PHASE II
ENVIRONMENTAL SITE ASSESSMENT
REPORT
of the
GILBERT PLAINS BUS GARAGE
16 FINDLATER AVENUE

GILBERT PLAINS, MANITOBA

JNT-025-20-0164

Prepared for:

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1.0 INTRODUCTION

1.1 BACKGROUND

On behalf of the Mountain View School Division, Talon Projects Inc. (Talon) completed a Phase II Environmental Site Assessment following the removal of an aboveground petroleum storage tank at the Bus Garage at 16 Findlater Avenue in Gilbert Plains, Manitoba. The tank removal was completed prior to June 24, 2020. This report summarizes the site observations made during the site investigation and the analytical chemistry results of soil samples obtained from the site activities.

1.2 AUTHORIZATION TO PROCEED

Authorization to proceed with the Phase II ESA and soil investigation was obtained from Ernest Karpiak of the Mountain View School Division in May 2020.

1.3 SCOPE OF WORK

The scope of work for the project included the following:

- Advancement of minimum 9 test holes using an auger drill rig
- Soil logging of test holes and recovery of soil samples
- Submission of samples to laboratory for analysis
- Analysis and recommendations based upon findings
- Preparation of Phase II ESA

1.4 REPORTS REVIEW

No documents, either environmental reports or legal survey plans, were available at the time of the site assessment.

2.0 SITE INFORMATION

2.1 GENERAL

The Gilbert Plains Bus Garage is located at 16 Findlater Avenue in the unincorporated community of Gilbert Plains, Manitoba (Figures 1 & 2). The unincorporated community of Gilbert Plains was formerly known as the Town of Gilbert Plains before it amalgamated with the Rural Municipality of Gilbert Plains to form the Municipality of Gilbert Plains. Riding Mountain National Park is located 16.5 km south of Gilbert Plains.

The property is currently occupied by a 15.2 m x 18.9 m bus maintenance garage (commercial land use), a concrete dike, and a gravel parking lot. Historically, the site appears to have been used as a bus garage (+40 years). Prior to their removal in June 2020, there were two 4,545 L single-walled aboveground petroleum storage tanks on the site (Figure 3).

The maintenance garage and the northside of the subject property is enclosed by a chain-link fence with two access gates (Figure 3).

2.2 ADJACENT LAND USE

The subject property is located on the north side of Findlater Avenue and Provincial Trunk Highway (PTH) 5. Adjacent properties are a mix of residential, commercial, and agricultural (Figure 3).

There are residential properties directly adjacent to the subject property (east and west), and agricultural fields north of the property. There is a mix of agricultural and residential properties south of PTH 5 (Figure 3).

2.3 TOPOGRAPHY AND DRAINAGE

The site has very good drainage. No evidence of surface water accumulation was noted during the site assessment.

There is a defined ditch along Findlater Avenue. The land has very low relief (fairly flat) in and around the subject property. Run-off from the subject property appears to be towards the east boundary (as inferred from test hole collar elevations).

2.4 SURFICIAL GEOLOGY AND WATER COURSES

The Gilbert Plains subsoils consist of lacustrine clays (up to 20 m thick) overlying clay till (with zones of sand and gravel) and underlain by the Cretaceous shale of the Swan River Formation (Manitoba Geological Survey, 2004).

The Valley River is located approximately 1 km north and northwest of the subject property. There is a sewer pond 440 m north-northeast of the site.

2.5 MUNICIPAL SERVICES

Hydro is provided to the garage via overhead lines. Potable water and sewer services are provided by the Municipality of Gilbert Plains via a piped system. Natural gas is used for heating and domestic hot water.

The municipal water treatment plant is located approximately 18 km northwest of the subject property (Road 155N and Road 134W). The water supply intake for the treatment plant is from municipal wells near the plant. The former water treatment plant on McCormick Avenue is approximately 1 km northwest of the subject property and is currently used as a water storage facility for water supplied by the new treatment facility (Municipality of Gilbert Plains, Personal Communication, 2020).

2.6 WATER WELLS

A water well survey was conducted of the Manitoba Conservation water well database. The survey included a search of water wells within the same Section-Township-Range. The subject property is found at NE9-25-22W (Section 9). A total of 4 water wells were found in this Section. The wells are > 500 m from the site.

Within 1 km of the site, there is one municipal water well, near the former McCormick water treatment plant. It is not known if this well is currently in use.

2.7 PETROLEUM HYDROCARBON STORAGE

Two 4,545 L single-walled aboveground petroleum storage tanks containing diesel and gasoline product had been in use at the site since their installation in 1993. The tanks were taken out of service in March 2020. The tanks were protected by a concrete dike and utilized an electric pump for product transfer. The dike also provided secondary containment for the tanks.

In June 2020, the 4,545 L tanks and transfer system were removed by J & T Repair Centre utilizing local contractors for hoisting purposes. The concrete dike was intact at the time of the site assessment. The aboveground storage tank was shipped to the J & T Repair Centre compound for interim storage prior to being sold for salvage (as per Manitoba Conservation guidelines).

Historically, a 9,090 L underground tank was installed in 1973 and removed in 1993 by J & T Repair Centre (Manitoba Conservation, Kayla Hagenson, Personal Communication, 2020).

2.8 INTERVIEWS

An interview with Todd Tarrant of J & T Repair Centre indicated the 9,090 L underground petroleum storage tank was removed in 1993 but no remedial activities beyond the tank nest were completed. The dike, two 4,545 L tanks, and associated appurtenances were installed by a separate contractor after the underground tank was removed.

The property owner's representative was interviewed and was not aware of any previous remedial activities.

3.0 METHODOLOGY

Following removal of the aboveground tanks and pumps, drill rigs were mobilized to the site. A total of twelve (12) test holes were advanced (Figure 3) around the property with a truck-mounted drill rig on June 24, 2020. Another three (3) test holes were advanced (Figure 3) in the dike area, between the dike and the maintenance garage, and on the south side parking lot on June 25, 2020. The soil stratigraphies were logged along the entire depth of each test hole. Grab samples were taken at 0.6 m intervals on all test holes and screened for hydrocarbon vapour concentrations. All test holes were capped with bentonite chips to seal the hole collars.

All samples were field screened using a fixed-volume headspace technique. Recovered soil samples were smelled (olfactory) and then split, with each half put into a separate polyethylene bag. A headspace was created in one bag whereas the second bag was wrapped tightly and placed aside for jarring. The soils bagged for vapour screening (headspace) were broken up in the bag, agitated, and then allowed to warm in an ambient temperature of 20°C. Once the sample had warmed sufficiently (10 minutes or before excessive condensation formed in the bag), a hydrocarbon vapour detector (Gastechtor) was used to sample the headspace for volatile hydrocarbons. The highest readings (in PPM or LEL) for each headspace sampled are found in Section 5.1.2.

Quality Assurance/Quality Control (QA/QC) protocols were implemented to ensure field data was accurate and representative of actual soil conditions and to confirm the credibility and integrity of the project results.

The QA/QC program contained the following elements:

- Field Sampling Protocol
- Laboratory Analysis Protocol
- Protocol Data Management

Disposable latex gloves were used when handling samples. Each field sample was documented with sample type, sample I.D. number, sampling date, sampling site, the samplers name, sampling equipment, and sample site observations. All samples submitted for laboratory analysis were jarred from the split sample (the bag not used for headspace screening). All samples were shipped to the laboratory under a chain of custody.

All existing site structures were surveyed. A benchmark (BM) was located on the concrete floor of the garage (Figure 3). The BM was used for vertical control and was given an assumed elevation of 100.00 m. All test holes were surveyed relative to this benchmark.

4.0 ANALYTICAL TESTS AND REGULATORY STANDARDS

Manitoba Conservation has adopted the Canada Wide Standards for Petroleum Hydrocarbons (CWS-PHC). Environmental assessments in Manitoba are based on the assessment criteria as produced by the Canadian Council of Ministers of the Environment (CCME).

An evaluation of exposure pathways, land uses, key receptors, and the predominant soil texture at the site is based on the CCME assessment criteria for Canadian Environmental Quality Guidelines (CCME EQG, 2004) and Canada-wide Standards for Petroleum Hydrocarbons (CCME CWS-PHC, 2008). The site sensitivity assessment was conducted in accordance with current CCME guidelines. A site specific criterion was not developed for the site.

4.1 LAND USE

The CCME utilizes four generic land uses – agricultural, residential/parkland, commercial, and industrial. The four land uses are defined as:

Agricultural Lands – where the primary land use is growing crops or tending livestock. This also includes agricultural lands that provide habitat for wildlife and native flora.

Residential/Parkland – where the primary activity is residential or recreational activity.

Commercial – where the primary activity is commercial and there is free access to all members of the public, including children.

Industrial – where the primary activity involves the production, manufacture or construction of goods. Public access is restricted, and children are not permitted continuous access or occupancy.

The site is considered commercial and will likely be used as a commercial property for the foreseeable future. The immediate surrounding properties (Figure 3) include a mixture of agricultural and residential activities (Section 2.2).

4.2 SOIL CHARACTERISTICS

As per Section 5.1.1, the soils encountered at the site are predominantly fine-grained clay and silty clay. Therefore, the site soils are considered “fine-grained” for the purpose of this assessment.

