Light brown, moist, soft, high plasticity	4.5				0	100
5.0						0	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Asphalt, Clay, Fill (made ground)
SAMPLE TYPE: Rock Core

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-02

Northing: 5532559 Easting: 628195

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 4
Drilling Method: Direct Push
Date Started: 2023-09-11 Date Completed: 2023-09-11

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Brown, grass, dry			Flushmount Casing			15	100	
1.0	SANDY GRAVEL - Brown, some clay, dry		0.75	2" PVC riser with bentonite backfill from surface to 2.3 mbgs.			25	100	1.0
2.0	CLAY - Greyish brown, trace gravel, stiff, high plasticity		1.5				5	100	2.0
	CLAY - Dark grey, medium stiff, high plasticity		2.3	2" PVC riser with silica sandpack from 2.3 to 3.0 mbgs.			5	100	
3.0	CLAY - Dark grey, some silt pockets, moist, medium to stiff		3			*	10	100	3.0
4.0	CLAY - Dark grey, some silt pockets, orange oxidation streaks, moist, medium stiff, high plasticity		3.8	2" PVC screen with silica sandpack from 3.0 to 6.0 mbgs.			0	100	4.0
5.0							10	100	5.0
	CLAY - Grey, some silt pockets, moist, medium stiff, high plasticity		5.3				10	100	
6.0	End of borehole at 6.0 mbgs.		6						6.0

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Sandy Gravel

SAMPLE TYPE: Rock Core

Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-03

Northing: 5532554 Easting: 628219

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 4
Drilling Method: Direct Push
Date Started: 2023-09-11 Date Completed: 2023-09-11

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Brown, grass, dry			Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			110	100	
1.0	FILL - Black, silty sand mixed with gravel, dry		0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			20	100	1.0
	SILT / CLAY - Grey, damp, soft, medium plasticity		1.5				25	100	
2.0	SILT / CLAY - Grey, white silt pockets, damp, soft, medium plasticity		2.3	▽		*	45	100	2.0
3.0	CLAY - Grey, white silt pockets, orange streaks, damp, stiff, high plasticity		3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			5	100	3.0
4.0							5	100	4.0
	CLAY - Grey, white silt pockets, moist, medium stiff, high plasticity		4.5						
5.0						*	10	100	5.0
							5	100	
6.0	End of borehole at 6.0 mbgs.		6						6.0

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Rock Core

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-04

Northing: 5532542 Easting: 628202

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 4
Drilling Method: Direct Push
Date Started: 2023-09-11 Date Completed: 2023-09-11

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - Grey, grass, sandy gravel, dry		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			5	100
	SANDY GRAVEL - Black, some silt, dry, non-cohesive	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			20	100
1.0							
2.0							
	SILT / CLAY - Grey, moist, soft to medium stiff, medium plasticity	2.3	▽		*	10	100
3.0	CLAY - Brown, white silty pockets, moist, medium stiff, high plasticity	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			25	100
	CLAY - Brown, moist, soft, high plasticity	3.8				20	100
4.0							
5.0						10	100
	CLAY - Brown, white silt pockets, orange streaks, moist, soft, high plasticity	5.3			*	15	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Silt / Clay; Sandy Gravel; Clay

SAMPLE TYPE: Rock Core; No Recovery

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-05

Northing: 5532538 Easting: 628192

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 4
Drilling Method: Direct Push
Date Started: 2023-09-11 Date Completed: 2023-09-11

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - grass		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	25
1.0	SANDY GRAVEL - Black, dry, non-cohesive	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			20	100
2.0	SILT / CLAY - Grey, wet, soft	1.5				0	100
3.0	CLAY - Brown, silt pockets, wet, medium stiff, high plasticity	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			0	100
4.0					*	15	100
5.0	CLAY - Brown, silt till pockets, orange streaks, moist, medium stiff, high plasticity	5.3				25	100
6.0	End of borehole at 6.0 mbgs.	6				5	100
						10	100

LITHOLOGY SYMBOLS: Fill (made ground); Silt / Clay; Sandy Gravel; Clay

SAMPLE TYPE: Rock Core

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-06

Northing: 5532548 Easting: 628184

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 4
Drilling Method: Direct Push
Date Started: 2023-09-11 Date Completed: 2023-09-11

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - grass		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			5	100
1.0	SANDY GRAVEL - Dark grey, some concrete debris, dry	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			5	100
2.0							
	SANDY GRAVEL - Dark grey, dry	2.3				45	25
3.0	SILT / CLAY - Black, some gravel, wet, soft, medium plasticity, strong odour	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			190	100
4.0	CLAY - Brown, silt pockets, moist, medium stiff, high plasticity	3.8			*	0	100
	CLAY - Brown, moist, soft, high plasticity	4.5				5	100
5.0						0	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Silt / Clay; Sandy Gravel; Clay

SAMPLE TYPE: Rock Core; No Recovery

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-07

Northing: 5532517 Easting: 628233

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Northeast of APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Light brown, grass, some white silt pockets, dry			Bentonite seal from the surface to 0.3 mbgs		*	30	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	FILL - Grey, sandy gravel, some clay, orange streaks, dry		0.8	Vapour probe					
1.0									1.0
							ND	100	
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Fill (made ground)

SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-08

Northing: 5532518 Easting: 628182

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Northeast of APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRASS - Green, organics								
	SANDY GRAVEL - Grey, some white silty pockets, some clay, trace organics, dry		0.05	Bentonite seal from the surface to 0.3 mbgs		*	5	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
1.0				Vapour probe			ND	100	1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5					100	

LITHOLOGY SYMBOLS: Organics; Sandy Gravel
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-09

Northing: 5532512 Easting: 628131

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Northeast of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
0	GRASS - Green, organics		0.05	Flushmount Casing					0
	SILTY GRAVEL - Grey, some clay, dry						ND	100	
1.0	SILT / CLAY - Grey, trace gravel, some white streaks, dry		0.75	2" PVC riser with bentonite backfill from surface to 2.3 mbgs.			5	100	1.0
	CLAY - Black, some gravel, white streaks with orange pockets, dry, hard, high plasticity, trace glass pieces		1.5			*	25	100	
2.0	SILT / CLAY - Light brown, moist, soft		2.3	2" PVC riser with silica sandpack from 2.3 to 3.0 mbgs.			15	100	2.0
3.0	CLAY - Grey, moist, medium stiff, high plasticity		3				5	100	3.0
4.0				2" PVC screen with silica sandpack from 3.0 to 6.0 mbgs.			5	100	4.0
	CLAY - Grey, white and orange pockets, moist, soft		4.5				10	100	
5.0							5	100	5.0
6.0	End of borehole at 6 mbgs.		6						6.0

LITHOLOGY SYMBOLS: Organics; Silt / Clay; Silty Gravel; Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
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Phone: (204) 453-2301
www.dillon.ca

BH23-10

Northing: 5532491 Easting: 628051

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: North of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	GRASS - Green, organics	0.05	Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			ND	100
	GRAVEL FILL - Grey, some silty clay, dry, non-cohesive						
1.0	SILT / CLAY - Light brown, some gravel, dry, medium stiff	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			20	100
	SILT / CLAY - Light brown, moist, hard	1.5				20	100
2.0	SILT / CLAY - Black, white and orange silty pockets, wet, medium stiff, pieces of debris	2.3				15	100
3.0	SILT / CLAY - Black, orange streaks, some gravel, soft, pieces of debris	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.		*	20	100
4.0						25	100
	CLAY - Light brown, white silty pockets, wet, soft, high plasticity	4.5				ND	100
5.0						ND	100
6.0	End of borehole at 6 mbgs.	6					

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Organics; Fill (made ground); Silt / Clay; Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

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1558 Willson Place
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Phone: (204) 453-2301
www.dillon.ca

BH23-11

Northing: 5532481 Easting: 627912

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Northwest of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
	GRASS - Green, organics	0.05	Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			ND	100
	SILTY GRAVEL - Light brown, dry, non-cohesive						
1.0	SILT / CLAY - Grey, some gravel, hard, high plasticity	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			5	100
	CLAY - Black, hard, high plasticity	1.5				10	100
2.0							
	CLAY - Dark grey, trace sand, moist, hard to medium stiff, high plasticity	2.3				10	100
3.0			2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.				
					*	25	100
4.0						15	100
	TILL - Light brown, moist, soft	4.5					
5.0						5	100
	Borehole refusal at 5.5 mbgs.	5.5					100

LITHOLOGY SYMBOLS: Organics; Silt / Clay; Glacial Till; Silty Gravel; Clay

SAMPLE TYPE: Auger

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

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1558 Willson Place
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Phone: (204) 453-2301
www.dillon.ca

BH23-12

Northing: 5532501 Easting: 627895

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Northwest corner of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	SANDY GRAVEL - Brown, grass, trace organics, some silt, dry, non-cohesive			Bentonite seal from the surface to 0.3 mbgs			ND	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	CLAY - Dark grey, some sand, white silt pockets, trace gravel, dry, hard, glass debris		0.8	Vapour probe					
1.0						*	30		1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Sandy Gravel; Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

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1558 Willson Place
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Phone: (204) 453-2301
www.dillon.ca

BH23-13

Northing: 5532424 Easting: 627918

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: West of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Grey, silt, dry, non-cohesive, loose			Bentonite seal from the surface to 0.3 mbgs		*	120	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	SILT / CLAY - Grey, trace gravel, dry, hard		0.8	Vapour probe			0		
1.0									1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Fill (made ground); Silt / Clay

SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

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1558 Willson Place
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www.dillon.ca

BH23-14

Northing: 5532401 Easting: 627885

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Southwest corner of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Grey, some sand, some clay, dry, loose			Bentonite seal from the surface to 0.3 mbgs			5	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	CLAY - Dark grey, some silt, some sand, dry, hard		0.8	Vapour probe		*	190		
1.0									1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Fill (made ground); Clay

SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

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1558 Willson Place
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Phone: (204) 453-2301
www.dillon.ca

BH23-15

Northing: 5532410 Easting: 627884

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: West fence of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	GRASS - Green, organics	0.05	Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			ND	100
	GRAVEL FILL - Grey, some sand and organics, dry, loose						
1.0	CLAY - Grey, some sand, hard, high plasticity	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			15	100
	SILT / CLAY - Brown, trace gravel, moist, medium stiff	1.5			*	30	100
2.0	CLAY - Grey, some silt, moist, stiff, high plasticity	2				15	100
	CLAY - Dark grey, some white pockets and orange streaks, moist, soft	2.7	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			15	100
3.0						15	100
4.0						15	100
5.0						10	100
	CLAY - Grey, wet, hard, high plasticity	5.3			*	30	100
	SAND - Brown, wet, loose	5.8					
6.0	End of borehole at 6 mbgs.	6					

LITHOLOGY SYMBOLS: Organics; Clay; Sand; Fill (made ground); Silt / Clay

SAMPLE TYPE: Auger

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
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Phone: (204) 453-2301
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BH23-16

Northing: 5532445 Easting: 627953

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: Northwest of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Depth (m)	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - Grey, some sand, trace silt, dry, loose				ND	100
1.0	SILT / CLAY - Brown, some sand, medium stiff, medium plasticity	0.75			30	100
	SILT / CLAY - Brown, some orange pockets, moist, soft, medium plasticity, some black staining	1.5		*	25	100
2.0					5	100
3.0	CLAY - Brown, trace gravel, moist, medium stiff	3			0	100
4.0	SILT / CLAY - Brown, moist, soft, medium plasticity	3.8			5	100
	CLAY - Brown, some silt, moist, soft	4.5			15	100
5.0	CLAY - Brown, some silt, some black streaks, moist, soft	5.3			25	100
6.0	End of borehole at 6 mbgs.	6				

Well Construction: Backfill to surface with bentonite

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

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Phone: (204) 453-2301
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BH23-17

Northing: 5532361 Easting: 627986

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Grey, some clay, some orange pockets, dry, loose	Fill					0	100	
1.0	CLAY - Dark grey, some gravel and sand, stiff, high plasticity	Clay	0.75				25	100	1.0
	CLAY - Grey, trace gravel, moist, stiff, high plasticity	Clay	1.5 ▽			*	30	100	
2.0									2.0
	CLAY - Brown, moist, medium stiff, high plasticity	Clay	2.3	Backfill to surface with bentonite			0	100	
3.0							35	100	3.0
4.0							25	100	4.0
	SILT / CLAY - Brown, trace gravel, moist, soft, medium plasticity	Silt / Clay	4.5				15	100	
5.0									5.0
							15	100	
6.0	End of borehole at 6.0 mbgs.		6						6.0

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
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Phone: (204) 453-2301
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BH23-18

Northing: 5532380 Easting: 627998

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Brown, dry, loose	Fill (made ground)		Bentonite seal from the surface to 0.3 mbgs					
	CLAY - Brown, some silt, damp, stiff, some black staining	Clay	0.03			*	40	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	CLAY - Brown, some silt, moist, medium stiff, medium plasticity	Clay	0.8	Vapour probe					
1.0									1.0
							45		
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Fill (made ground); Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
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Phone: (204) 453-2301
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BH23-19

Northing: 5532380 Easting: 628029

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Depth (m)	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - Brown				0	100
1.0	CLAY - Grey, orange streaks, some sand, stiff	0.75			0	100
	CLAY - Grey, some orange streaks, some glass and wire debris	1.5			35	100
2.0	SILT / CLAY - Dark grey, orange streaks, moist, soft, debris	2.3			35	100
3.0	CLAY - Dark grey, some sand, moist, stiff	3			20	100
4.0	SILT / CLAY - Brown, some sand, wet, soft, medium plasticity	3.8			30	100
5.0	CLAY - Dark grey, some silt, wet, strong PHC odour, black staining	4.5		*	65	100
	CLAY - Grey, wet, high plasticity, strong PHC odour, some black staining	5.3			40	100
6.0	End of borehole at 6.0 mbgs.	6				

Well Construction: Backfill to surface with bentonite

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

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Phone: (204) 453-2301
www.dillon.ca