4.3 APPLICABLE EXPOSURE PATHWAYS

When assessing PHC impacts, CCME recognizes two soil horizons with respect to depth below ground level (BGL): surface soil (≤1.5 m depth BGL) and subsurface soils (>1.5 m depth BGL). Exposure pathways for PHC’s are assessed individually for both horizons.

4.3.1 Human Exposure Pathways

Potential human exposure pathways include the soil ingestion, soil dermal contact, vapour inhalation, irrigation, and protection of potable groundwater pathways. The applicability of each potential exposure pathway is discussed in the following sections.

4.3.1.1 Soil Ingestion Pathway

The soil ingestion pathway would be considered applicable to the subsurface soil horizon at this site as potential sources of impacts were located aboveground on a non-paved gravel parking lot and yard. As ingestion of soils below the 1.5 m depth interval is not considered realistic at this site, the ingestion pathway was not considered applicable to the subsurface soil horizon.

4.3.1.2 Dermal Contact Pathway

The dermal contact pathway would be considered applicable at this site as the potential sources of impacts were located aboveground on a non-paved gravel parking lot and yard. As continued direct dermal contact of soils below the 1.5 m depth interval is not considered practical, the dermal contact pathway was not considered applicable to the subsurface soil horizon.

4.3.1.3 Vapour Inhalation Pathway

The vapour inhalation (indoor) pathway would be considered applicable to both the surface and subsurface soil horizons as the current site contains a commercial building (slab on grade) and there are residential dwellings ~5 m from the property line with potential for either basements or crawlspaces.

4.3.1.4 Irrigation Use of Groundwater

There are no requirements for irrigation water in the area, and residential watering would likely be conducted through the municipal water supply. The irrigation use of groundwater is not considered applicable to the site.

4.3.1.5 Protection of Groundwater

There are no livestock operations, sloughs capable of providing livestock drinking water, or registered agricultural wells within 500 m of the site. Therefore, livestock drinking water is not considered applicable.

No water wells were identified within 500 m of the site. The Municipality of Gilbert Plains supplies potable water to all properties within the service area via a piped water system (municipal well intakes located approximately18 km northwest of property).

CCME considers all water bearing units as a potential groundwater resource. CCME defines a water bearing unit as having a hydraulic conductivity greater than 10^{-4}cm/s. A separation between contaminated soil and groundwater can occur when the

impacted areas are not hydraulically connected to the underlying aquifer. A 10 m thickness of massive unfractured saturated clay and silt (as per water well logs in the region) with a $K < 10^{-6}$ cm/s is considered sufficient to ensure isolation of the petrol impacts from the potential groundwater aquifer in the bedrock.

Based on this, the protection of groundwater pathway is not considered applicable at this site.

4.3.2 Ecological Exposure Pathways

Potential ecological exposure pathways include the ecological soil contact and freshwater aquatic life pathways.

4.3.2.1 Ecological Soil Contact Pathway

The ecological soil contact pathway would be considered applicable as ecological receptor exposure, from terrestrial and subterranean organisms and plant root systems, to soils in the surface soil horizon. Ecological receptor exposure in the subsurface soil horizon is not practical and therefore not considered below 1.5 m BGL.

4.3.2.2 Freshwater Aquatic Life Pathway

CCME states that the freshwater aquatic life pathways may be excluded in cases where there is no surface water body within 10 m of the site classified as “fine-grained”.

The nearest significant water body is the Valley River 1 km north of the site. A sewage lagoon is located approximately 440 m north-northeast of the site. Based on this, the freshwater aquatic life pathway is not considered applicable at this site.

4.3.3 Miscellaneous Criteria – Management Limit

As commercial land use criteria are applicable to the site, soil management limits for PHC’s will apply for all soils at the site (surface soil and subsurface soil horizons).

4.4 SUMMARY

Based on the current and future site use (commercial), surrounding residential and commercial land use, the fine-grained soils, and the applicable exposure pathways as outlined in the previous sections, assessment guidelines for each contaminant of concern was determined. The most stringent of the applicable exposure pathway guideline values as provided by CCME was used for each contaminant for both the surface and subsurface horizons (soil only).

4.4.1 Above 1.5 m BGL

CCME commercial values for fine-grained surface soil in a non-potable situation as limited by the:

1) Inhalation of indoor air check (slab on grade) human health guideline exposure pathway for benzene;

2) Soil contact environmental health guideline exposure pathway for toluene, ethylbenzene, xylenes, F1-F4

4.4.2 Below 1.5 m BGL

CCME commercial values for fine-grained subsurface soil in a non-potable situation as limited by the:

1) Inhalation of indoor air check (slab on grade) human health guideline exposure path for benzene, toluene, ethylbenzene, and xylenes;

2) Management Limits for F1-F4

5.0 FIELD OBSERVATIONS

The following sections provide an interpretation of field observations.

5.1 TEST HOLES

5.1.1 Soil Stratigraphy and Groundwater

The surficial geology of the site is comprised mainly of clay and silt till overlain by a surface layer of gravelly silt topsoil/gravel. Sand backfill was noted in TH4 overlying native clay soils at depth. All test holes encountered groundwater 1.2 – 1.8 m BGL.

No monitoring wells were installed at the site.

5.1.2 Headspace Vapour Screening Results

The test holes logs (Appendix A) include graphical representation of sample vapour screening results. The hydrocarbon vapour headspace concentrations measured in the soil samples varied from 50 - 650 ppm. Table 1 presents the highest headspace results from each test hole.

Table 1: Peak Headspace Vapour Concentrations – Test Holes

Test Hole	Sample	Depth (m)	Head Space (ppm)
1	1-4	2.4	90
2	2-3	1.8	90
3	3-3	1.8	110
4	4-3	1.8	90
5	5-3	1.8	130
6	6-3	1.8	80
7	7-3	1.8	600
8	8-3	1.6	100
9	9-3	1.8	650
10	10-3	1.8	500
11	11-4	2.4	120
12	12-5	2.7	140
13	13-3	1.8	90
14	14-2	0.9	80
15	15-3	1.8	140

The results provide hole specific information on volatile hydrocarbon concentrations in the soil. Headspace concentrations are used for field screening purposes.

6.0 ANALYTICAL RESULTS

The results of the laboratory analysis are summarized in Tables 2 & 3. Laboratory reports are provided in Appendix B.

6.1 BTEX RESULTS FOR SOIL

Table 2: Laboratory Results for BTEX (All Depths) - Test Holes

Location	Test Hole Sample	Lab Sample	Depth (m)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylene (mg/kg)
TH1	1-4	M33	2.4	<0.0050	<0.050	<0.015	<0.071
TH2	2-3	M25	1.8	<0.0050	<0.050	<0.015	<0.071
TH3	3-3	M13	1.8	0.376	0.849	7.35	9.24
TH4	4-3	M36	1.8	<0.0050	<0.050	<0.015	<0.071
TH5	5-3	M42	1.8	0.0061	<0.050	<0.015	<0.071
TH5	5-5	M47	3.0	<0.0050	<0.050	<0.015	<0.071
TH6	6-1	M40	0.5	<0.0050	<0.050	0.016	0.09
TH6	6-3	M53	1.8	<0.0050	<0.050	<0.015	<0.071
TH7	7-3	M50	1.8	<0.50	4.55	45.7	182
TH8	8-3	M45	1.6	3.49	34.1	8.4	52.1
TH8	8-4	M56	2.4	3.05	16.1	9.18	43.9
TH9	9-3	M59	1.8	0.056	<0.050	5.75	0.778
TH10	10-2	M80	1.2	0.0069	<0.050	<0.015	<0.071
TH10	10-3	M62	1.8	<0.050	1.74	30.9	222
TH10	10-4	M82	2.4	8.72	126	45.6	259
TH11	11-4	M66	2.4	<0.0050	<0.050	<0.015	<0.071
TH12	12-5	M68	2.7	<0.0050	<0.050	<0.015	<0.071
TH13	13-3	M71	1.8	0.0064	<0.050	<0.015	<0.071
TH14	14-2	M74	0.9	<0.0050	<0.050	<0.015	<0.071
TH15	15-3	M77	1.8	<0.0050	<0.050	<0.015	<0.071
CCME1	-	-	-	2.8	330	430	230
CCME2	-	-	-	*2.9*	*13,000*	*6700*	*1600*