BH23-20

Northing: 5532405 Easting: 628093

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: East of APEC 1
Drilling Method: Solid Stem Auger
Date Started: 2023-09-12 Date Completed: 2023-09-12

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	SILTY GRAVEL - Grey, some sand, dry, loose			Bentonite seal from the surface to 0.3 mbgs			0	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	CLAY - Dark grey, some fine sand, some gravel, damp, high plasticity		0.8	Vapour probe		*	60		
1.0									1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Silty Gravel; Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

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Phone: (204) 453-2301
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BH23-21

Northing: 5532406 Easting: 628162

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
	GRAVEL FILL - Brown, grass, some sand, dry, loose		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	100
1.0	CLAY - Black, white streaks, some gravel, hard	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			10	100
	CLAY - Dark grey, some organics, white silt pockets, damp, hard, some glass and wood debris	1.5				10	100
2.0			▽				
	SILT / CLAY - Light brown, organics, black streaks, moist, soft	2.3				10	100
3.0	SILT / CLAY - Light brown, some organics, moist, soft	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			20	100
	SILT / CLAY - Light brown, moist, soft	3.8				0	100
4.0							
	CLAY - Brown, some beighe silt streaks, moist, medium stiff	4.5				20	100
5.0							
	CLAY - Brown, white silt pockets, moist, medium stiff	5.3			*	25	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

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Phone: (204) 453-2301
www.dillon.ca

BH23-22

Northing: 5532319 Easting: 628078

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
	SILT - Light beige, grass, some gravel, dry		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	100
1.0	CLAY - Dark grey, trace gravel, stiff	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			15	100
	SILT / CLAY - Light beige, trace gravel, moist, soft	1.5				10	100
2.0	SILT / CLAY - Grey, orange streaks, trace gravel, organics, medium stiff, odour, black staining	2.3			*	15	100
3.0	SILT / CLAY - Black, white silt pockets, trace gravel, moist, medium stiff, odour	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			10	100
	SILT / CLAY - Beige, moist, medium stiff	3.8				20	100
4.0	CLAY - Grey, trace gravel, moist, stiff	4.5				0	100
5.0					*	5	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Silt, Clay, Silt / Clay
SAMPLE TYPE: Auger

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
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Phone: (204) 453-2301
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BH23-23

Northing: 5532320 Easting: 628128

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	FILL - Grey, grass, mixed gravel and clay, some silty sand, dry, hard			Bentonite seal from the surface to 0.3 mbgs		*	15	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	SILT / CLAY - Grey, some gravel, damp, hard		0.8	Vapour probe			15		
1.0									1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Fill (made ground); Silt / Clay

SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-24

Northing: 5532361 Easting: 628143

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	SILT - Beige, grass, some gravel and clay, dry, loose, wood and plastic debris			Bentonite seal from the surface to 0.3 mbgs			0	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
	SILT / CLAY - Grey, some gravel, damp, hard, medium plasticity		0.8	Vapour probe					
1.0									1.0
						*	15		
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Silt; Silt / Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-25

Northing: 5532295 Easting: 628182

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	SILT - Light beige, grass, some gravel, dry, loose			Bentonite seal from the surface to 0.3 mbgs			0		
				Silica sandpack from 0.3 to 1.0 mbgs					
	CLAY - Grey, some silt and gravel, orange streaks. damp, stiff		0.8	Vapour probe					
1.0									1.0
						*	20		
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Silt, Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-26

Northing: 5532298 Easting: 628235

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	SILT - Brown, organics, some gravel and sand, dry		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	100
1.0	CLAY - Grey, some gravel, trace white silt pockets, stiff	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			25	100
2.0					*	20	100
	CLAY - Grey, some silt pockets, damp, stiff	2.3	▽			5	100
3.0			2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			10	100
4.0	SILT / CLAY - Light brown, black streaks, moist, soft	3.8				15	100
	CLAY - Grey, some silt, moist, medium stiff, wood debris	4.5				0	100
5.0							
	SILT / CLAY - Brown, soft, moist	5.3			*	5	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Silt, Clay, Silt / Clay
SAMPLE TYPE: Auger

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-27

Northing: 5532337 Easting: 628274

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - Brown, grass, dry, loose		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	100
1.0	SILT / CLAY - Brown, some gravel and sand, damp, medium stiff	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.		*	25	100
	SILT / CLAY - Brown, damp, medium stiff	1.5				0	100
2.0	CLAY - Dark grey, some white silt streaks, stiff, high plasticity	2.3				0	100
3.0	SILT / CLAY - Grey, moist, soft	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			10	100
4.0	CLAY - Grey, some white silt pockets, moist	3.8				20	100
5.0						10	100
	CLAY - Grey, moist, some silt, soft	5.3				25	100
6.0	End of borehole at 6.0 mbgs.	6					

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-28

Northing: 5532338 Easting: 628234

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - Brown, some clay, dry		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	100
1.0	SILT / CLAY - Light brown, moist, soft, some wood debris	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			15	100
	CLAY - Dark grey, some sand, trace gravel, moist, stiff, black streaks	1.5			*	30	100
2.0	CLAY - Grey, medium stiff, high plasticity	2.3	▽			0	100
3.0	SILT / CLAY - Brown, wet, soft, some black streaks	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			30	100
4.0	SILT / CLAY - Light brown, wet, soft	3.8				5	100
	CLAY - Brown, some silt, wet, stiff	4.5				20	100
5.0	CLAY - Brown, wet, medium stiff	5.3				5	100
6.0	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-29

Northing: 5532375 Easting: 628235

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Brown, some sand, dry, hard	Fill		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			15	100	
1.0	CLAY - Dark grey, some gravel, damp, stiff	Clay	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.		*	25	100	1.0
2.0							0	100	2.0
							0	100	
3.0	SILT / CLAY - Beige, wet, soft	Silt / Clay	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			0	100	3.0
4.0	SILT / CLAY - Beige, wet, medium to soft, medium plasticity	Silt / Clay	3.8				15	100	4.0
	CLAY - Brown, wet, soft, high plasticity	Clay	4.5				5	100	
5.0									5.0
							20	100	
6.0	End of borehole at 6.0 mbgs.		6						6.0

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-30

Northing: 5532395 Easting: 628257

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Combustible Gases (ppm)	Sample Rec %
	GRAVEL FILL - Brown, some sand, dry, loose		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			15	100
1.0	SILT - Beige, some sand and clay, trace gravel, damp, black streaks	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.		*	25	100
	CLAY - Dark grey, some sand, orange streaks, damp	1.5				0	100
2.0	SILT / CLAY - Beige, some sand, moist, soft, medium plasticity	2.3				0	100
3.0	SILT / CLAY - Beige, some sand, wet, soft to medium stiff	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			0	100
4.0	CLAY - Brown, wet, medium stiff, high plasticity	3.8				15	100
	CLAY - Brown, wet, soft, high plasticity	4.5				5	100
5.0						20	100
6.0	End of borehole at 6.0 mbgs.	6					

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt; Silt / Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-31

Northing: 5532365 Easting: 628189

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-13 Date Completed: 2023-09-13

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	TOPSOIL - Dark grey, grass, some gravel, organics, dry, loose			Bentonite seal from the surface to 0.3 mbgs			0		
				Silica sandpack from 0.3 to 1.0 mbgs					
	CLAY - Dark grey, some gravel, stiff, dry		0.8	Vapour probe					
1.0						*	5		1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Organics, Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-32

Northing: 5532381 Easting: 628282

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
0	FILL - Brown, gravel mixed with silty sand, dry, loose, concrete debris	Fill (made ground)				*	30	100	0
1.0							15	100	1.0
	CLAY - Black, some silt, trace sand, moist, medium stiff	Clay	1.5	▽			10	100	
2.0									2.0
	SILT / CLAY - Light beige, wet, soft, medium plasticity	Silt / Clay	2.3	Backfilled with bentonite			10	100	
3.0							10	100	3.0
	CLAY - Brown, trace silt, wet, stiff, high plasticity	Clay	3.8				0	100	
4.0									4.0
5.0							10	100	5.0
							10	100	
6.0	End of borehole at 6.0 mbgs.		6						6.0

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found
mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-33

Northing: 5532406 Easting: 628161

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	GRAVEL FILL - Brown, grass, some sand, trace organics, dry, loose			Bentonite seal from the surface to 0.3 mbgs			10		
				Silica sandpack from 0.3 to 1.0 mbgs					
	SANDY GRAVEL - Brown, some clay, dry, loose, non-cohesive		0.8	Vapour probe					
1.0						*	20		1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Fill (made ground); Sandy Gravel
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-34

Northing: 5532433 Easting: 628138

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	FILL - Brown, grass, some gravely sand, dry, loose		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			0	100
1.0	SILT - Light brown, some sandy clay, damp, soft	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			5	100
2.0	SILT / CLAY - Dark brown, some gravely sand, moist, medium stiff, some orange pockets	1.5			*	20	100
	CLAY - Dark brown, some silt, trace gravel, moist, stiff	2.3				0	100
3.0	CLAY - Dark brown, wet, medium stiff, some orange streaks, some glass debris	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			10	100
4.0						5	100
5.0	SILT / CLAY - Light brown, wet, soft, medium plasticity	4.5				10	100
6.0	CLAY - Dark brown, wet, medium stiff, high plasticity	5.3			*	10	100
	End of borehole at 6.0 mbgs.	6					

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

LITHOLOGY SYMBOLS: Fill (made ground); Silt / Clay; Silt; Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-35

Northing: 5532480 Easting: 628145

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	TOPSOIL - Brown, grass, some gravely sand, dry, loose			Bentonite seal from the surface to 0.3 mbgs			10		
				Silica sandpack from 0.3 to 1.0 mbgs					
	SILT - Light brown, some gravely sand, trace clay, damp, loose		0.8	Vapour probe					
1.0						*	10		1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Organics, Silt
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-36

Northing: 5532459 Easting: 628208

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	TOPSOIL - Brown, grass, some gravel, mix of sandy clay, dry, loose			Bentonite seal from the surface to 0.3 mbgs		*	15		
	CLAY - Dark brown, some gravely sand, pink silt pockets, damp, high plasticity		0.8	Silica sandpack from 0.3 to 1.0 mbgs Vapour probe			5		
1.0				Bentonite backfill from 1.0 to 1.5 mbgs					1.0
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Organics, Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-37

Northing: 5532468 Easting: 628252

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %
0	GRAVEL FILL - Grey, some sand, dry, loose, some concrete debris		Backfill to surface with bentonite. 2" PVC riser with bentonite backfill from surface to 0.5 mbgs.			5	100
1.0	SILT / CLAY - Brown, trace gravel, moist, medium stiff, medium plasticity	0.75	2" PVC riser with silica sandpack from 0.5 to 1.5 mbgs.			5	100
	SILT / CLAY - Beige, some black streaks, wet, soft	1.5				5	100
2.0					*	10	100
3.0	CLAY - Brown, some white silt streaks, wet, medium stiff, high plasticity	3	2" PVC screen with silica sandpack from 1.5 to 4.5 mbgs.			5	100
4.0						10	100
	CLAY - Brown, wet, medium stiff, high plasticity	4.5				5	100
5.0						5	100
6.0	End of borehole at 6.0 mbgs.	6					

LITHOLOGY SYMBOLS: Fill (made ground); Clay; Silt / Clay

SAMPLE TYPE: Auger

▽ Water found

mbgs - meters below ground surface
Combustible gases (ppm) - parts per millon

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Dillon Consulting Ltd.
1558 Willson Place
Winnipeg, Manitoba, R3T 0Y4
Phone: (204) 453-2301
www.dillon.ca

BH23-38

Northing: 5532452 Easting: 628250

Client: City of Winnipeg
Project No.: 23-5866-2002
Drilling Co.: Maple Leaf Drilling
Supervised by: SNG

Project: North Garage Replacement - Phase II ESA
Location: APEC 2
Drilling Method: Solid Stem Auger
Date Started: 2023-09-14 Date Completed: 2023-09-14

Depth Scale (m)	Stratigraphic Description	Lithology	Depth (m)	Well Construction	Sample Method	Sample Number	Sample Combustible Gases (ppm)	Sample Rec %	Depth Scale (m)
	SILT - Brown, some gravel, trace sand, dry, loose, some white silty clay			Bentonite seal from the surface to 0.3 mbgs		*	80	100	
				Silica sandpack from 0.3 to 1.0 mbgs					
1.0	CLAY - Dark brown, some silt, trace gravel, damp, stiff, high plasticity		0.8	Vapour probe			0	100	1.0
				Bentonite backfill from 1.0 to 1.5 mbgs					
	End of borehole at 1.5 mbgs.		1.5						

LITHOLOGY SYMBOLS: Silt, Clay
SAMPLE TYPE: Auger

mbgs - meters below ground surface
Combustible gases (ppm) - parts per million

* Indicates sample submitted for analysis
** Indicates sample submitted for analysis on hold

DILLON MW_COW GINT.GPJ DILLON_MAY13_05.GDT 10-11-23

Figure No. _____

LOG OF TESTHOLE TH02

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628337.7408E, 5532454.07N**
Date Drilled: **January 26, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
0.10		**TOPSOIL** - Surface covered by snow - Organic rich, dark brown, frozen, with roots **CLAY FILL** - Brown-grey, some gravel, stiff, trace root-lets, frozen to the depth of 1.2 mbgs		No monitoring well Installed. Borehole backfilled with bentonite clay pellets to surface.			
					TH02-S1 (GRAB)		
					TH02-S2 (GRAB)		
					TH02-S3 (GRAB)		
3.05		**CLAY (CH)** - Medium grey, damp, trace silt, trace oxidation, high plastic - Seepage encountered at the depth of 3.66 mbgs, wet, some silt			TH02-S4 (GRAB)		
					TH02-S5 (GRAB)	BTEX, PHC F1-F4, Metals, Mercury	
					TH02-S6 (GRAB)		
					TH02-S7 (GRAB)		
6.10		**END OF TESTHOLE** End of borehole at 6.10 mbgs Seepage observed, borehole open to 5.49 mbg and wet. No PHC odor or staining observed.		Water measured on masl mbgs Well Diameter: mm Well Material:	TH02-S8 (GRAB)		

Figure No. _____

LOG OF MONITORING WELL MW03

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628360.511E, 5532441.71N**
Date Drilled: **January 26, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)		LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
233.966			**GRAVEL** - Surface covered by snow - Beige, frozen to 1.2 mbg		Top of Solid Pipe 0.134 m Below Top of Flushmount Casing Bentonite Seal			
0.89	233.08					MW03-S1 (GRAB)	BTEX, PHC F1-F4, VOC	
1.22	232.746		**CLAY** - Medium grey, stiff, trace gravel - Seepage encountered at the depth of 1.52 mbgs - Dark grey below the depth of 1.52 mbgs - Trace silt pockets, trace hematized silt pockets, and soft below the depth of 2.29 mbgs		Slotted Pipe and Sand Pack	MW03-S2 (GRAB)		
						MW03-S3 (GRAB)	BTEX, F1-F4	
						MW03-S4 (GRAB)		
						MW03-S5 (GRAB)		
4.60	229.366		**END OF TESTHOLE** End of borehole at 4.60 mbgs Seepage observed, borehole open to 6.10 mbg and wet. PHC odor observed on sample MW03-S1 and no staining observed.		Water measured on 2022-02-01 233.08 masl 0.886 mbgs Well Diameter: 50 mm Well Material: Schedule 40 PVC	MW03-S6 (GRAB)		

Figure No. _____

LOG OF TESTHOLE TH05

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628355.8799E, 5532409.34N**
Date Drilled: **January 27, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
		SAND FILL - Surface covered by snow - Frozen to the depth of 1.5 mbgs, beige		No monitoring well Installed. Borehole backfilled with bentonite clay pellets to surface.			
					TH05-S1 (GRAB)		
1.52		**CLAY** - Medium brown, firm to stiff, damp, high plastic			TH05-S2 (GRAB)		
		- Firm and trace hematized silt pockets below the depth of 3.96 mbgs			TH05-S3 (GRAB)	BTEX F1-F4, Metals	
					TH05-S4 (GRAB)		
					TH05-S5 (GRAB)		
4.60					TH05-S6 (GRAB)		
		END OF TESTHOLE End of borehole at 4.60 mbgs No seepage observed, borehole open to 4.6 mbg and dry. No PHC odor or staining observed.		Water measured on masl mbgs Well Diameter: mm Well Material:			

Figure No. _____

LOG OF TESTHOLE TH06

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628342.023E, 5532404.844N**
Date Drilled: **January 27, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
		SAND FILL - Surface covered by snow - Frozen to the depth of 1.5 mbgs, beige		No monitoring well Installed. Borehole backfilled with bentonite clay pellets to surface.			
					TH06-S1 (GRAB)		
1.52		**CLAY** - Medium brown, firm to stiff, damp, high plastic			TH06-S2 (GRAB)		
		- Firm and trace hematized silt pockets below the depth of 3.96 mbgs			TH06-S3 (GRAB)	BTEX F1-F4, Metals	
					TH06-S4 (GRAB)		
					TH06-S5 (GRAB)		
4.60					TH06-S6 (GRAB)		
		END OF TESTHOLE End of borehole at 4.60 mbgs No seepage observed, borehole open to 4.6 mbg and dry. No PHC odor or staining observed.		Water measured on masl mbgs Well Diameter: mm Well Material:			

Figure No. _____

LOG OF MONITORING WELL TH07

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628327.9122E, 5532430.336N**
Date Drilled: **January 27, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
		CLAY FILL - Surface covered by snow - Brown-grey, with gravel, stiff, some silt, frozen to 1.2 mbgs		No monitoring well Installed. Borehole backfilled with bentonite clay pellets to surface.			
		- Seepage encountered at the depth of 1.83 mbgs			TH07-S1 (GRAB)		
					TH07-S2 (GRAB)		
					TH07-S3 (GRAB)	BTEX F1-F4, Metals	
					TH07-S4 (GRAB)		
3.81		**CLAY** - Medium brown-hrey, stiff, high plastic			TH07-S5 (GRAB)		
		- Trace hematized silt pockets at the depth of 3.96 mbgs			TH07-S6 (GRAB)	BTEX, PHC F1-F4	
4.60		**END OF TESTHOLE** End of borehole at 4.60 mbgs Seepage observed, borehole open to 4.6 mbg and wet. Strong PHC odour observed on sample TH07-S1 (0.61 mbgs), TH07-S2 (1.52 mbgs), and TH07-S3 (2.29 mbgs) and no staining observed.		Water measured on masl mbgs Well Diameter: mm Well Material:			

Figure No. _____

LOG OF MONITORING WELL TH08

Project No. 221-07203-00
Project: Phase II ESA - 100 Oak Point Hwy
Location: Winnipeg, MB
Co-ordinates: 628312.1077E, 5532419.194N
Date Drilled: January 27, 2023
Datum: UTM NAD 83 Zone 14
Drill Type: Scout
Logged By: J. Kevin
Drilling Contractor: Maple Leaf Drilling
Checked By: A. Chan

DEPTH (m bgs)	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
		SAND FILL - Frozen to the depth of 1.2 mbgs, beige - Surface covered by snow		No monitoring well Installed. Borehole backfilled with bentonite clay pellets to surface.			
					TH08-S1 (GRAB)		▲ ●
1.52		**CLAY** - Medium brown, firm to stiff, damp, high plastic			TH08-S2 (GRAB)	BTEX, PHC F1-F4, PAH, Metals	▲ ● 263
		- Silt inclusion from the depth of 1.83 to 2.13 mbgs			TH08-S3 (GRAB)	PSA	● ▲
		- At the depth of 3.81, trace oxidation, firm			TH08-S4 (GRAB)		● ▲
					TH08-S5 (GRAB)	BTEX, PHC F1-F4, PSA	▲ ●
					TH08-S6 (GRAB)		●
					TH08-S7 (GRAB)		●
6.10					TH08-S8 (GRAB)		●
		END OF TESTHOLE End of borehole at 6.10 mbgs No seepage observed, borehole open to 6.1 mbg and wet. PHC odor observed on sample TH08-S2 and no staining observed.		Water measured on masl mbgs Well Diameter: mm Well Material:			

WSP MW REPORT VER.3 221-07203-00 OAK POINT HWY P2ESA.GPJ GINT STD CANADA.GDT 23-2-16

Figure No. _____

LOG OF MONITORING WELL TH10

Project No. 221-07203-00
Project: Phase II ESA - 100 Oak Point Hwy
Location: Winnipeg, MB
Co-ordinates: 628290.9813E, 5532418.443N
Date Drilled: January 27, 2023
Datum: UTM NAD 83 Zone 14
Drill Type: Scout
Logged By: J. Kevin
Drilling Contractor: Maple Leaf Drilling
Checked By: A. Chan

DEPTH (m bgs)	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
0.08		**ASPHALT** - Suface covered by snow					
		GRAVEL - Beige, frozen to the depth of 1.2 mbgs					
0.61		**CLAY** - Dark grey, stiff, damp, trace gravel, high plastic		No monitoring well Installed. Borehole backfilled with bentonite clay pellets to surface.	TH10-S1 (GRAB)		
		- At the depth of 2.29 mbgs, color change to brown-grey, firm			TH10-S2 (GRAB)		
					TH10-S3 (GRAB)	BTEX, PHC F1-F4, Metals, Mercury	
					TH10-S4 (GRAB)		
					TH10-S5 (GRAB)		
4.60		**END OF TESTHOLE** End of borehole at 4.60 mbgs			TH10-S6 (GRAB)		
		No seepage observed, borehole open to 4.6 mbg and wet. PHC odor observed on sample TH10-S3 and no staining observed.		Water measured on masl mbgs Well Diameter: mm Well Material:			

WSP MW REPORT VER.3 221-07203-00 OAK POINT HWY P2ESA.GPJ GINT STD CANADA.GDT 23-2-16

Figure No. _____

LOG OF MONITORING WELL MW11

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628291.121E, 5532419.018N**
Date Drilled: **January 27, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)		LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
	235.188							
0.08	235.112		**ASPHALT** - Surface covered by snow **GRAVEL** - Beige, frozen to 1.0 mbgs		Top of Solid Pipe 0.134 m Below Top of Flushmount Casing Bentonite Seal			
0.91	234.278		**CLAY** - Medium grey, soft to firm, damp, high plastic - Silt lense at the depth of 1.52 to 1.72 mbgs - Light brown and soft below 2.29 mbgs		Slotted Pipe and Sand Pack	MW11-S1 (GRAB) MW11-S2 (GRAB) MW11-S3 (GRAB) MW11-S4 (GRAB) MW11-S5 (GRAB)	BTEX F1-F4, Metals, Mercury	
4.60	230.588		**END OF TESTHOLE** End of borehole at 4.60 mbgs No seepage observed, borehole open to 4.6 mbg and dry. No PHC odor or staining observed. Monitoring well was observed to be dry during the groundwater monitoring event on February 1, 2023		Water measured on 2022-02-01 masl mbgs Well Diameter: 50 mm Well Material: Schedule 40 PVC	MW11-S6 (GRAB)		

Figure No. _____

LOG OF MONITORING WELL MW12

Project No. **221-07203-00**
Project: **Phase II ESA - 100 Oak Point Hwy**
Location: **Winnipeg, MB** Co-ordinates: **628288.932E, 5532311.801N**
Date Drilled: **January 27, 2023** Datum: **UTM NAD 83 Zone 14**
Drill Type: **Scout** Logged By: **J. Kevin**
Drilling Contractor: **Maple Leaf Drilling** Checked By: **A. Chan**

DEPTH (m bgs)	ELEVATION	LITHOLOGY	SOIL DESCRIPTION	WELL	INSTALLATION DETAILS	SAMPLE ID	SOIL SAMPLE TEST	VOCs (ppm) 40 80 120 160 / Combustible Gases (ppm) 20 40 60 80
	236.959							
0.30	236.659		**TOPSOIL** - Surface covered by snow - Organic rich, dark brown, frozen, with roots		Top of Solid Pipe 0.134 m Below Top of Flushmount Casing			
			CLAY - Dark brown-grey, stiff, trace rootlets, trace sand, trace silt, high plastic, frozen to 1.52 mbgs		Bentonite Seal			
			- Trace silt pockets at the depth of 1.52 mbgs			MW12-S1 (GRAB)	BTEX, PHC F1-F4, Metals, Mercury	
			- Light brown, some silt below the depth of 3.35 mbgs,			MW12-S2 (GRAB)		
					Slotted Pipe and Sand Pack	MW12-S3 (GRAB)		
2.83	234.125					MW12-S4 (GRAB)		
						MW12-S5 (GRAB)		
4.60	232.359					MW12-S6 (GRAB)		
			END OF TESTHOLE End of borehole at 4.60 mbgs No seepage observed, borehole open to 4.6 mbg and dry. No PHC odor or staining observed.		Water measured on 2022-02-01 234.042 masl 2.834 mbgs Well Diameter: 50 mm Well Material: Schedule 40 PVC			