1 CCME Commercial EQG (≤1.5 m depth)

2 CCME Commercial EQG (>1.5m depth)

*Shaded samples exceed applicable criteria

6.2 PETROLEUM HYDROCARBON FRACTIONS FOR SOIL

Table 3: Laboratory Results for PHC in Soil (All Depths) -Additional Test Holes

Location	Test Hole Sample	Lab Sample	Depth (m)	F_1 (mg/kg)	F_2 (mg/kg)	F_3 (mg/kg)	F_4 (mg/kg)
TH1	1-4	M33	2.4	<10	<25	<50	<50
TH2	2-3	M25	1.8	<10	<25	<50	<50
TH3	3-3	M13	1.8	790	57	<50	<50
TH4	4-3	M36	1.8	<10	<25	<50	<50
TH5	5-3	M42	1.8	422	72	<50	<50
TH5	5-5	M47	3.0	23	<25	<50	<50
TH6	6-1	M40	0.5	<10	<25	<50	<50
TH6	6-3	M53	1.8	<10	<25	<50	<50
TH7	7-3	M50	1.8	2100	260	<50	<50
TH8	8-3	M45	1.6	840	216	<50	<50
TH8	8-4	M56	2.4	570	58	<50	<50
TH9	9-3	M59	1.8	1040	129	<50	<50
TH10	10-2	M80	1.2	59	31	885	307
TH10	10-3	M62	1.8	1900	428	<50	<50
TH10	10-4	M82	2.4	1600	818	<50	<50
TH11	11-4	M66	2.4	<10	<25	<50	<50
TH12	12-5	M68	2.7	<10	<25	<50	<50
TH13	13-3	M71	1.8	99	29	797	282
TH14	14-2	M74	0.9	<10	<25	<50	<50
TH15	15-3	M77	1.8	<10	<25	<50	<50
CCME[1]	-	-	-	*800*	*1000*	*5000*	*10,000*
CCME2	-	-	-	*320*	*260*	*2500*	*6600*

[1] CCME CWS for PHC Management Limit Data for samples >1.5 m depth, fine-grained soil (commercial)

[2] CCME CWS for PHC Eco Soil Contact for samples <1.5 m depth, fine-grained soil (commercial)

*Shaded values exceed applicable criteria

6.3 ANALYSIS OF RESULTS

Twenty (20) soil samples collected on June 24 & 25, 2020, were submitted to ALS Laboratories for testing of all petroleum hydrocarbon (PHC) fractions (F_1 thru F_4) and Benzene, Toluene, Ethyl-Benzene, and Xylene (BTEX) compounds.

The analytical results for Benzene exceeded the applicable CCME Environmental Quality Guidelines (EQG) criteria in samples recovered from TH's 8 & 10, only. Indications of Toluene, Ethyl-Benzene, and Xylene were noted in TH's 8 & 10 but did not exceed the applicable criteria. Indications of BTEX compounds were noted in TH's 7 & 9 but did not exceed the applicable criteria.

The analytical results for PHC Fractions exceeded the applicable criteria for the F1 fractions in samples recovered from TH 7, 8, 9, & 10.

The analytical results from TH3 did not exceed the applicable criteria for BTEX and PHC Fractions, although the F1 fraction was only marginally below the criteria, indicating the impacted area has encroached on the easter property line.

Sand backfill was noted in TH4 which is likely where the former underground tank was located. The impacted area noted in Figure 3 is likely the result of the gradual migration of petroleum hydrocarbon impacts from the former underground tank location. The high plastic clay soils of the site appear to be of low permeability (hydraulic conductivity $K<10^{-6}$ cm/s), thereby slowing the lateral spread of the plume.

TH14 was advanced through the dike (Figure 3). No petroleum hydrocarbon odours were noted during the soil logging. The soil sample submitted from TH14 returned results below the detection limits of the laboratory equipment.

7.0 SUMMARY

7.1 OVERVIEW

In the field, headspace vapour screening results for soil samples recovered from the test holes were used to screen soil samples for laboratory testing. Following headspace measurements, confirmatory laboratory samples were taken. Laboratory test results varied, from results below the detection limits of the lab equipment (for test holes that did not encounter impacts) to laboratory results indicative of petroleum hydrocarbon impacts.

An estimated impacted area was determined based on petroleum hydrocarbon impacts exceeding the current commercial guidelines for a fine grained soil (CCME EQG BTEX and CWS-PHC) as per Section 4.0.

7.2 IMPACTED AREA

The impacted soil horizons were noted in the drill hole logs from 1.0 – 3.5 m depth BGL. Based on the estimated aerial extent of impacted soils exceeding the CWS-PHC (Figure 3), an impacted soil volume of 1800 m^3 was determined.

The impacted soil is within 3 m of the east property boundary. The water levels and soil types encountered in the test holes appear to indicate a very low (flat) groundwater flow gradient. Based on a former petrol source near TH4, it appears the plume has been spreading laterally outward in several directions (southeast, northeast, and northwest).

Since the residential properties are adjacent to the subject site, the impacted area represents a risk to human health. Additionally, the proximity of the impacted area to the eastern property boundary represents a potential legal liability with respect to migration of the plume to the adjacent property.

7.3 RECOMMEDATIONS

The following options are provided for consideration. All plans must be approved by Manitoba Conservation prior to implementation.

7.3.1 Monitor in Place

Based on the relatively low permeability of the clay soils encountered at the site, the contaminant concentrations in the soil, and the sensitivity of receptors (inhalation risk), a monitor in place option may be considered.

The monitor in place option involves the installation of monitoring wells around the plume area followed by yearly monitoring of the wells for BTEX and PHC Fraction concentrations in the groundwater. The wells would be placed around the outside edge of the impacted area. The purpose of the monitoring wells would be to observe the lateral movement of the plume, particularly with respect to the adjacent residential properties and the maintenance garage.

This option would permit the owner to leave the impacted soils in place. The monitoring program would continue until a reassessment of the impacted area was completed and presented to Manitoba Conservation for approval.

Although a lower upfront cost, there will be yearly costs for monitoring the wells. Manitoba Conservation may permit lower frequency monitoring visits following several years of positive results. Alternatively, non-favourable results may require either continued high frequency monitoring or development of a plan to deal with the plume's migration towards sensitive receptors.

7.3.2 Excavation and Backfill

The excavation and backfill option entails removing the impacted soil (1800 m^3) to a soil treatment/disposal facility, followed by the backfilling of the excavation with a fine-grained fill material.

Although excavation and backfill is a more costly option in the short term, this option has the benefit of removing the long term liability (respecting human health and legal issues) and eliminating the ongoing yearly costs associated with leaving the impacted soil in place and monitoring.

8.0 CLOSURE

The findings and recommendations of this report were prepared in accordance with generally accepted professional environmental assessment principals and practice. The findings and discussions were based on the results of the fieldwork, laboratory analysis, soil conditions at the excavation, and consultations with the J & T Repair Centre staff. The excavation is location specific and test results are hole location specific.

Talon Projects Inc. would like to thank Todd Tarrant of J & T Repair Centre and Ernest Karpiak of the Mountain View School Division for their assistance during the assessment.

This report has been prepared for the exclusive use of Mountain View School Division and their agents for the purpose of assessing the soil conditions at 16 Findlater Avenue in Gilbert Plains, Manitoba. Talon Projects Inc. accepts no responsibility for any third party's interpretation or use of the information. Any questions pertaining to this report should be directed to the undersigned.

Talon Projects Inc.

Wayne Pitura, P.Eng.
Project Engineer

9.0 REFERENCES

Canadian Council of Ministers of the Environment (CCME). 2004. Canadian Environmental Quality Guidelines (EQG).

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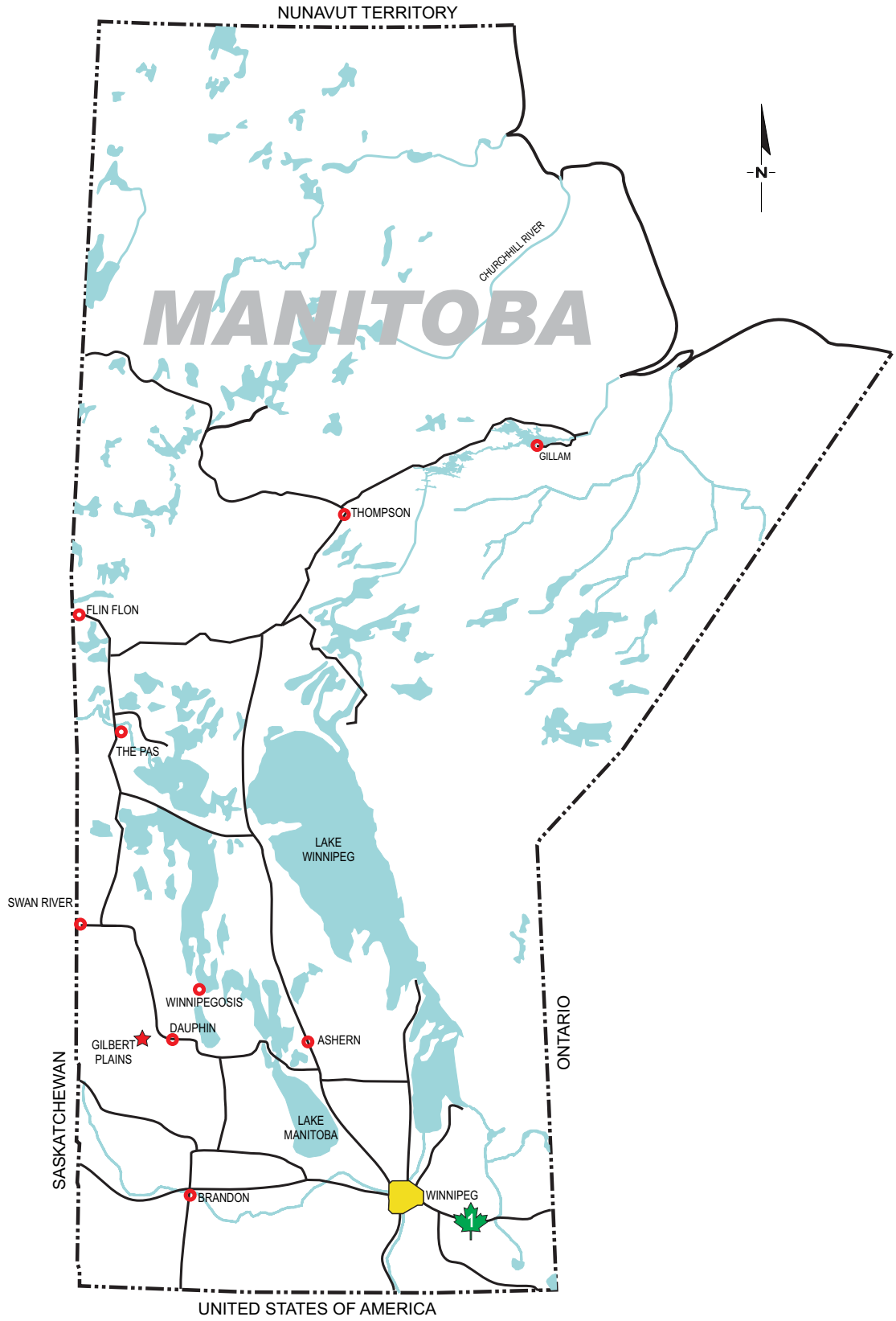