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-1**
CLIENT: Imperial Oil		START DATE: 2013/11/04
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/04
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	COBBLES AND SAND (Fill) - light brown, coarse to fine grained, gravelly, damp.	G			▲			
	CLAY (Fill) - dark brown, sandy, some silt, trace gravel, damp.	G			▲			
1	CLAY - brown, sandy, some silt, trace gravel, damp.	G		TP-1-1.8 / Grain Size	▲			5
2	SILT - light gray, clayey, some sand, damp.	G		TP-1-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA, Grain Size	▲			
	CLAY - light brown, trace sand, trace silt, moist.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3	- olive brown, some silt below 3.0 m.	G		TP-1-3.7 / Grain Size	▲			10
4		G			▲			
		G		TP-1-4.9 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/04	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: JMB	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO:	**TP-2**
CLIENT: Imperial Oil		START DATE:	2013/11/04
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE:	2013/11/04
		PAGE	1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	COBBLES AND SAND (Fill) - light brown, coarse to fine grained, gravelly, damp.	G		TP-2-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
1	LIMESTONE (Fill) - light brown, sandy, some gravel, damp.	G			▲			5
	CLAY - brown, silty, some gravel, trace sand, moist.	G		TP-2-1.5 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- light brown, some sand below 1.5 m.							
2		G			▲			
	- dark gray, some silt, trace sand, damp.							
	- olive brown, trace silt, moist below 2.7 m.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3		G			▲			
		G			▲			
4		G			▲			15
	- damp below 4.6 m.							
5	END OF TEST PIT at 4.9 m							
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/04	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: JMB	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-3**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE ASPHALT.							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1	SILT - dark brown, clayey, damp. - brown, moist below 1.1 m.	G			▲			5
	CLAY - olive brown, silty, trace sand, damp.	G		TP-3-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2		G		TP-3-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
		G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3	- some silt.	G			▲			
4		G			▲			15
		G			▲			
5	END OF TEST PIT at 4.9 m No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-4**
CLIENT: Imperial Oil		START DATE: 2013/11/04
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/04
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, damp.	G			▲			
	CLAY (Fill) - dark brown, clayey, some silt, moist.	G			▲			
1	SILT - dark brown, sandy, some clay, moist.							
		G		TP-4-1.8 / Grain Size	▲			5
2	CLAY - dark brown, silty, trace sand, damp.	G		TP-4-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- olive brown, trace silt.	G		TP-4-3.1 / Grain Size	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G		TP-4-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
		G			▲			
4		G			▲			
	END OF TEST PIT at 4.9 m							15
5	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/04	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: JMB	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-5**
CLIENT: Imperial Oil		START DATE: 2013/11/04
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/04
		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SAMPLING: SAMPLE TYPE	SAMPLING: ZONE TESTED	SAMPLING: LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, trace cobbles, damp.	G			▲			
1		G			▲			
	CLAY - dark brown, silty, trace sand, damp.	G			▲			5
	- some silt, damp below 1.5 m.							
2		G		TP-5-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- olive brown below 2.3 m.							
		G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G		TP-5-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
	- trace silt, moist below 3.4 m.							
4		G			▲			
		G		TP-5-4.9 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			15
5	END OF TEST PIT at 4.9 m							
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/04	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: JMB	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-6**
CLIENT: Imperial Oil		START DATE: 2013/11/04
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/04
		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SAMPLING: SAMPLE TYPE	SAMPLING: ZONE TESTED	SAMPLING: LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	SAND (Fill) - light brown, coarse to fine grained, gravelly, some cobbles, moist.	G			▲			
1		G		TP-6-1.2 (DUP-6) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	CLAY - dark brown, silty, trace sand, damp, gray staining.	G			▲			
2	- olive brown, some silt below 1.8 m.	G		TP-6-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
		G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3	- trace silt, moist below 2.7 m.	G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m							
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/04	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: JMB	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-7**
CLIENT: Imperial Oil		START DATE: 2013/11/04
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/04
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	COBBLES AND GRAVEL (Fill) - coarse to fine grained, sandy, damp.	G			▲			
1	SILT - brown, clayey, some sand, damp, gray staining.	G		TP-7-1.2 (DUP-7) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	CLAY - brown, silty, trace sand, damp.	G			▲			5
2	- olive brown, trace silt, moist.	G			▲			
		G		TP-7-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G			▲			10
		G		TP-7-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/04	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: JMB	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-8**
CLIENT: Imperial Oil		START DATE: 2013/11/08
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/08
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1		G			▲			
	SILT - gray, clayey, trace sand, damp.	G		TP-8-1.8 (DUP-26) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2	- moist below 1.8 m. - gray staining from 1.8 m to 2.4 m.	G			▲			
	CLAY - olive brown, silty, trace sand, damp.	G		TP-8-3.0 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3		G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/08	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-9**
CLIENT: Imperial Oil		START DATE: 2013/11/08
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/08
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1		G			▲			
	SILT - dark brown, some clay, trace sand, damp.	G			▲			5
2	- brown, clayey, moist.	G			▲			
	CLAY - olive brown, silty, trace sand, damp.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G		TP-9-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
		G			▲			
4		G			▲			
5	END OF TEST PIT at 4.9 m No Daylighting Performed							15
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/08	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-10**
CLIENT: Imperial Oil		START DATE: 2013/11/08
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/08
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
	GROUND SURFACE							
0	GRAVEL (Fill) - brown, coarse to fine grained, sandy damp.	G			▲			0
1		G			▲			
	SILT - dark brown, some clay, trace sand, damp.	G			▲			5
2	- brown, clayey, moist.	G		TP-10-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	CLAY - olive brown, silty, trace sand, damp.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3		G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-11**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grianed, some clay, damp.	G			▲			
1		G			▲			
	SILT - dark brown, clayey, trace sand, damp.	G		TP-11-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	- brown, moist below 1.5 m.							
2		G			▲			
	CLAY - olive brown, silty, trace sand, damp.	G		TP-11-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G			▲			10
		G			▲			
4		G			▲			
	END OF TEST PIT at 4.9 m							15
5	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-12**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1	CLAY - olive brown, silty, trace sand, damp.	G			▲			
		G		TP-12-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2		G		TP-12-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- some silt.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G			▲			10
		G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m							
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-13**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1	SILT - brown, clayey, trace sand, moist.	G		TP-13-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	CLAY - olive, silty, trace sand, damp.							
2		G			▲			
	- some silt.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G		TP-13-3.0 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-14**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
		G			▲			
1	SILT - brown, clayey, trace sand, moist, black.	G		TP-14-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	CLAY - olive brown, silty, trace sand, moist.							
2		G		TP-14-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- some silt.	G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3		G			▲			
		G		TP-14-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-15**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1	SILT - brown, clayey, trace sand, moist.	G		TP-15-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
		G			▲			
2	CLAY - olive brown, silty, trace sand, damp.	G		TP-15-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- some silt.	G		TP-15-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3		G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-16**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
	SILT - dark brown, clayey, some sand, damp.	G		TP-16-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
1	- gray below 1.1 m. - brown, damp below 1.2 m.	G			▲			
	CLAY - olive brown, silty, trace sand, damp.	G		TP-16-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2								
		G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3		G			▲			10
	- some silt.	G			▲			
4		G			▲			15
	END OF TEST PIT at 4.9 m							
5	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-17**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1	CLAY - olive brown, silty, trace sand, damp.	G		TP-17-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
		G			▲			
2		G			▲			
	- some silt.	G		TP-17-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
3		G			▲			
		G			▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-18**
CLIENT: Imperial Oil		START DATE: 2013/11/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
	GROUND SURFACE							
0	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			0
	SILT - brown, clayey, trace sand, moist.	G			▲			
1	CLAY - olive brown, silty, trace sand, damp.	G		TP-18-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
		G		TP-18-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2		G			▲			
		G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3	- some silt.	G			▲			10
		G			▲			
4		G			▲			
	END OF TEST PIT at 4.9 m							15
5	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/12	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-19**
CLIENT: Imperial Oil		START DATE: 2013/11/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/13
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
1	SILT - olive brown, sandy, some clay, moist.	G			▲			
	- gray below 1.2 m.	G		TP-19-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2		G		TP-19-1.8 / Grain Size	▲			
	CLAY - olive brown, silty, trace sand, damp.	G		TP-19-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3	- mottled gray below 3.0 m.	G		TP-19-3.0 / Grain Size	▲			10
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m							
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/13	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT NO: **TP-20**
CLIENT: Imperial Oil		START DATE: 2013/11/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2013/11/13
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, moist.	G			▲			
	SILT (Fill) - dark gray, clayey, trace sand, damp.							
1	CLAY - olive brown, silty, trace sand, damp.	G			▲			
		G		TP-20-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2		G		TP-20-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
		G			▲	Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
3	- some silt.	G			▲			10
		G			▲			
4		G			▲			
								15
5	END OF TEST PIT at 4.9 m							
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2013/11/13	0.0 m	Caterpillar 336C Excavator	Tervita Corporation	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-21**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace silt, trace clay, damp.	G		TP-21-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	CLAY - brown, sandy, some silt, damp.	G		TP-21-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
1		G			▲			5
	- dark brown below 1.5 m.	G			▲			
2		G			▲			10
	- olive brown, moist below 2.2 m.	G			▲			
3		G			▲			15
	- trace silt below 3.0 m.	G			▲			
4		G			▲			20
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		25
	No Daylighting Performed							
6								
7								
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-22**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace silt, trace clay, damp.	G			▲			
1	- dark gray, some gravel, trace clay, wet below 0.5 m.	G		TP-22-0.6 (DUP-2) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	CLAY - brown, sandy, some silt, moist.	G		TP-22-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2	- olive brown, some sand below 2.1 m.	G		TP-22-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
		G			▲			
3	- trace sand below 3.2 m.	G			▲			
		G			▲			
4		G			▲			15
	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
5	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-23**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE ASPHALT. GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace clay, damp.	G			▲			0
1	CLAY - brown, sandy, some silt, trace gravel, damp.	G		TP-23-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- damp below 1.1 m.	G		TP-23-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2		G			▲			
	- olive brown, trace silt, moist below 2.3 m.	G			▲			10
3		G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-24**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, some silt, trace clay, damp.	G			▲			
1	SILT - light brown, sandy, some gravel, trace clay, damp.	G		TP-24-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
		G		TP-24-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2	CLAY - dark brown, silty, some sand, damp.	G			▲			
	- olive brown, some silt, moist below 2.1 m.	G			▲			10
3	- trace silt below 3.2 m.	G			▲			
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-25**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - coarse to fine grained, sandy, trace silt, wet.	G			▲			
		G		TP-25-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
1	SILT - dark brown, sandy, trace clay, moist.	G		TP-25-1.2 (DUP-5) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2	CLAY - olive brown, silty, moist.	G		TP-25-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- some silt.	G			▲			
3		G			▲			10
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-26**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, damp.							
	CLAY - dark brown, sandy, some silt, dry.	G			▲			
1	- light brown, damp below 0.9 m.	G			▲			
		G		TP-26-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2	- black, some silt below 2.1 m.	G		TP-26-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - light brown, sandy, trace clay, moist.	G		TP-26-3.1 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G			▲			10
		G			▲			
4	CLAY - olive brown, some silt, damp.	G			▲			
								15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-27**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, damp.							
	CLAY - dark brown, sandy, some silt, dry.	G			▲			
1		G			▲			
	SILT - light brown, sandy, trace clay, moist.	G		TP-27-1.7 (DUP-7) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2	SAND - black, fine grained, silty, some clay, moist.	G		TP-27-2.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	CLAY - black, sandy, some silt, damp.	G		TP-27-3.1 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - light brown, sandy, some clay, moist.							
3		G			▲			10
4	CLAY - olive brown, some silt, damp.	G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-28**
CLIENT: Imperial Oil		START DATE: 2014/07/29
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/07/29
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, damp.							
	CLAY - dark brown, sandy, some silt, damp.	G			▲			
1	- trace sand below 0.8 m.	G			▲			
	- some sand, trace silt, moist below 1.5 m.	G			▲			5
2		G		TP-28-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - light brown, sandy, trace clay, moist.	G		TP-28-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G		TP-28-3.1 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	CLAY - olive brown, some silt, damp.	G			▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/07/29	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-29**
CLIENT: Imperial Oil		START DATE: 2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, some sand, damp.	G			▲			
	CLAY - black, sandy, some silt, trace gravel, damp.							
1		G			▲			
	- dark gray, some sand, trace silt, damp.	G		TP-29-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-29-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- dark brown, silty, some sand, damp.	G		TP-29-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - light brown, sandy, some clay, moist.	G			▲			10
	CLAY - olive brown, some silt, damp.	G			▲			
4	- trace silt from 4.0 m to 4.9 m.							
		G			▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-30**
CLIENT: Imperial Oil		START DATE: 2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, damp.	G			▲			
	CLAY - dark brown, sandy, some silt, trace gravel, damp.							
1		G		TP-30-1.2 (DUP-10) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-30-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2	SILT - dark brown, clayey, some sand, damp.	G		TP-30-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- light brown, sandy, trace clay, moist.	G			▲			
3	CLAY - olive brown, some silt, damp.	G			▲			10
		G			▲			
4	- trace silt below 4.0 m.	G			▲			
								15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-31**
CLIENT: Imperial Oil		START DATE: 2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, some cobbles, damp.	G			▲			
	CLAY - dark brown, sandy, some silt, trace gravel, damp.							
1		G			▲			
	- silty, some sand, damp.	G		TP-31-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-31-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - light brown, sandy, some clay, moist.	G		TP-31-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	CLAY - olive brown, some silt, damp.	G			▲			10
	- trace silt from 3.8 m to 4.9 m.	G			▲			
4		G			▲			
								15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-32**
CLIENT: Imperial Oil		START DATE: 2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, trace gravel, damp.	G			▲			
1	CLAY - dark gray, some silt, trace sand, damp.	G			▲			
		G		TP-32-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2	- black, silty, some sand, moist.	G		TP-32-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-32-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - light brown, sandy, trace clay, moist.	G			▲			10
	CLAY - olive brown, trace silt, damp.	G			▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-33**
CLIENT: Imperial Oil		START DATE: 2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some gravel, trace clay.	G			▲			
1	CLAY - dark gray, sandy, some silt, trace gravel, damp.	G			▲			
		G		TP-33-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-33-1.8 (DUP-13) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - light brown, sandy, some clay, moist.	G		TP-33-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G			▲			10
	CLAY - olive brown, some silt, damp.	G			▲			
4	- trace silt below 4.1 m.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-34**
CLIENT: Imperial Oil		START DATE: 2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE ASPHALT. GRAVEL (Fill) - brown, coarse to fine grained, sandy, some cobbles, damp.	G						0
1	CLAY - dark brown, sandy, some silt, damp.	G						
		G		TP-34-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				5
2	- olive brown, some sand, trace silt below 1.8 m.	G		TP-34-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
		G		TP-34-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				10
3		G						
4		G						
		G						15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No:	**TP-35**
CLIENT: Imperial Oil		START DATE:	2014/08/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE:	2014/08/12
		PAGE	1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, some gravel, trace cobbles, damp.	G			▲			
1	CLAY - dark brown, sandy, some silt, damp.	G			▲			
	SILT - light brown, sandy, trace clay, moist.	G		TP-35-1.2 (DUP-15) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2	CLAY - olive brown, some silt, trace sand, damp.	G		TP-35-2.1 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
		G			▲			
3		G			▲			10
	- trace silt below 3.5 m.	G			▲			
4		G			▲			
								15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-36**
CLIENT: Imperial Oil		START DATE: 2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/13
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace cobbles, trace silt, trace clay, damp.	G			▲			
1		G		TP-36-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- wet below 1.0 m.							
	CLAY - dark brown, silty, some sand, trace gravel.	G		TP-36-1.2 (DUP-16) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2		G		TP-36-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- olive brown, some silt, moist below 2.4 m.	G			▲			
3		G			▲			10
	- trace silt, damp below 3.2 m.	G			▲			
4		G			▲			
								15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-37**
CLIENT: Imperial Oil		START DATE: 2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/13
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, some gravel, trace cobbles, damp.	G			▲			
1	- wet below 0.8 m.	G		TP-37-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	CLAY - dark gray, gravelly, some silt, trace sand, moist.	G		TP-37-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2		G		TP-37-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
	- olive brown, moist below 2.4 m.	G			▲			
3	- trace silt, damp below 2.6 m.	G			▲			
		G			▲			15
4		G			▲			
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
	No Daylighting Performed							
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-38**
CLIENT: Imperial Oil		START DATE: 2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/13
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT - black, dry.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, some gravel, trace cobbles, damp.	G			▲			
1	CLAY - dark gray, sandy, some silt, moist.	G		TP-38-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
		G		TP-38-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2	- brown, some sand, damp below 1.8 m.	G		TP-38-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			10
	- olive brown below 2.6 m.	G			▲			
3		G			▲			
4		G			▲			15
		G			▲			
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-39**
CLIENT: Imperial Oil		START DATE: 2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/13
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, some gravel, trace cobbles, damp.	G			▲			
1	- trace clay below 0.8 m.	G		TP-39-0.6 / BTEX, PHC F1-F4, 1,2-DBA, 1,2-DCA	▲			5
	CLAY - olive brown, some silt, trace sand, damp.	G		TP-39-1.2 / BTEX, PHC F1-F4, 1,2-DBA, 1,2-DCA	▲			
2		G		TP-39-1.8 / BTEX, PHC F1-F4, 1,2-DBA, 1,2-DCA	▲			10
	- trace silt below 2.6 m.	G			▲			
3		G			▲			
4		G			▲			15
		G			▲			
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-40**
CLIENT: Imperial Oil		START DATE: 2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/13
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
	GROUND SURFACE							
0	ORGANIC SILT - black, sandy, some gravel, trace clay, damp.	G			▲			0
1	CLAY - dark brown, silty, some sand, damp.	G		TP-40-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	SILT - light brown, sandy, some clay, moist.	G		TP-40-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
2	CLAY - olive brown, silty, damp.	G		TP-40-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
	- trace silt below 2.4 m.	G			▲			
3		G			▲			10
	END OF TEST PIT at 3.7 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
4	No Daylighting Performed							15
5								
6								20
7								
								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No:	**TP-41**
CLIENT: Imperial Oil		START DATE:	2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE:	2014/08/13
		PAGE 1 of 1	