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		LOCATION MAP - FIGURE 1
		DRAWING NO. JNT-025-19-0164-A-FIG 1

Courtesy of © 2020 Google Earth

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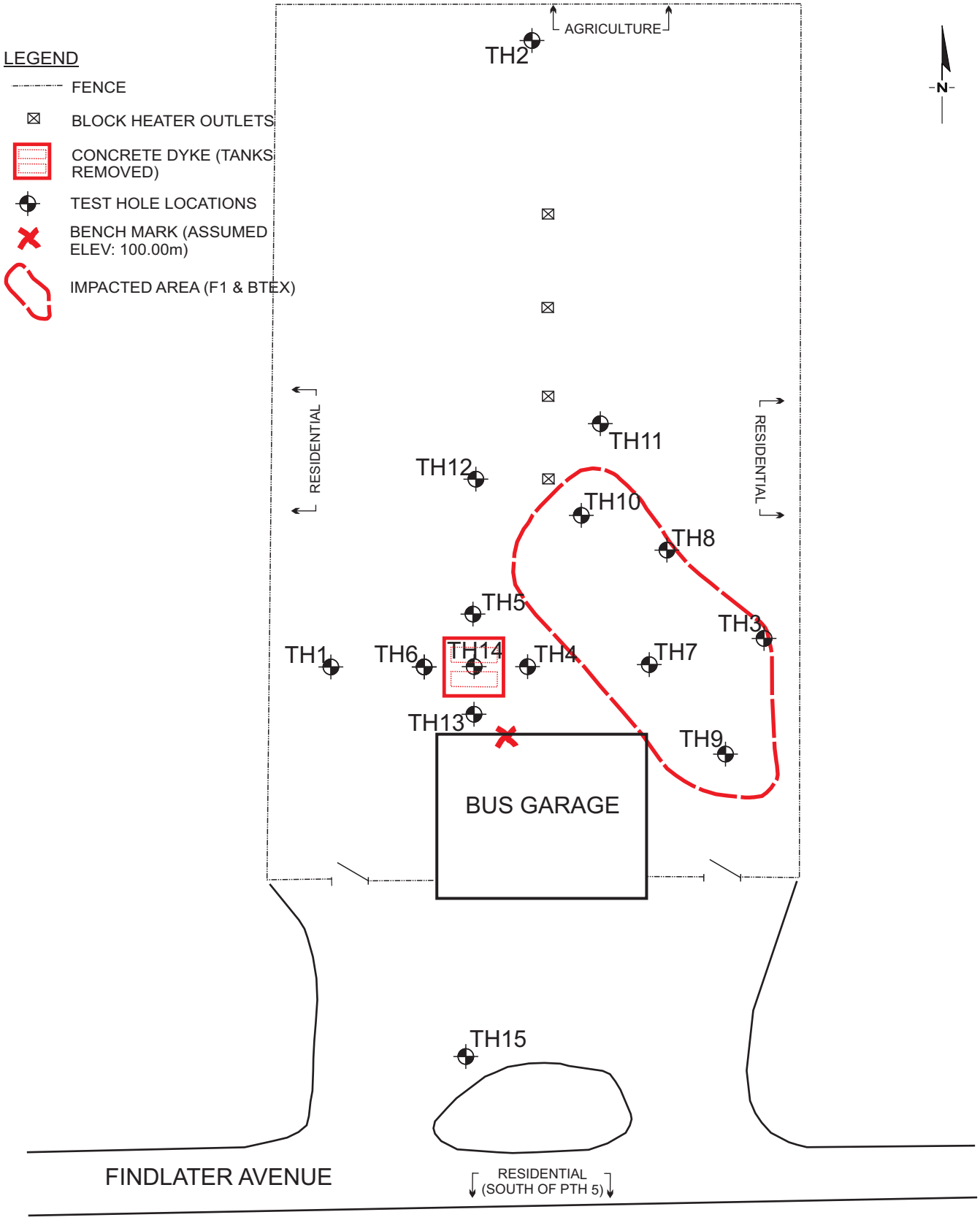
MOUNTAIN VIEW SCHOOL DIVISION

GILBERT PLAINS, MANITOBA

PHASE II ENVIRONMENTAL SITE ASSESSMENT

BUS GARAGE 16 FINDLATER AVENUE - SITE MAP

DRAWING NO. JNT-025-20-0164-A-FIG 2



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MOUNTAIN VIEW SCHOOL DIVISION

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PHASE II ENVIRONMENTAL SITE ASSESSMENT

BUS GARAGE SITE PLAN & TEST HOLES - FIGURE 3

DRAWING NO. JNT-025-20-0164-A-FIG 3

Photo # 1: Standing along north side of property, facing south. Residential buildings at left, bus garage in center, and block heater outlets in foreground.

Photo # 2: View of remaining concrete petroleum storage tank containment dike.

Photo # 3: View of former fuel dispenser location, west side of tank dike (note electrical lines).

Photo #4: Standing in northeast corner of property, facing west. Residential buildings behind trees along property line.

Photo # 5: Standing along north side of property, facing east. Note residential buildings on adjacent east property.

Photo # 6: Front view of Bus Garage, residential buildings at right. background.

NO.	DESCRIPTION	DATE	BY

Talon Projects Inc.
53065 MUN 28E, ROSEWOOD, MANITOBA, R5K 0H3
PHONE: 204.480.8904 FAX: 866.323.0023