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.	G			▲			
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace cobbles, damp.							
	CLAY - brown, sandy, some silt, trace gravel, damp.							
1		G		TP-41-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
	SILT - light brown, sandy, some clay.							
		G		TP-41-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2	CLAY - olive brown, some silt, damp.	G			▲			
	END OF TEST PIT at 2.4 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		10
	No Daylighting Performed							
3								
4								15
5								
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-42**
CLIENT: Imperial Oil		START DATE: 2014/08/13
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/08/13
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace cobbles, damp.	G		TP-42-0.6 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
1	CLAY - brown, silty, some sand, damp.	G		TP-42-1.2 (DUP-22) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			5
		G		TP-42-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA	▲			
2	- olive brown, some silt, damp below 1.7 m.	G			▲			
	END OF TEST PIT at 2.4 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							10
3								
4								15
5								
6								20
7								
								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/08/13	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JMB	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-43**
CLIENT: Imperial Oil		START DATE: 2014/10/16
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/16
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, trace gravel, damp.							
	CLAY - dark brown, silty, some sand, trace gravel, damp.	G			▲			
1	- brown, trace sand below 0.6 m.	G			▲			
		G		TP-43-1.2 (DUP-10) / Metals	▲			5
2	SILT - light brown, clayey, some sand, damp.	G		TP-43-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-43-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	CLAY - dark brown, sandy, trace gravel, trace silt, damp.	G		TP-43-3.0 / Metals	▲			10
	- light brown, silty, some sand, damp below 3.7 m.	G		TP-43-3.7 / Metals	▲			
4	- brown below 4.3 m.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/16	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-44**
CLIENT: Imperial Oil		START DATE: 2014/10/16
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/16
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, trace gravel, damp.							
	CLAY - dark brown, silty, some sand, damp.	G			▲			
	- brown below 0.6 m.	G			▲			
1	- light brown, trace sand, damp below 1.2 m.	G		TP-44-1.2 / Metals	▲			5
2		G		TP-44-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- brown, sandy, some silt, trace gravel below 2.4 m.	G		TP-44-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	- dark gray below 3.0 m.	G		TP-44-3.0 / Metals	▲			10
	SILT - light brown, clayey, trace sand, damp.	G			▲			
4	CLAY - dark brown, silty, trace sand, damp.	G			▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/16	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-45**
CLIENT: Imperial Oil		START DATE: 2014/10/16
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/16
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, trace cobbles, trace gravel, trace silt, damp.							
	CLAY - dark brown, silty, some sand, damp.	G			▲			
	- brown, some gravel below 0.6 m.	G			▲			
1								
	- light brown below 1.2 m.	G		TP-45-1.2 (DUP-8) / Metals	▲			5
2		G		TP-45-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- dark brown, trace sand below 2.4 m.	G		TP-45-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3								10
	- black staining from 3.0 m to 3.7 m.	G		TP-45-3.0 / Metals	▲			
	SILT - light brown, some sand, damp.	G			▲			
4								
	CLAY - brown, some sand, damp.	G			▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/16	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-46**
CLIENT: Imperial Oil		START DATE: 2014/10/16
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/16
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, some sand, trace gravel, damp.							
	CLAY - black, silty, some sand, damp.	G			▲			
	- brown, trace gravel below 0.6 m.	G			▲			
1	- light brown, trace sand below 1.2 m.	G		TP-46-1.2 / Metals	▲			5
2		G		TP-46-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- brown below 2.4 m.	G		TP-46-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - brown, clayey, some sand, damp, black staining.	G		TP-46-3.0 / Metals	▲			10
	CLAY - gray, silty, some sand, damp.	G			▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/16	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-47**
CLIENT: Imperial Oil		START DATE: 2014/10/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/15
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, sandy, some clay, trace gravel, damp.							
	CLAY (Fill) - dark brown, silty, trace sand, damp.	G			▲			
1	GRAVEL AND SAND (Fill) - light brown, coarse to fine grained, some silt, trace clay, damp.	G			▲			
	CLAY - brown, silty, trace sand, damp.	G		TP-47-1.2 / Metals	▲			5
2	- black below 1.8 m.	G		TP-47-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-47-2.4 (DUP-3) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - brown, clayey, some sand, damp, black staining.	G		TP-47-3.0 / Metals	▲			10
	CLAY - dark gray, silty, some sand, damp.	G			▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-48**
CLIENT: Imperial Oil		START DATE: 2014/10/16
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/16
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL AND SAND (Fill) - light brown, coarse to fine grained, some silt, trace clay, damp.	G			▲			
1	CLAY - brown, sandy, silty, some gravel, damp.	G			▲			
	- some silt, trace cobbles.	G		TP-48-1.2 / Metals	▲			5
2		G		TP-48-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - light brown, clayey, some sand, damp.	G		TP-48-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	CLAY - dark brown, silty, some sand, damp.	G		TP-48-3.0 / Metals	▲			10
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/16	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-49**
CLIENT: Imperial Oil		START DATE: 2014/10/16
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/16
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL AND SAND (Fill) - light brown, coarse to fine grained, some silt, trace clay, damp.	G			▲			
1	CLAY - gray, silty, some sand, trace gravel, damp.	G			▲			
	- dark brown below 1.2 m.	G		TP-49-1.2 / Metals	▲			5
2		G		TP-49-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - brown, clayey, some sand, damp.	G		TP-49-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	CLAY - dark brown, silty, some sand, damp.	G		TP-49-3.0 / Metals	▲			10
4		G			▲			
	- slag and metal debris below 4.3 m.	G		TP-49-4.3 (DUP-5) / Metals	▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/16	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-50**
CLIENT: Imperial Oil		START DATE: 2014/10/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL AND SAND (Fill) - light brown, coarse to fine grained, some silt, trace clay, damp.	G			▲			
1	CLAY - dark brown, silty, some sand, trace gravel, damp.	G			▲			
		G		TP-50-1.2 / Metals	▲			5
2		G		TP-50-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-50-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - brown, clayey, some sand, damp.	G		TP-50-3.0 / Metals	▲			10
	CLAY - dark brown, silty, some sand, damp.	G			▲			
4	- gray below 4.3 m.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-51**
CLIENT: Imperial Oil		START DATE: 2014/10/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, clayey, trace sand, damp.							
	CLAY (Fill) - dark brown, silty, some sand, damp.	G			▲			
1	GRAVEL AND SAND (Fill) - brown, coarse to fine grained, some silt, some clay, damp.	G			▲			
	CLAY - dark brown, silty, some sand, damp.	G		TP-51-1.2 / Metals	▲			5
2	- trace sand below 1.8 m.	G		TP-51-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-51-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SAND - brown, medium to fine grained, silty, clayey, some gravel, damp.	G		TP-51-3.0 / Metals	▲			10
	CLAY - dark gray, silty, some sand, damp.	G		TP-51-3.7 (DUP-2) / Metals	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-52**
CLIENT: Imperial Oil		START DATE: 2014/10/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/10/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - some clay, trace gravel, trace sand, damp.							
	CLAY - dark brown, silty, some sand, damp.	G			▲			
	CLAY - brown, gravelly, silty, some sand, damp.	G			▲			
1	- brown below 1.2 m.	G		TP-52-1.2 / Metals	▲			5
		G		TP-52-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
2	- dark gray, trace sand below 2.4 m.	G		TP-52-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - gray, clayey, trace sand, damp.	G		TP-52-3.0 / Metals	▲			10
	CLAY - dark gray, silty, trace sand, damp.	G		TP-52-3.7 / Metals	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/10/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-53**
CLIENT: Imperial Oil		START DATE: 2014/12/11
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/11
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE ASPHALT.							0
	GRAVEL (Fill) - brown, coarse to fine grained, sandy, trace silt, trace clay, damp.	G			▲			
1	CLAY - dark brown, sandy, silty, some gravel, damp.	G			▲			
	- brown, trace gravel below 1.2 m.	G			▲			5
2		G		TP-53-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - brownish gray, clayey, some sand, damp, gray staining.	G		TP-53-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G		TP-53-3.0 (DUP-01) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	CLAY - brown, silty, some sand, damp.	G		TP-53-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/11	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-54**
CLIENT: Imperial Oil		START DATE: 2014/12/11
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/11
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL AND SAND (Fill) - brown, coarse to fine grained, silty, clayey, damp.	G			▲			
1	CLAY - dark brown, sandy, silty, trace gravel, damp.	G			▲			
	- brown, some sand, damp.	G		TP-54-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-54-1.2 (DUP-2) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - brown, clayey, some sand, damp, gray staining.	G			▲			
3	CLAY - brown, silty, some sand, damp.	G			▲			10
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/11	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-55**
CLIENT: Imperial Oil		START DATE: 2014/12/11
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/11
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE ASPHALT.							0
	GRAVEL (Fill) - coarse to fine grained, sandy, trace silt, trace clay, damp.	G			▲			
1	CLAY - brown, sandy, silty, trace gravel, damp.	G			▲			
	- dark brown, some sand.	G			▲			5
2		G		TP-55-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	SILT - brown, clayey, some sand, damp.	G		TP-55-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	CLAY - dark brown, silty, some sand, damp.	G			▲			10
4		G			▲			
		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/11	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-56**
CLIENT: Imperial Oil		START DATE: 2014/12/11
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/11
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ASPHALT.							
	GRAVEL AND SAND (Fill) - light brown, coarse to fine grained, clayey, some silt, damp.	G			▲			
	CLAY - brown, sandy, silty, damp.	G			▲			
1		G		TP-56-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-56-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-56-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	SILT - brown, clayey, some sand, damp, gray staining.	G		TP-56-3.0 / BTEX, BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
		G			▲			
4	CLAY - silty, some sand, damp.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/11	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-57**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	CLAY - brown, sandy, silty, some gravel, damp.	G			▲			
1		G			▲			
		G		BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-57-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-57-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	- some sand, some silt, trace gravel, damp below 3.0 m.	G		TP-57-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	- gray below 3.7 m.	G		TP-57-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-58**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	CLAY - dark brown, sandy, silty, some gravel, damp.	G			▲			
	- brown below 0.6 m.	G			▲			
1		G			▲			5
		G		TP-58-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
2		G			▲			
	SILT AND CLAY - brown, some sand, damp.	G		TP-58-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	CLAY - brown, silty, some sand, damp.	G		TP-58-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4		G		TP-58-4.3 (DUP-6) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-59**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	CLAY - dark brown, sandy, silty, some gravel, damp.	G			▲			
	- brown below 0.6 m.	G			▲			
1		G			▲			5
		G		TP-59-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
2	SILT AND CLAY - brown, some sand, damp.	G			▲			
		G		TP-59-3.0 (DUP-7) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
3	CLAY - brown, silty, some sand, damp.	G		TP-59-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-59-4.3 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
4	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
5								
6								25
7								
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-60**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	SILT AND CLAY (Fill) - dark brown, sandy, damp.	G			▲			
1	CLAY - brown, sandy, silty, damp.	G			▲			
		G			▲			5
2		G		TP-60-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- some sand below 2.4 m.	G			▲			
3	SILT - brown, clayey, some sand, damp.	G		TP-60-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
4		G		TP-60-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-60-4.3 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-61**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	SAND AND CLAY - dark brown, silty, some gravel, damp.	G			▲			
1	CLAY - brown, sandy, silty, trace gravel, damp.	G			▲			
		G			▲			5
2		G		TP-61-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- some sand below 2.4m.	G			▲			
3	SILT - brown, clayey, trace sand, damp.	G		TP-61-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	CLAY - brown, silty, some sand, damp.	G		TP-61-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4		G		TP-61-4.3 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-62**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	SAND AND CLAY - brown, silty, some gravel, damp.	G			▲			
1	CLAY - brown, silty, some sand, damp.	G			▲			
		G			▲			5
2		G		TP-62-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- dark brown below 2.4 m.	G						
3		G		TP-62-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
4		G		TP-62-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- gray, some silt, damp.	G		TP-62-4.3 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-63**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace gravel, trace sand, damp.							
	SAND AND CLAY - brown, silty, damp.	G			▲			
	CLAY - brown, silty, some sand, damp.	G			▲			
1		G			▲			5
		G			▲			
2		G			▲			
		G			▲			10
3		G			▲			
	SILT - brown, clayey, some sand, damp, gray staining.	G		TP-63-4.3 / Metals	▲			
4	CLAY - brown, silty, some sand, damp.	G		TP-63-4.9 / Metals	▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-64**
CLIENT: Imperial Oil		START DATE: 2014/12/12
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/12
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand.							
	SAND AND CLAY (Fill) - brown, silty, some gravel, damp.	G			▲			
	CLAY - brown, silty, some sand, damp.	G			▲			
1		G			▲			5
		G			▲			
2	- dark brown below 2.4 m.	G			▲			
		G			▲			10
3	SILT - brown, clayey, trace sand, damp.	G		TP-64-3.0 / BTEX, PHC F1-F4	▲			
	CLAY - brown, silty, trace sand, damp.	G		TP-64-3.7 / BTEX, PHC F1-F4	▲			
4	- some silt.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/12	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-65**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	CLAY - dark brown, sandy, silty, trace gravel, damp.	G			▲			
	- brown, silty, some sand.	G			▲			
1		G			▲			5
		G		TP-65-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
2	- dark brown below 2.4 m.	G			▲			
		G		TP-65-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
3	SILT - light brown, clayey, some sand, damp.	G		TP-65-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	CLAY - brown, silty, some sand, damp.	G		TP-65-4.3 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
4								
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-66**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, clayey, trace sand, damp.							
	CLAY - brown, silty, some sand, damp.	G			▲			
1		G			▲			
		G			▲			5
2		G		TP-66-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-66-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G		TP-66-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	SILT - light brown, clayey, some sand, damp.	G		TP-66-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4	CLAY - brown, silty, some sand, damp.	G		TP-66-4.3 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			15
5	END OF TEST PIT at 4.9 m					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
	No Daylighting Performed							20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-67**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, clayey, trace sand, damp.							
	CLAY - brown, sandy, silty, some gravel, damp.	G			▲			
	- some sand, trace gravel, damp.	G			▲			
1		G			▲			5
	- gray staining below 1.8 m.	G		TP-67-1.8 (DUP-15) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
2		G		TP-67-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-67-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
3	SILT - light brown, clayey, some sand, damp.	G		TP-67-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	CLAY - brown, silty, some sand, damp.	G			▲			
4								15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-68**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SAMPLING: SAMPLE TYPE	SAMPLING: ZONE TESTED	SAMPLING: LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, clayey, trace gravel, trace sand, damp.							
	CLAY - brown, silty, some sand, trace gravel, damp.	G			▲			
1		G			▲			
		G			▲			5
2		G		TP-68-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-68-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	- dark brown below 3.0 m.	G		TP-68-3.0 (DUP-16) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	SILT - light brown, clayey, some sand, damp.	G		TP-68-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4	CLAY - brown, silty, some sand, damp.	G			▲			
								15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-69**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	CLAY - brown, sandy, some silt, trace gravel, damp.	G			▲			
1		G			▲			
		G			▲			5
2		G		TP-69-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- dark brown below 2.4 m.	G		TP-69-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G		TP-69-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	SILT - light brown, clayey, some sand, damp.	G		TP-69-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4	CLAY - brown, silty, some sand, damp.	G			▲			
								15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-70**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC CLAY - black, silty, trace sand, damp.							
	CLAY - brown, sandy, silty, some gravel, damp.	G			▲			
1		G			▲			
		G			▲			5
2	- gray, some sand below 1.8 m.	G		TP-70-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- dark brown below 2.4 m.	G		TP-70-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G		TP-70-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	SILT - brown, clayey, some sand, damp, black staining.	G		TP-70-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4		G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-71**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	DESCRIPTION STRATIGRAPHY	SAMPLING SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, clayey, some sand, trace gravel, damp.							
	CLAY - black, silty, some sand, trace gravel, damp.	G			▲			
	- brown below 0.6 m.	G			▲			
1		G		TP-71-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			5
2		G		TP-71-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
		G		TP-71-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3		G		TP-71-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
	SILT - light brown, clayey, some sand, damp.	G		TP-71-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4	CLAY - brown, silty, some sand, damp.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		20
6								
7								25
8								
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