DESIGNED BY:
DRAWN BY: E.P.J
CHECKED BY:
APPROVED BY:
DATE: AUG 2020
SCALE: NOT TO SCALE

ENGINEER'S SEAL

MOUNTAIN VIEW SCHOOL DIVISION

16 FINDLATER AVENUE

GILBERT PLAINS, MANITOBA

SITE PHOTO PAGE

DRAWING NO: JNT-025-20-0164-B-SPP1

APPENDIX A
Test Hole Logs

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

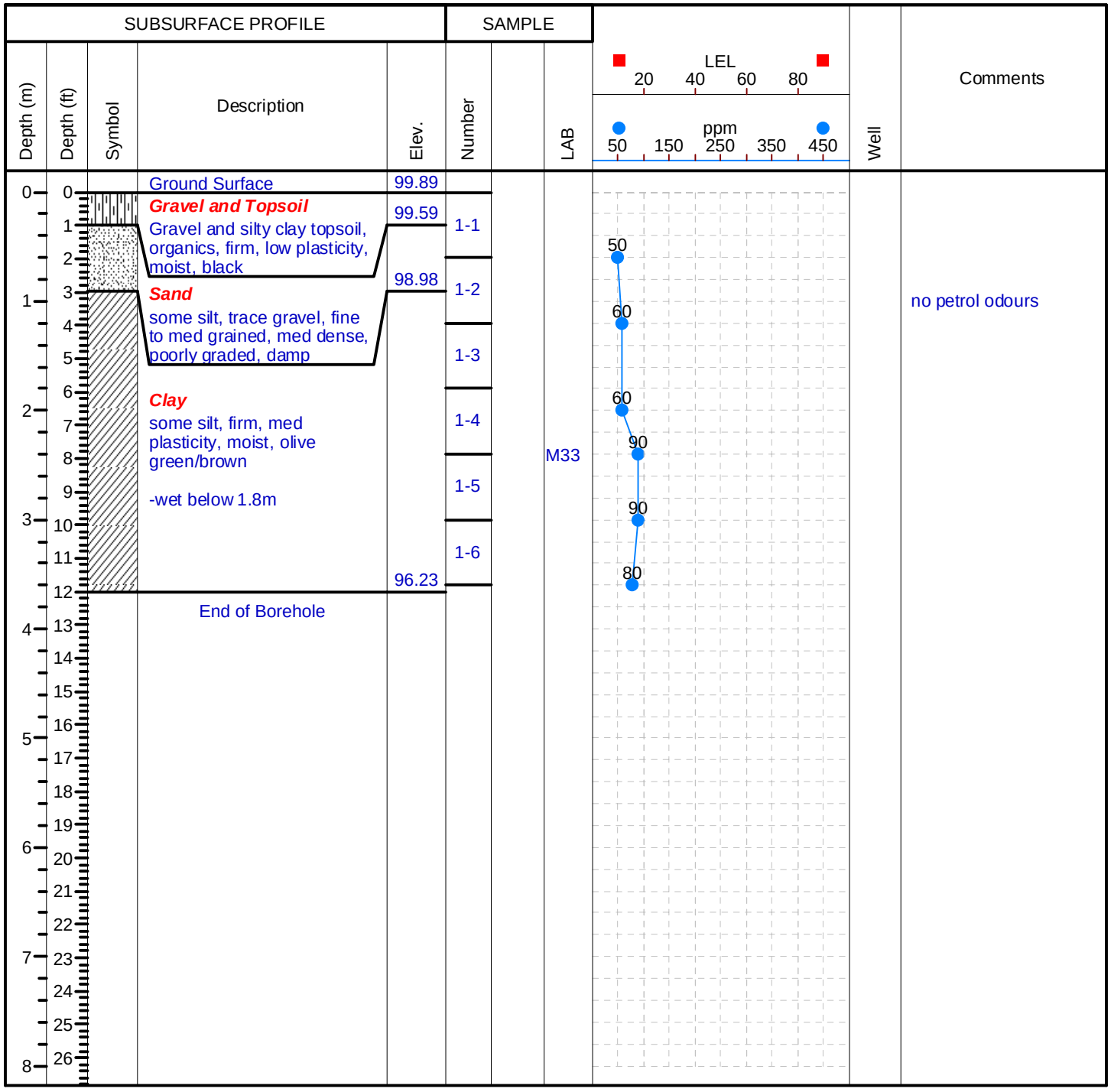
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH1

Bus Garage

Technician: WP



Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

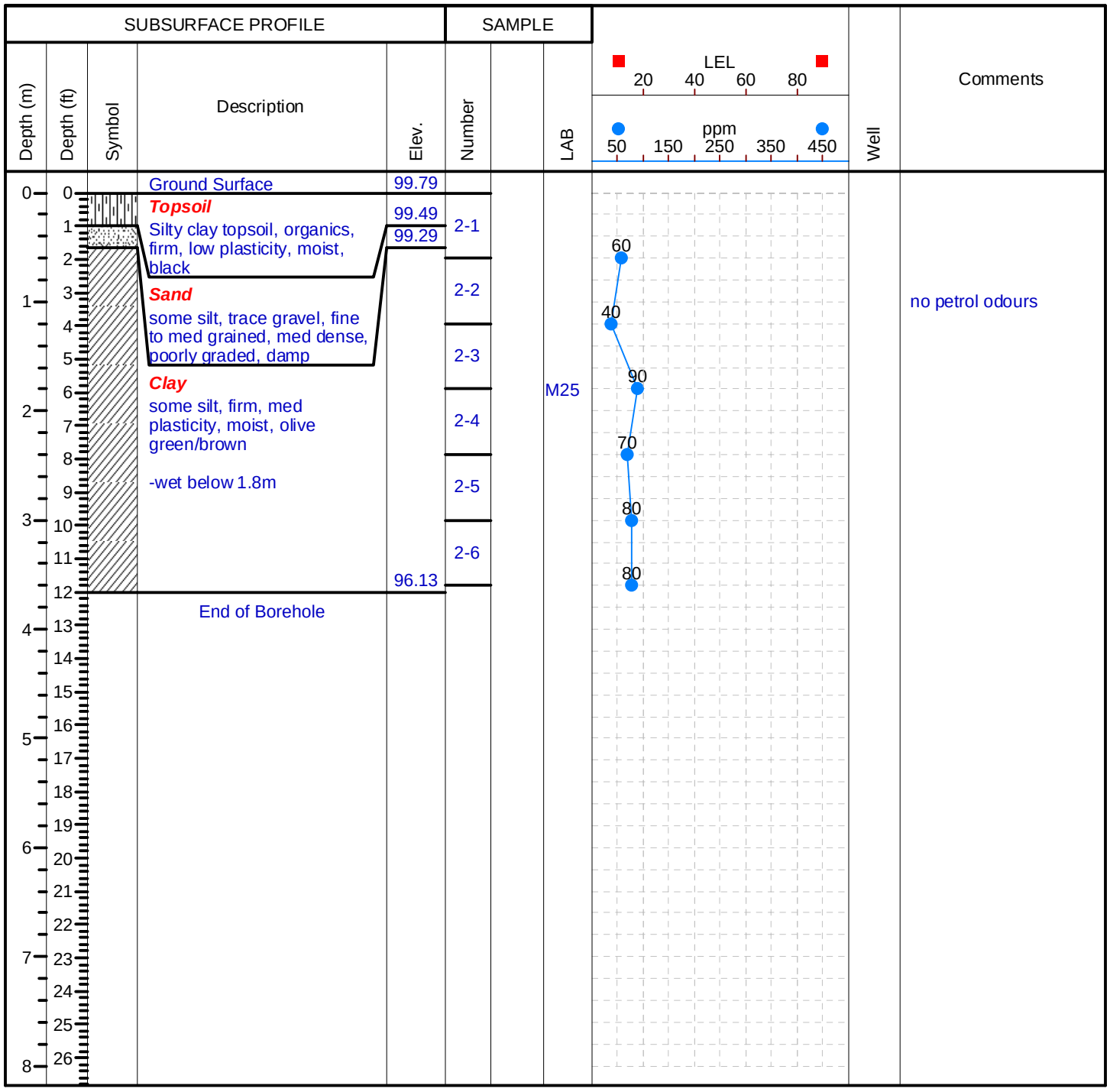
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH2

Bus Garage

Technician: WP



Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH3

Bus Garage

Technician: WP

SUBSURFACE PROFILE					SAMPLE					
Depth (m)	Depth (ft)	Symbol	Description	Elev.	Number		LAB	LEL 20 40 60 80 / ppm 50 150 250 350 450	Well	Comments
0	0		Ground Surface	99.6						
			Topsoil Silty clay topsoil, organics, firm, low plasticity, moist, black	99.3	3-1			80		
			Sand some silt, trace gravel, fine to med grained, med dense, poorly graded, damp	98.75	3-2			70		slight petrol odours below 1.5m
					3-3			110		
			Clay some silt, firm, med plasticity, moist, olive green/brown		3-4		M13	90		
			- red/or oxidation silt inclusions - sandy silt seam @ 1.8m		3-5			90		
			-wet below 1.8m		3-6			80		
				95.94						
			End of Borehole							

Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

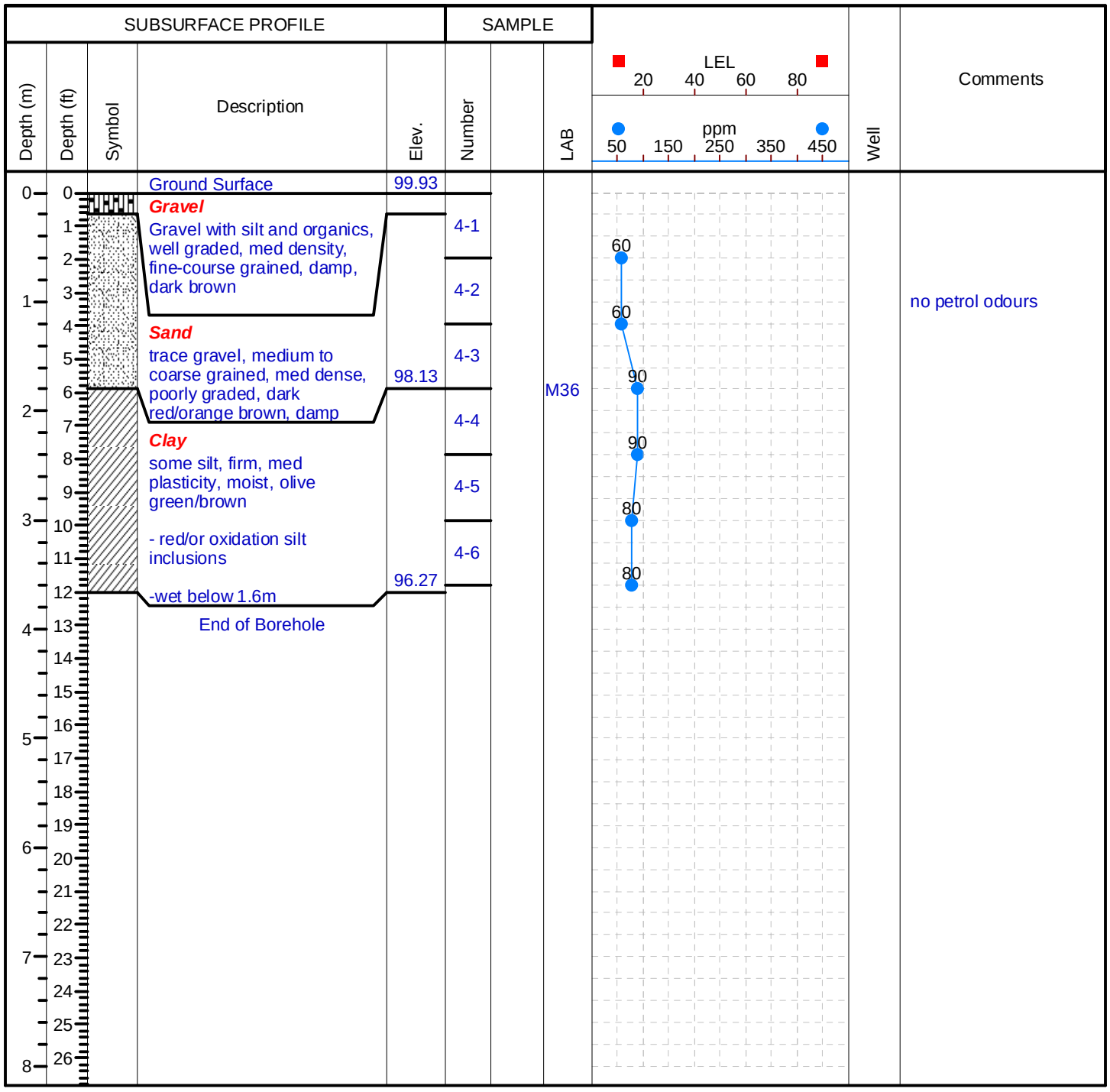
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH4

Bus Garage

Technician: WP



Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

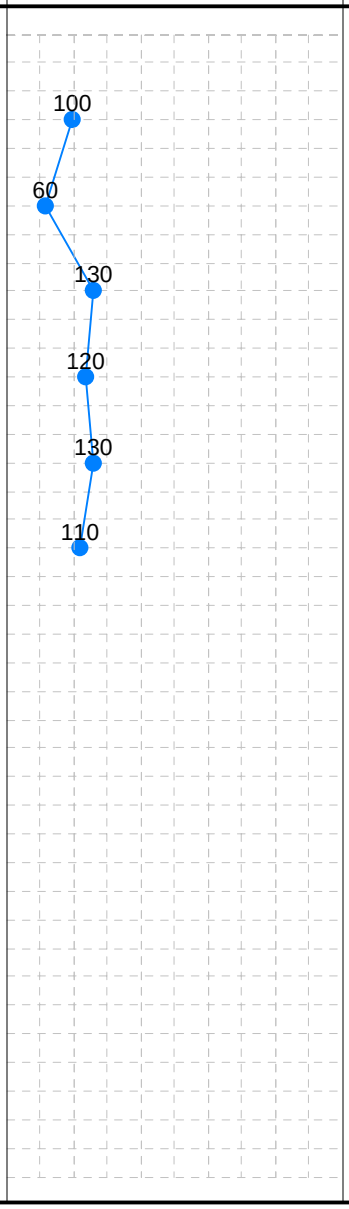
Location: Gilbert Plains Manitoba

Log of Borehole: TH5

Bus Garage

Technician: WP

SUBSURFACE PROFILE					SAMPLE					
Depth (m)	Depth (ft)	Symbol	Description	Elev.	Number		LAB	LEL 20 40 60 80 / ppm 50 150 250 350 450	Well	Comments
			Ground Surface	99.87						
			Gravel and Topsoil Gravel with silt and organics, firm, low - medium plasticity, damp, black	99.42	5-1					
			Sand some silt, trace gravel, fine to med grained, med dense, poorly graded, brown, damp	98.07	5-2					
					5-3		M42			
			Clay some silt, firm, med plasticity, moist, olive green/brown		5-4					
			- red/or oxidation silt inclusions		5-5		M47			
			-wet below 1.6m	96.22	5-6					
			End of Borehole							



petrol odours below 1.6 m

Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

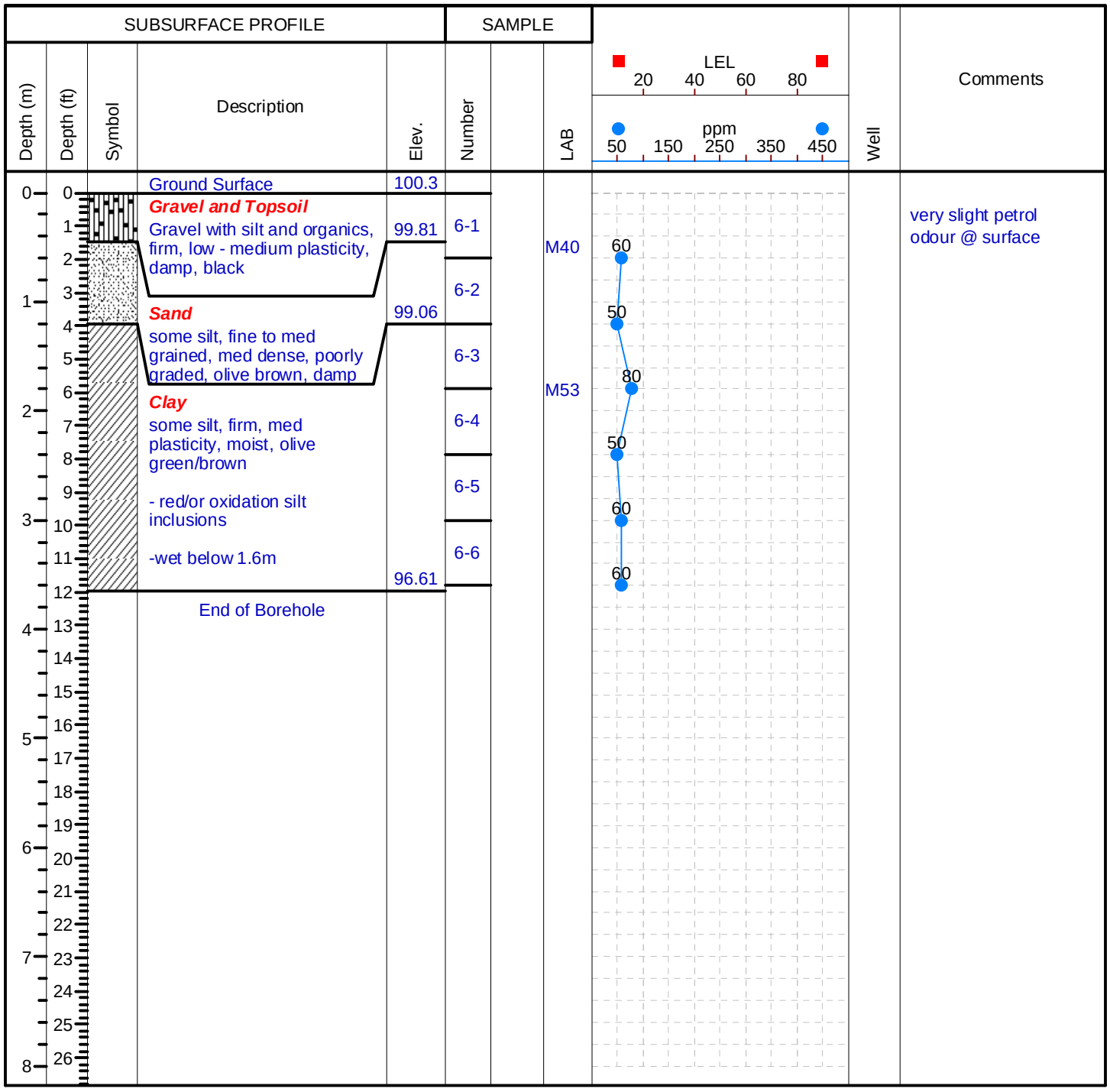
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH6