TEST PIT LOG

TEST PIT LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	TEST PIT No: **TP-72**
CLIENT: Imperial Oil		START DATE: 2014/12/15
SAMPLE TYPE: G - Grab OS - Other		COMPLETION DATE: 2014/12/15
		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SAMPLE TYPE	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE							0
	ORGANIC SILT - black, clayey, trace sand, damp.							
	CLAY - brown, silty, some gravel, some sand, damp.	G			▲			
1		G			▲			
		G			▲			5
2	- gray, black staining below 1.8 m.	G		TP-72-1.8 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
	- dark brown below 2.4 m.	G		TP-72-2.4 (DUP-20) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
3	- brown below 3.0 m.	G		TP-72-3.0 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			10
		G		TP-72-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals	▲			
4	- some silt.	G			▲			15
5	END OF TEST PIT at 4.9 m No Daylighting Performed					Test Pit backfilled with excavated material which was replaced in its' original order and then nominally compacted with the excavator bucket.		
6								20
7								
8								25
9								

START DATE	START DEPTH	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/12/15	0.0 m	Hitachi 200LC Excavator	Main Line Industries Ltd.	LOGGED: JES	REVIEW: KAF	DRAFTED: LLB

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-7**
CLIENT: Imperial Oil	GRADE ELEV.: 99.83 m	START DATE: 2014/04/08
BENCHMARK: Top of fire hydrant at the NE corner of Site		COMPLETION DATE: 2014/04/08
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE										0
	CLAY (Fill) - olive brown, coarse grained sand, silty, some sand, damp.										
	SAND (Fill) - light brown, fine grained, silty, some gravel, damp.		G	-	-						
1	COBBLES (Fill) - light brown, some sand, damp.		G	-	-						
	CLAY - olive brown, silty, some sand, moist. - black staining from 1.2 m to 1.8 m.		G	-	100		BH-7-1.2-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				5
2			SS	-	100		BH-7-1.8-2.4 (DUP-7) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
			SS	-	100						
3	- gray, some silt.		SS	-	100		BH-7-3.1-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				10
4			SS	-	100						
			SS	-	100						15
5			SS	-	100						
			SS	-	100						
6	END OF BOREHOLE at 6.1 m Borehole Daylighted to 1.5 m								No Monitoring Well Installed		20
7											
8											25
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/08	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/08	1.5 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	PARSONS		

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-8**
CLIENT: Imperial Oil	TPC ELEV.: 99.94 m	START DATE: 2014/04/08
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 99.97 m	COMPLETION DATE: 2014/04/08
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SYMBOL	SAMPLING: SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES / ▼ Groundwater Potentiometric Surface on date noted	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	CLAY (Fill) - olive brown, coarse to fine grained sand, silty, some sand, damp.										
	GRAVEL (Fill) - light brown, coarse grained, sandy, some silt, damp.		G	-	-						
1	SAND (Fill) - light brown, fine grained, some silt, damp.		G	-	-						
	CLAY - gray, silty, some sand, damp. - black staining from 1.2 m to 1.8 m.		G	-	-		BH-8-1.2-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				5
2 ▼	SILT - light brown, clayey, some sand, moist.		SS	-	100				2014/06/05		
	CLAY - olive brown, silty, damp.		SS	-	100		BH-8-2.4-3.1 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
3			SS	-	100		BH-8-3.1-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				10
4			SS	-	100						
	- gray, some silt, moist.		SS	-	100						15
5			SS	-	100						
6			SS	-	100						20
	END OF BOREHOLE at 6.1 m Borehole Daylighted to 1.5 m								Monitoring Well Installed Well Depth 4.6 m Well Diameter 51 mm Well Material Stainless Steel Screen Type 10 Slot Screened From 1.2 m Screened To 4.6 m		
7											25
8											
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/08	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/08	1.5 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited			

PARSONS

BOREHOLE LOG

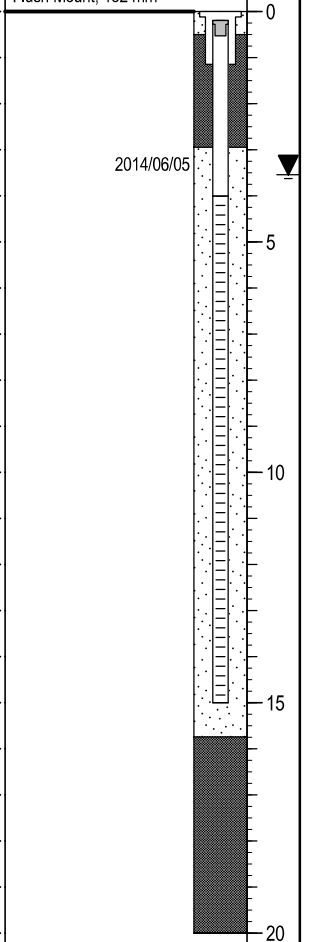
BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-9**
CLIENT: Imperial Oil	TPC ELEV.: 99.35 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 99.53 m	COMPLETION DATE: 2014/04/10
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES
0	GROUND SURFACE						
	ASPHALT.						
	GRAVEL (Fill) - light brown, coarse to fine grained, some sand, damp.		G	-	-		
1			G	-	-		
	CLAY - gray, silty, some sand, damp.		G	-	-		BH-9-1.2-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA
2	- moist below 1.8 m. - black staining from 1.8 m to 3.7 m.		SS	-	100		BH-9-1.8-2.4 (DUP-9) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA
			SS	-	100		
3			SS	-	100		BH-9-3.1-3.7 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA
4			SS	-	100		
	- some silt, trace gravel.		SS	-	100		
5			SS	-	100		
			SS	-	100		
6	END OF BOREHOLE at 6.1 m Borehole Daylighted to 1.8 m						
7							
8							
9							

▲ SOIL VAPOUR CONCENTRATION (ppmv)
100 200 300 400

COMMENTS AND MONITORING WELL NOTES
▼ Groundwater Potentiometric Surface on date noted

MONITORING WELL



Depth (ft): 0, 5, 10, 15, 20, 25

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/09	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/10	1.8 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited			

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-10**
CLIENT: Imperial Oil	TPC ELEV.: 98.80 m	START DATE: 2014/04/08
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 98.97 m	COMPLETION DATE: 2014/04/08
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES ▼ Groundwater Potentiometric Surface on date noted	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ASPHALT.										
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, damp.		G	-	-						
1	- black staining at 0.9 m.		G	-	-		BH-10-0.6-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
	CLAY - olive brown, silty, some sand, trace sand, damp.		G	-	-						5
2			G	-	-		BH-10-1.8-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
			SS	-	100		BH-10-2.4-3.0 (DUP-10) / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
3	- gray, some silt.								2014/06/05 ▼		10
			SS	-	100						
4			SS	-	100						
			SS	-	100						15
5			SS	-	100						
			SS	-	100						
6	END OF BOREHOLE at 6.1 m								Monitoring Well Installed		20
	Borehole Daylighted to 2.4 m								Well Depth 4.3 m Well Diameter 51 mm Well Material Stainless Steel Screen Type 10 Slot Screened From 1.2 m Screened To 4.3 m		
7											
											25
8											
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/08	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/09	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	PARSONS		

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-11**
CLIENT: Imperial Oil	TPC ELEV.: 99.44 m	START DATE: 2014/04/08
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 99.62 m	COMPLETION DATE: 2014/04/09
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC CLAY (Fill) - black, silty, trace sand, damp.		G	-	-						
	SAND (Fill) - light brown, coarse to fine grained, damp.										
1	ORGANIC CLAY (Fill) - black, silty, trace sand, damp.		G	-	-						
	SILT - olive brown, clayey, some sand, damp.		G	-	-		BH-11-1.2-1.8 / BTEX, PHC F1-F4, VOC, PAH, Metals, Glycols				5
2	CLAY - dark brown, silty, some sand, damp.		G	-	-						
			SS	-	100		BH-11-2.4-3.1 / BTEX, PHC F1-F4, VOC, PAH, Metals, Glycols				
3			SS	-	100				2014/06/05 ▼		10
4			SS	-	100						
			SS	-	100						15
5			SS	-	100						
			SS	-	100						
6	END OF BOREHOLE at 6.1 m Borehole Daylighted to 2.4 m								Monitoring Well Installed Well Depth 4.6 m Well Diameter 51 mm Well Material Stainless Steel Screen Type 10 Slot Screened From 1.2 m Screened To 4.6 m		20
7											
8											25
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/08	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/09	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	PARSONS		

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-12**
CLIENT: Imperial Oil	TPC ELEV.: 99.58 m	START DATE: 2014/04/08
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 99.74 m	COMPLETION DATE: 2014/04/10
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

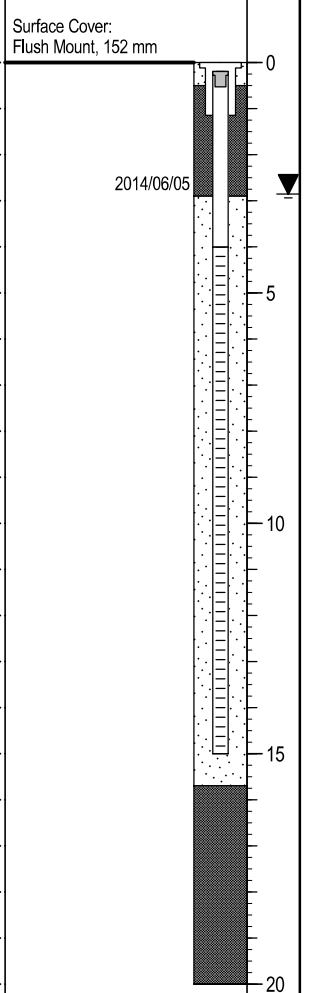
Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES
0	GROUND SURFACE						
	ASPHALT.						
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, wet.		G	-	-		
1			G	-	-		
	CLAY - light gray, silty, some sand, moist.		G	-	-		BH-12-1.2-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA
2	SILT - light brown, clayey, some sand, moist.		SS	-	100		BH-12-1.8-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA
	CLAY - gray, silty, some sand, moist.		SS	-	100		
3			SS	-	100		
			SS	-	100		
4			SS	-	100		
5			SS	-	100		
			SS	-	100		
6	END OF BOREHOLE at 6.1 m						
	Borehole Daylighted to 1.8 m						
7							
8							
9							