Bus Garage

Technician: WP



Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

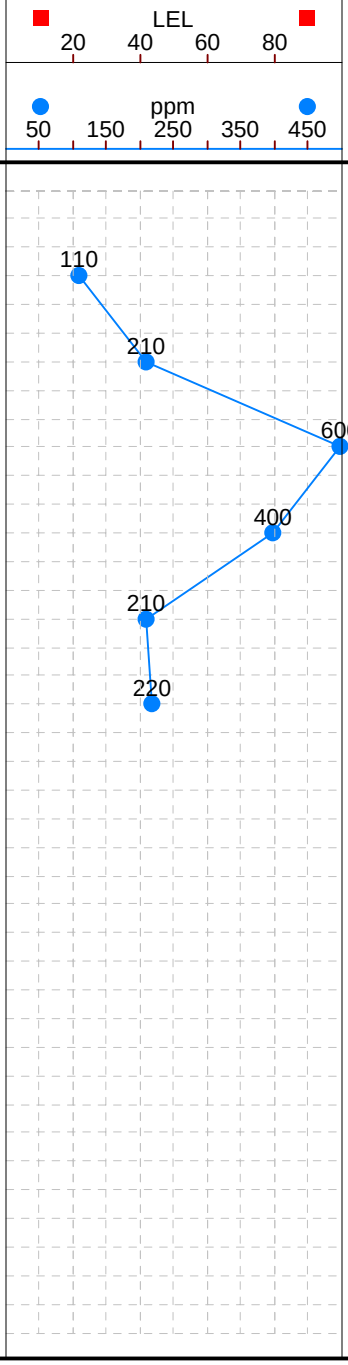
Location: Gilbert Plains Manitoba

Log of Borehole: TH7

Bus Garage

Technician: WP

Depth (m)	Depth (ft)	Description	Elev.	Number	LAB	LEL / ppm	Comments
		Ground Surface	99.77				
0	0	***Gravel and Topsoil*** Gravel with silt and organics, firm, low - medium plasticity, damp, black	99.32	7-1			
	3		98.82	7-2			
1	4	***Sand*** some silt, trace gravel, med to course grained, med dense, poorly graded, red/orange brown with black, damp	98.27	7-3			
2	7			7-4	M50		
	8	***Sandy Silt*** soft, low plasticity, moist, dark olive brown/black		7-5			
3	10	-red/orange oxidation -organics layer @ 1.4		7-6			
	11	***Clay*** some silt, firm, med plasticity, moist, olive green/brown	96.12				
4	13	- red/or oxidation silt inclusions					
	15	-wet below 1.6m					
5	16	End of Borehole					
6	20						
7	23						
8	26						



slight petrol odours at 1.4 m

strong petrol odours at 1.8 m

Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH8

Bus Garage

Technician: WP

SUBSURFACE PROFILE					SAMPLE					
Depth (m)	Depth (ft)	Symbol	Description	Elev.	Number		LAB	LEL 20 40 60 80 / ppm 50 150 250 350 450	Well	Comments
0	0		Ground Surface	99.64						
	1		***Gravel and Topsoil*** Gravel with silt and organics, firm, low - medium plasticity, damp, black	99.19	8-1			80		
	2									
1	3			98.69	8-2					
	4		***Sand*** some silt, trace gravel, med to course grained, med dense, poorly graded, red/orange brown with black, damp					80		slight petrol odours between 1.4 - 2.4m
	5				8-3		M45	100		
2	6			97.84						
	7				8-4					
	8		***Sandy Silt*** soft, low plasticity, moist, dark olive brown/black				M56	90		
	9				8-5					
3	10		-red/orange oxidation -organics layer @ 1.4					90		
	11				8-6					
	12		***Clay*** some silt, firm, med plasticity, moist, olive green/brown	95.99				100		
4	13									
	14		- red/or oxidation silt inclusions							
	15									
	16		-wet below 1.6m							
5	17		End of Borehole							
	18									
	19									
6	20									
	21									
	22									
7	23									
	24									
	25									
8	26									

Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

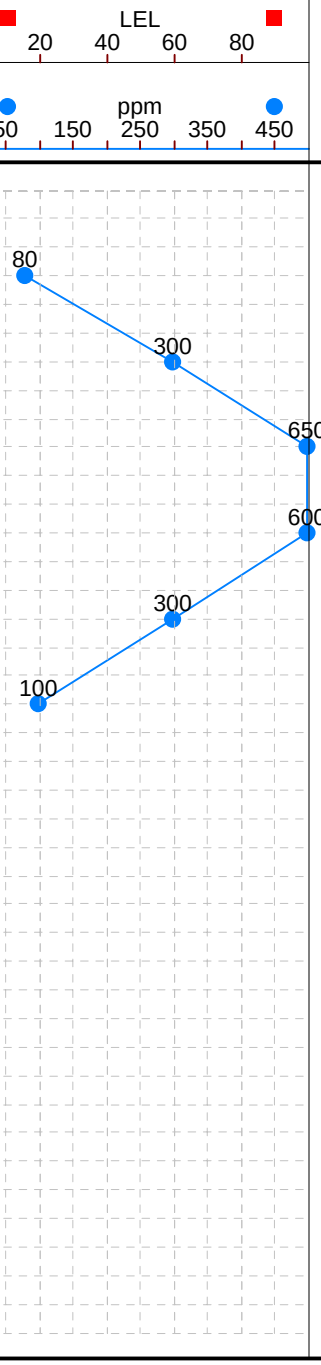
Location: Gilbert Plains Manitoba

Log of Borehole: TH9

Bus Garage

Technician: WP

SUBSURFACE PROFILE					SAMPLE					
Depth (m)	Depth (ft)	Symbol	Description	Elev.	Number		LAB	LEL 20 40 60 80 / ppm 50 150 250 350 450	Well	Comments
0	0		Ground Surface	99.68						
	1		***Gravel and Topsoil*** Gravel with silt and organics, firm, low - medium plasticity, damp, black	99.28	9-1					
	2			98.83	9-2					
1	3		***Sand*** some silt, trace gravel, med to course grained, med dense, poorly graded, red/orange brown with black, damp							
	4				9-3					
	5			97.98						
	6				9-4		M59			
2	7		***Sandy Silt*** soft, low plasticity, moist, dark olive brown/black							
	8				9-5					
	9		-red/orange oxidation -organics layer @ 1.4							
3	10				9-6					
	11		***Clay*** some silt, firm, med plasticity, moist, olive green/brown	96.03						
4	12									
	13									
	14		- red/or oxidation silt inclusions							
	15									
	16		-wet below 1.6m							
5	17		End of Borehole							
	18									
	19									
6	20									
	21									
	22									
7	23									
	24									
	25									
8	26									



strong petrol odours between 1.4 - 2.4m

Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH10

Bus Garage

Technician: WP

Depth (m)	Depth (ft)	Description	Elev.	Number	LAB	LEL / ppm	Comments
0	0	Ground Surface	99.74				
		Gravel and Topsoil Gravel with silt and organics, firm, low - medium plasticity, damp, black	99.29	10-1			
	3		98.74	10-2			
1	4	***Sand*** some silt, trace gravel, med to course grained, med dense, poorly graded, red/orange brown with black, damp		10-3	M80	80	strong petrol odours between 1.2 - 2.4m
	6		97.89	10-4	M62	350	
2	7	***Sandy Silt*** soft, low plasticity, moist, dark olive brown/black			M82	500	
	8			10-5		400	
	9	-red/orange oxidation -wet below 1.6m				250	
3	10			10-6			
	11	***Clay*** some silt, firm, med plasticity, moist, olive green/brown	96.09			250	
4	13	- red/or oxidation silt inclusions					
	15	End of Borehole					
5	16						
	17						
	18						
	19						
6	20						
	21						
	22						
7	23						
	24						
	25						
8	26						

Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

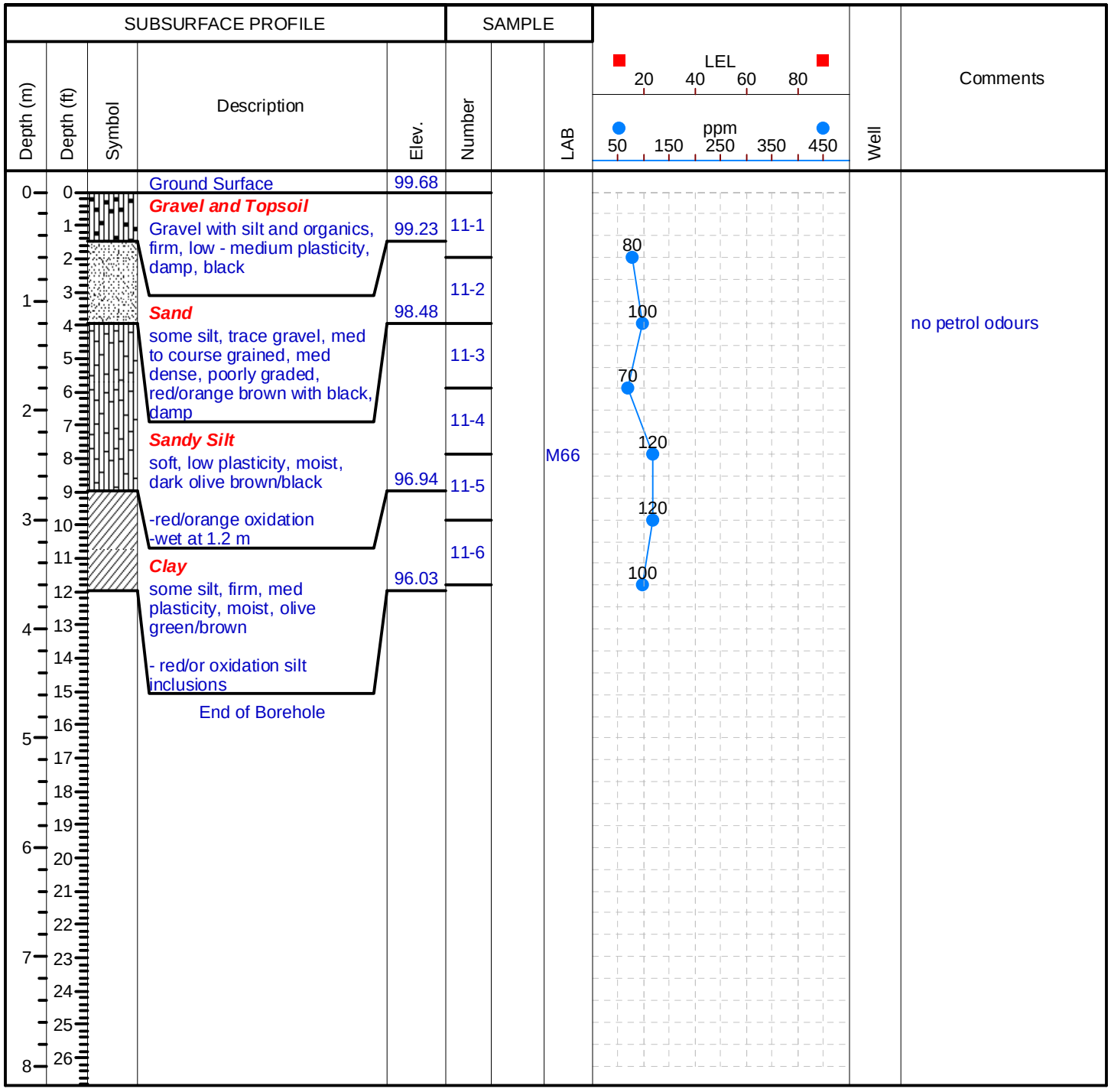
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH11