▲ SOIL VAPOUR CONCENTRATION (ppmv)
100 200 300 400

COMMENTS AND MONITORING WELL NOTES
▼ Groundwater Potentiometric Surface on date noted

MONITORING WELL

Depth (ft)



Monitoring Well Installed

Well Depth	4.6 m
Well Diameter	51 mm
Well Material	Stainless Steel
Screen Type	10 Slot
Screened From	1.2 m
Screened To	4.6 m

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR
2014/04/08	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.
2014/04/10	1.8 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited

GAS METER TYPE: RKI Eagle

LOGGED: GWC | REVIEW: KAF | DRAFTED: MLM

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-13**
CLIENT: Imperial Oil	TPC ELEV.: 100.00 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 100.16 m	COMPLETION DATE: 2014/04/09
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ASPHALT.										
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, wet.		G	-	-						
1			G	-	-						
	CLAY - dark gray, silty, some sand, moist.		G	-	-		BH-13-1.2-1.8 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA		▼ 2014/06/05		5
	- black staining from 1.5 m to 1.8 m.										
2			G	-	-						
	- olive brown, damp below 2.4 m.		SS	-	100		BH-13-2.4-3.1 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				10
3			SS	-	100						
			SS	-	100						
4	- gray, some silt, moist.		SS	-	100						15
			SS	-	100						
5			SS	-	100						
6	END OF BOREHOLE at 6.1 m								Monitoring Well Installed Well Depth 4.6 m Well Diameter 51 mm Well Material Stainless Steel Screen Type 10 Slot Screened From 1.5 m Screened To 4.6 m		20
	Borehole Daylighted to 2.4 m										
7											25
8											
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2014/04/09	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC / REVIEW: KAF / DRAFTED: MLM
2014/04/09	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

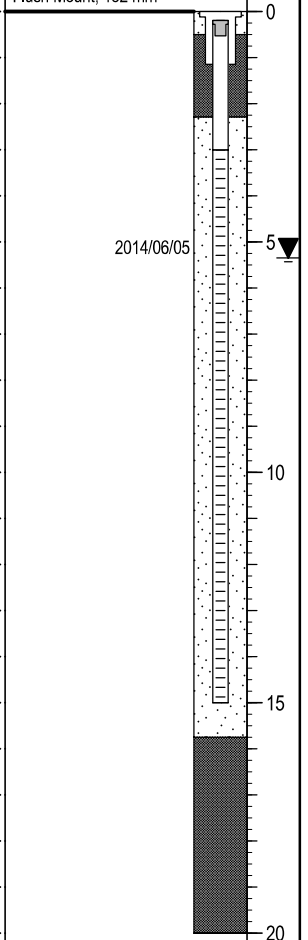
BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-14**
CLIENT: Imperial Oil	TPC ELEV.: 101.07 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 101.28 m	COMPLETION DATE: 2014/04/09
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES
0	GROUND SURFACE						
	ORGANIC CLAY - black, silty, some gravel, some sand, damp.		G	-	-		
	CLAY (Fill) - dark gray, gravelly, some sand, damp.		G	-	-		
1	SILT (Fill) - mottled black and light brown, some sand, some clay, damp.		G	-	-		BH-14-1.2-1.8 / BTEX, PHC F1-F4, VOC, PAH, Metals, Glycols
	CLAY - olive brown, silty, some sand, damp.		G	-	-		
2	- blackish brown, some silt.		SS	-	100		BH-14-2.4-3.1 / BTEX, PHC F1-F4, VOC, PAH, Metals, Glycols
3			SS	-	100		
	- olive brown below 3.7 m.		SS	-	100		
4			SS	-	100		
5	- gray, some silt, moist below 4.9 m.		SS	-	100		
6	END OF BOREHOLE at 6.1 m		SS	-	100		
	Borehole Daylighted to 2.4 m						
7							
8							
9							

▲ SOIL VAPOUR CONCENTRATION (ppmv)
100 200 300 400

COMMENTS AND MONITORING WELL NOTES
▼ Groundwater Potentiometric Surface on date noted

MONITORING WELL



Depth (ft): 0, 5, 10, 15, 20, 25

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR
2014/04/09	0.0 m	305 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.
2014/04/09	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited

GAS METER TYPE: RKI Eagle
LOGGED: GWC | REVIEW: KAF | DRAFTED: MLM

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-15**
CLIENT: Imperial Oil	TPC ELEV.: 101.23 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 101.42 m	COMPLETION DATE: 2014/04/10
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES
0	GROUND SURFACE						
	ORGANIC CLAY (Fill) - black, silty, some sand, trace gravel, moist.		G	-	-		
1	CLAY - gray, silty, some sand, moist.		G	-	-		BH-15-0.6-1.2 (DUP-15) / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals
			G	-	-		
2			G	-	-		BH-15-1.8-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals
	SILT AND CLAY - light brown, some sand, damp.		SS	-	100		
3	CLAY - dark gray, silty, some sand, moist.		SS	-	100		BH-15-3.1-3.7 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals
	SILT - light brown, some sand, moist.		SS	-	100		
4	CLAY - light brown, silty, some sand, moist.		SS	-	100		
	- some silt, damp.		SS	-	100		
5			SS	-	100		
6	END OF BOREHOLE at 6.1 m Borehole Daylighted to 2.4 m						
7							
8							
9							

▲ SOIL VAPOUR CONCENTRATION (ppmv)
100 200 300 400

COMMENTS AND MONITORING WELL NOTES
▼ Groundwater Potentiometric Surface on date noted

MONITORING WELL

Surface Cover:
Flush Mount, 152 mm

2014/06/05

Monitoring Well Installed

Well Depth	4.6 m
Well Diameter	51 mm
Well Material	Stainless Steel
Screen Type	10 Slot
Screened From	0.9 m
Screened To	4.6 m

Depth (ft)
0 5 10 15 20 25

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR
2014/04/09	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.
2014/04/10	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited

GAS METER TYPE: RKI Eagle
LOGGED: GWC | REVIEW: KAF | DRAFTED: MLM

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-16**
CLIENT: Imperial Oil	TPC ELEV.: 100.27 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 100.43 m	COMPLETION DATE: 2014/04/09
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ASPHALT.										
	COBBLES AND GRAVEL (Fill) - light brown, coarse to fine grained, sandy, damp.		G	-	-						
1	CLAY - gray, coarse to fine grained gravel, silty, some sand, moist.		G	-	-		BH-16-0.6-1.2 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals		▼ 2014/06/05		5
			G	-	-						
2	SILT - light brown, clayey, some sand, moist.		G	-	-		BH-16-1.8-2.4 / BTEX, PHC F1-F4, VOC, PAH, PCB, Metals				
	CLAY - olive brown, silty, some sand, damp.		SS	-	100						10
3			SS	-	100						
			SS	-	100						
4			SS	-	100						15
	- gray below 4.6 m.		SS	-	100						
5			SS	-	100						
6	END OF BOREHOLE at 6.1 m								Monitoring Well Installed Well Depth 4.6 m Well Diameter 51 mm Well Material Stainless Steel Screen Type 10 Slot Screened From 0.9 m Screened To 4.6 m		20
	Borehole Daylighted to 2.4 m										
7											25
8											
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2014/04/09	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC / REVIEW: KAF / DRAFTED: MLM
2014/04/09	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-17**
CLIENT: Imperial Oil	TPC ELEV.: 99.23 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site	GRADE ELEV.: 99.33 m	COMPLETION DATE: 2014/04/11
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	CLAY (Fill) - olive brown, silty, some sand, moist.										
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, moist.		G	-	-						
1			G	-	-		BH-17-0.6-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				5
	CLAY - blackish brown, sandy, silty, some gravel, damp. - olive brown below 1.5 m.		G	-	-						
2			G	-	-		BH-17-1.8-2.4 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				
	- gray, some sand, moist.		SS	-	100				2014/06/05		10
3			SS	-	100						
4			SS	-	100						
			SS	-	100						15
5			SS	-	100						
6			SS	-	100						20
	END OF BOREHOLE at 6.1 m								Monitoring Well Installed		
	Borehole Daylighted to 2.4 m								Well Depth 4.6 m Well Diameter 51 mm Well Material Stainless Steel Screen Type 10 Slot Screened From 1.2 m Screened To 4.6 m		
7											25
8											
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/09	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/11	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	PARSONS		

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-18**
CLIENT: Imperial Oil	GRADE ELEV.: 99.55 m	START DATE: 2014/04/09
BENCHMARK: Top of fire hydrant at the NE corner of Site		COMPLETION DATE: 2014/04/11
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	'N' VALUE	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS	BACKFILL	Depth (ft)
0	GROUND SURFACE										0
	CLAY (Fill) - olive brown, silty, some sand, moist.										
	GRAVEL (Fill) - light brown, coarse to fine grained, sandy, moist.		G	-	-						
1			G	-	-		BH-18-0.6-1.2 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				5
	CLAY - blackish brown, silty, some sand, moist. - black staining from 1.2 m to 1.8 m.		G	-	-						
2	- some silt, damp.		G	-	-						10
	- moist below 2.4 m. - some sand, black staining from 2.4 m to 4.6 m.		SS	-	100						
3			SS	-	100						
4			SS	-	100		BH-18-3.7-4.3 / BTEX, PHC F1-F4, Lead, 1,2-DBA, 1,2-DCA				15
	- trace gravel below 4.6 m.		SS	-	100						
5			SS	-	100						
6			SS	-	100						20
	END OF BOREHOLE at 6.1 m								No Monitoring Well Installed		
	Borehole Daylighted to 2.4 m										
7											25
8											
9											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2014/04/09	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: GWC	REVIEW: KAF	DRAFTED: MLM
2014/04/11	2.4 m	203 mm	Acker Track Rig; Hollow Stem Auger	Maple Leaf Drilling Limited	PARSONS		

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-19**
CLIENT: Imperial Oil	TPC ELEV.: 101.35 m	START DATE: 2016/04/25
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.46 m	COMPLETION DATE: 2016/04/26
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC CLAY - black, some sand, some silt, trace gravel, damp.		G		-		BH-19-0.0-0.6 / Metals, pH	▲			
	SILT AND CLAY - grayish brown, some gravel, some sand, damp.		G		-		BH-19-0.6-1.2 / Metals, pH	▲			
1			G		-			▲			5
			G		-			▲	▼ 2016/05/16		
2											10
	SILT - dark grayish brown, some clay, trace gravel, trace sand, moist.		G		-		BH-19-2.4-3.0 / Metals, pH	▲			
3	SILT - light yellowish brown, sandy, some clay, trace gravel, moist.		G		-		BH-19-3.0-3.7 / Metals, pH	▲			
	CLAY - olive brown, silty, trace sand, damp.		G		-		BH-19-3.7-4.3 / Metals, pH	▲			
4			G		-		BH-19-4.3-5.0 / Metals, pH	▲			15
5	END OF BOREHOLE at 5.0 m Borehole Daylighted to 1.5 m								Monitoring Well Installed Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/25	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/26	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-20**
CLIENT: Imperial Oil	TPC ELEV.: 101.47 m	START DATE: 2016/04/25
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.62 m	COMPLETION DATE: 2016/04/26
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC CLAY - black, some sand, some silt, trace gravel, damp.		G		-		BH-20-0.0-0.6 (DUP-1) / Metals, pH	▲			
	SILT AND CLAY - grayish brown, some gravel, some sand, damp.										
1	SILT - dark gray, clayey, some sand, trace gravel, damp.		G		-		BH-20-0.6-1.2 / Metals, pH	▲			
	- dark brown below 1.5 m.		G		-		BH-20-1.2-1.8 / Metals, pH	▲	▼ 2016/05/16		5
2	GRAVEL - grayish brown, coarse to fine grained, sandy, clayey, some silt, wet.		G		-		BH-20-1.8-2.4 / Metals, pH	▲			
	CLAY - black, silty, trace gravel, trace sand, damp.		G		-		BH-20-2.4-3.0 / Metals, pH	▲			
3	SILT - yellowish brown, some clay, trace sand, damp.										10
	CLAY - olive brown, some silt, trace sand, damp.		G		-		BH-20-3.0-3.7 / Metals, pH	▲			
4			G		-		BH-20-3.7-4.3 / Metals, pH	▲			
	CLAY - olive brown, silty, trace sand, damp.		G		-		BH-20-4.3-5.0 / Metals, pH	▲			15
5	END OF BOREHOLE at 5.0 m Borehole Daylighted to 1.5 m								Monitoring Well Installed Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/25	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/26	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-21**
CLIENT: Imperial Oil	TPC ELEV.: 101.37 m	START DATE: 2016/04/25
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.50 m	COMPLETION DATE: 2016/04/26
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC SILT - black, some sand, some clay, trace gravel, damp.										
	SILT - grayish brown, clayey, some gravel, some sand, damp.		G		-		BH-21-0.0-0.6 / Metals, pH	▲			
1	- trace gravel, trace sand, moist.		G		-		BH-21-0.6-1.2 / Metals, pH	▲			
			G		-		BH-21-1.2-1.8 / Metals, pH	▲			5
2									2016/05/16 ▼		
			G		-		BH-21-1.8-2.4 / Metals, pH	▲			
	CLAY - black, silty, some gravel, some sand, moist.										
	GRAVEL - dark grayish brown, coarse to fine grained, some sand, moist.										
	CLAY - black, sandy, some gravel, some silt, damp.		G		-		BH-21-2.4-3.0 / Metals, pH	▲			
3	SILT - pale brown, sandy, some clay, moist.										10
	CLAY - olive brown, trace sand, trace silt, moist.		G		-		BH-21-3.0-3.7 (DUP-5) / Metals, pH	▲			
4			G		-		BH-21-3.7-4.3 / Metals, pH	▲			
	CLAY - gray, silty, trace sand, moist.		G		-		BH-21-4.3-5.0 / Metals, pH	▲			15
5	END OF BOREHOLE at 5.0 m								Monitoring Well Installed		
	Borehole Daylighted to 1.5 m								Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/25	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/26	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-22**
CLIENT: Imperial Oil	TPC ELEV.: 101.42 m	START DATE: 2016/04/25
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.61 m	COMPLETION DATE: 2016/04/26
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES ▼ Groundwater Potentiometric Surface on date noted	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC CLAY - black, some sand, some silt, trace gravel, damp.										
	SILT AND CLAY - dark gray, trace gravel, trace sand, damp.		G		-		BH-22-0.0-0.6 / Metals, pH	▲			
1	- dark grayish brown, some gravel, some sand, moist below 0.8 m.		G		-		BH-22-0.6-1.2 (DUP-2) / Metals, pH	▲			
			G		-		BH-22-1.2-1.8 / Metals, pH	▲			5
	CLAY - dark grayish brown, some silt, trace sand, moist.								2016/05/16 ▼		
2			G		-		BH-22-1.8-2.4 / Metals, pH	▲			
	GRAVEL - dark grayish brown, coarse to fine grained, clayey, some sand, some silt, wet.		G		-		BH-22-2.4-3.0 / Metals, pH	▲			
3	CLAY - black, silty, some sand, damp.										10
	SILT - light yellowish brown, sandy, trace clay, moist.		G		-		BH-22-3.0-3.7 / Metals, pH	▲			
	CLAY - olive brown, some silt, trace sand, moist.		G		-		BH-22-3.7-4.3 / Metals, pH	▲			
4	CLAY - gray, silty, trace sand, moist.		G		-		BH-22-4.3-5.0 / Metals, pH	▲			15
5	END OF BOREHOLE at 5.0 m								Monitoring Well Installed		
	Borehole Daylighted to 1.5 m								Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/25	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/26	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-23A**
CLIENT: Imperial Oil	TPC ELEV.: 101.56 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.70 m	COMPLETION DATE: 2016/04/27
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC CLAY - black, some sand, some silt, trace gravel, damp.		G		-		BH-23A-0.0-0.6 / Metals, pH	▲			
	SILT - dark grayish brown, clayey, some cobbles, some gravel, trace sand, moist.										
1	- damp below 0.9 m.		G		-		BH-23A-0.6-1.2 / Metals, pH	▲			
			G		-		BH-23A-1.2-1.8 (DUP-7) / Metals, pH	▲			5
	CLAY - dark grayish brown, some silt, trace sand, damp.								2016/05/16 ▼		
2			G		-		BH-23A-1.8-2.4 / Metals, pH	▲			
	CLAY - dark gray, silty, some gravel, some sand, moist.										
	GRAVEL - dark gray, coarse to fine grained, clayey, some sand, moist.										
	CLAY - very dark gray, silty, some sand, trace gravel, damp.		G		-		BH-23A-2.4-3.0 / Metals, pH	▲			
3	SILT - yellowish brown, sandy, some clay, trace gravel, moist.		G		-		BH-23A-3.0-3.7 / Metals, pH	▲			10
	CLAY - olive brown, silty, trace sand, damp.		G		-		BH-23A-3.7-4.3 / Metals, pH	▲			
4	SILT - olive brown, clayey, trace sand, moist.		G		-		BH-23A-4.3-5.0 / Metals, pH	▲			
5	END OF BOREHOLE at 5.0 m								Monitoring Well Installed		15
	Borehole Daylighted to 1.5 m								Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/27	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-23B**
CLIENT: Imperial Oil	TPC ELEV.: 101.56 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.70 m	COMPLETION DATE: 2016/04/27
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SYMBOL	SAMPLING: SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE - Refer to BH-23A.							Surface Cover: Flush Mount, 152 mm		0
1										
2								▼ 2016/05/16		5
3	END OF BOREHOLE at 2.7 m Borehole Daylighted to 1.5 m							Monitoring Well Installed Well Depth 2.7 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 2.4 m Screened To 2.7 m		10
4										15
5										
6										20
7										

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/27	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-24A**
CLIENT: Imperial Oil	TPC ELEV.: 101.52 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.66 m	COMPLETION DATE: 2016/04/27
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	SILT AND CLAY - dark grayish brown, some gravel, some sand, damp.		G		-		BH-24A-0.0-0.6 / Metals, pH	▲			
1			G		-		BH-24A-0.6-1.2 / Metals, pH	▲			5
			G		-		BH-24A-1.2-1.8 / Metals, pH	▲			
	CLAY - dark grayish brown, some sand, some silt, trace gravel, damp.								▼ 2016/05/16		
2			G		-		BH-24A-1.8-2.4 / PAH, Metals, pH	▲			
	SILT - dark grayish brown, clayey, some gravel, damp.										10
	SILT - dark gray, some gravel, some sand, some clay, damp, wood fragments. - black, moist below 2.5 m.		G		-		BH-24A-2.4-3.0 (DUP-8) / PAH, Metals, pH	▲			
3	SILT - dark gray, clayey, trace sand, moist.										
	SILT - yellowish brown, sandy, some clay, moist.		G		-		BH-24A-3.0-3.7 / PAH, Metals, pH	▲			
	CLAY - olive brown, some silt, trace sand, moist.										
4			G		-		BH-24A-3.7-4.3 / Metals, pH	▲			15
	SILT - olive brown, clayey, some sand, moist.										
			G		-		BH-24A-4.3-5.0 / Metals, pH	▲			
5	END OF BOREHOLE at 5.0 m								Monitoring Well Installed		
	Borehole Daylighted to 1.5 m								Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		20
6											
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle		
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB	REVIEW: KAF	DRAFTED: TFS
2016/04/27	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	PARSONS		

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-24B**
CLIENT: Imperial Oil	TPC ELEV.: 101.56 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.65 m	COMPLETION DATE: 2016/04/27
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SYMBOL	SAMPLING: SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE - Refer to BH-24A.							Surface Cover: Flush Mount, 152 mm		0
1										5
2								▼ 2016/05/16		
3	END OF BOREHOLE at 3.0 m Borehole Daylighted to 1.5 m							Monitoring Well Installed Well Depth 3.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 2.7 m Screened To 3.0 m		10
4										15
5										
6										20
7										

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/27	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-25**
CLIENT: Imperial Oil	TPC ELEV.: 101.51 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.62 m	COMPLETION DATE: 2016/04/26
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	ORGANIC CLAY - black, silty, some sand, trace gravel, damp.		G		-		BH-25-0.0-0.6 / Metals, pH	▲			
	SILT AND CLAY - grayish brown, sandy, some gravel, moist.		G		-		BH-25-0.6-1.2 / Metals, pH	▲			
1			G		-		BH-25-1.2-1.8 / Metals, pH	▲			5
	CLAY - dark grayish brown, silty, trace sand, damp.		G		-		BH-25-1.8-2.4 / Metals, pH	▲	▼ 2016/05/16		
2	GRAVEL - grayish brown, coarse to fine grained, sandy, some silt, some clay, wet.		G		-		BH-25-2.4-3.0 / Metals, pH	▲			10
	CLAY - black, silty, some sand, trace gravel, damp.										
3	CLAY - olive brown, some silt, trace gravel, trace sand, damp.		G		-		BH-25-3.0-3.7 / Metals, pH	▲			
			G		-		BH-25-3.7-4.3 / Metals, pH	▲			
4	CLAY - gray, silty, trace gravel, trace sand, moist.		G		-		BH-25-4.3-5.0 / Metals, pH	▲			15
5	END OF BOREHOLE at 5.0 m Borehole Daylighted to 1.5 m								Monitoring Well Installed Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/26	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-26A**
CLIENT: Imperial Oil	TPC ELEV.: 101.95 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 102.09 m	COMPLETION DATE: 2016/04/27
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	SILT AND CLAY - black, some sand, trace gravel, damp.		G		-		BH-26A-0.0-0.6 / Metals, pH	▲			
	- grayish brown, some gravel, moist below 0.1 m.		G		-		BH-26A-0.6-1.2 (DUP-4) / Metals, pH	▲			
1			G		-		BH-26A-1.2-1.8 / Metals, pH	▲			5
	CLAY - grayish brown, some silt, trace sand, moist.		G		-		BH-26A-1.8-2.4 / Metals, pH	▲	▼ 2016/05/16		
2	SILT - light olive brown, clayey, trace sand, moist.										
	GRAVEL - light olive brown, coarse to fine grained, sandy, silty, moist.		G		-		BH-26A-2.4-3.0 / Metals, pH	▲			
	- brownish yellow, damp below 2.7 m.										10
3	GRAVEL - very dark gray, coarse to fine grained, sandy, some silt, wet.										
	CLAY - dark grayish brown, silty, some sand, moist.		G		-		BH-26A-3.0-3.7 / Metals, pH	▲			
	SILT - light yellowish brown, sandy, trace clay, moist.										
4	CLAY - olive brown, some silt, trace sand, damp.		G		-		BH-26A-3.7-4.4 / Metals, pH	▲			15
	SILT - gray, clayey, trace sand, damp.		G		-		BH-26A-4.4-5.1 / Metals, pH	▲			
5	END OF BOREHOLE at 5.2 m								Monitoring Well Installed		
	Borehole Daylighted to 1.5 m								Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		20
6											
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/27	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-26B**
CLIENT: Imperial Oil	TPC ELEV.: 101.97 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 102.07 m	COMPLETION DATE: 2016/04/27
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES
0	GROUND SURFACE - Refer to BH-26A.						
3	END OF BOREHOLE at 3.0 m Borehole Daylighted to 1.5 m						

DESCRIPTION

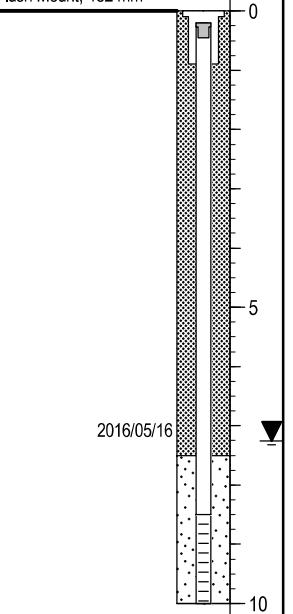
SAMPLING

COMMENTS AND MONITORING WELL NOTES

▼ Groundwater Potentiometric Surface on date noted

MONITORING WELL

Depth (ft)



START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.
2016/04/27	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited

GAS METER TYPE: RKI Eagle

LOGGED: JMB | REVIEW: KAF | DRAFTED: TFS

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-27A**
CLIENT: Imperial Oil	TPC ELEV.: 101.75 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.87 m	COMPLETION DATE: 2016/04/28
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	STRATIGRAPHY	SYMBOL	SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	▲ SOIL VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMMENTS AND MONITORING WELL NOTES ▼ Groundwater Potentiometric Surface on date noted	MONITORING WELL	Depth (ft)
0	GROUND SURFACE								Surface Cover: Flush Mount, 152 mm		0
	CONCRETE.										
	GRAVEL (Fill) - pale brown, sandy, some silt, some clay, trace cobbles, damp.		G		-		BH-27A-0.0-0.6 / Metals, pH	▲			
1	SILT - black, some clay, trace sand, damp.		G		-		BH-27A-0.6-1.2 / Metals, pH	▲			
	SILT - light brownish gray, sandy, trace clay, damp.										
	CLAY - light gray, some silt, trace gravel, trace sand, damp.		G		-		BH-27A-1.2-1.8 (DUP-9) / PAH, Metals, pH	▲			5
2	- dark grayish brown below 1.8 m.								2016/05/16 ▼		
	SILT - dark gray, sandy, some clay, trace gravel, moist, wood fragments.		G		-		BH-27A-1.8-2.4 / PAH, Metals, pH	▲			
	SILT - dark grayish brown, gravelly, sandy, trace clay, moist. - some cobbles below 2.7 m.		G		-		BH-27A-2.4-3.0 / PAH, Metals, pH	▲			
3	- light yellowish brown below 3.1 m.		G		-		BH-27A-3.0-3.7 / Metals, pH	▲			10
	CLAY - olive brown, some silt, trace sand, moist.		G		-		BH-27A-3.7-4.3 / Metals, pH	▲			
4	CLAY - olive brown, silty, trace sand, moist.		G		-		BH-27A-4.3-5.0 / Metals, pH	▲			15
5	END OF BOREHOLE at 5.0 m								Monitoring Well Installed		
	Borehole Daylighted to 1.5 m								Well Depth 4.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 1.0 m Screened To 4.0 m		
6											20
7											

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/28	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS

BOREHOLE LOG

BOREHOLE LOCATION: 100 Oak Point Highway, Winnipeg, Manitoba	REF. NO: 10-5133	BOREHOLE No: **BH-27B**
CLIENT: Imperial Oil	TPC ELEV.: 101.79 m	START DATE: 2016/04/26
BENCHMARK: Top of fire hydrant at NE corner of Site	GRADE ELEV.: 101.91 m	COMPLETION DATE: 2016/04/28
ASSIGNED ELEVATION: 100.00 m (Refer to Drawings for location)		PAGE 1 of 1

Depth (m)	DESCRIPTION: STRATIGRAPHY	SYMBOL	SAMPLING: SAMPLE TYPE	SAMPLE RUN	RECOVERY %	ZONE TESTED	LAB SAMPLE NAME/ LAB ANALYSES	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft)
0	GROUND SURFACE - Refer to BH-27B.							Surface Cover: Flush Mount, 152 mm		0
1										
2								▼ Groundwater Potentiometric Surface on date noted: 2016/05/16		5
3	END OF BOREHOLE at 3.0 m Borehole Daylighted to 1.5 m							Monitoring Well Installed Well Depth 3.0 m Well Diameter 51 mm Well Material PVC Screen Type 10 Slot Screened From 2.7 m Screened To 3.0 m		10
4										15
5										
6										20
7										

START DATE	START DEPTH	HOLE SIZE	EQUIPMENT	CONTRACTOR	GAS METER TYPE: RKI Eagle
2016/04/26	0.0 m	254 mm	Vacuum Excavator; Water Lance	Badger Daylighting Inc.	LOGGED: JMB / REVIEW: KAF / DRAFTED: TFS
2016/04/28	1.5 m	152 mm	Acker Renegade; Solid Stem Auger	Maple Leaf Drilling Limited	

PARSONS