Bus Garage

Technician: WP



Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

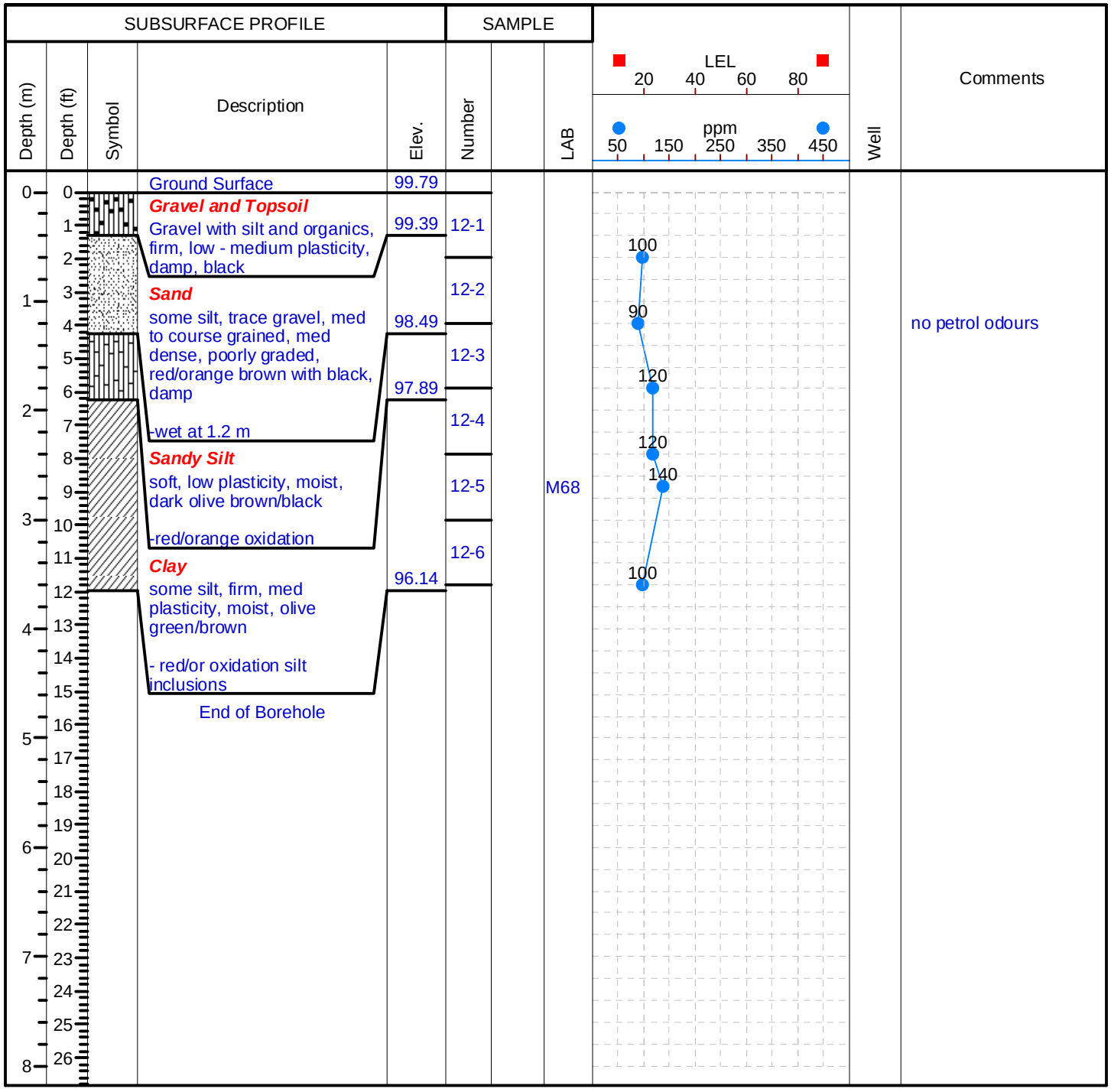
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH12

Bus Garage

Technician: WP



Drill Method: Drill Rig

Drill Date: June 24, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

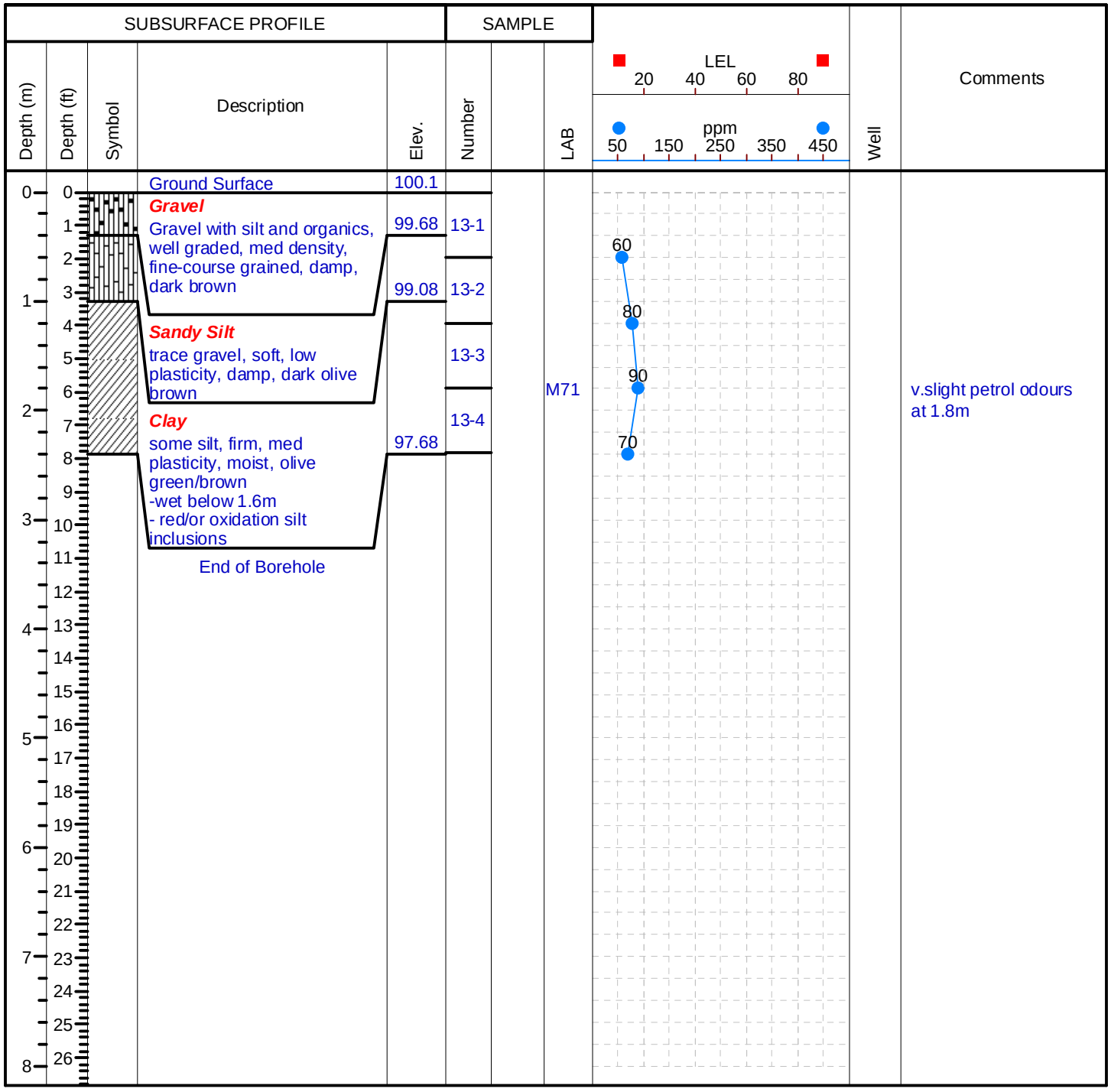
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH13

Bus Garage

Technician: WP



Drill Method: Bobcat Drill

Drill Date: June 25, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

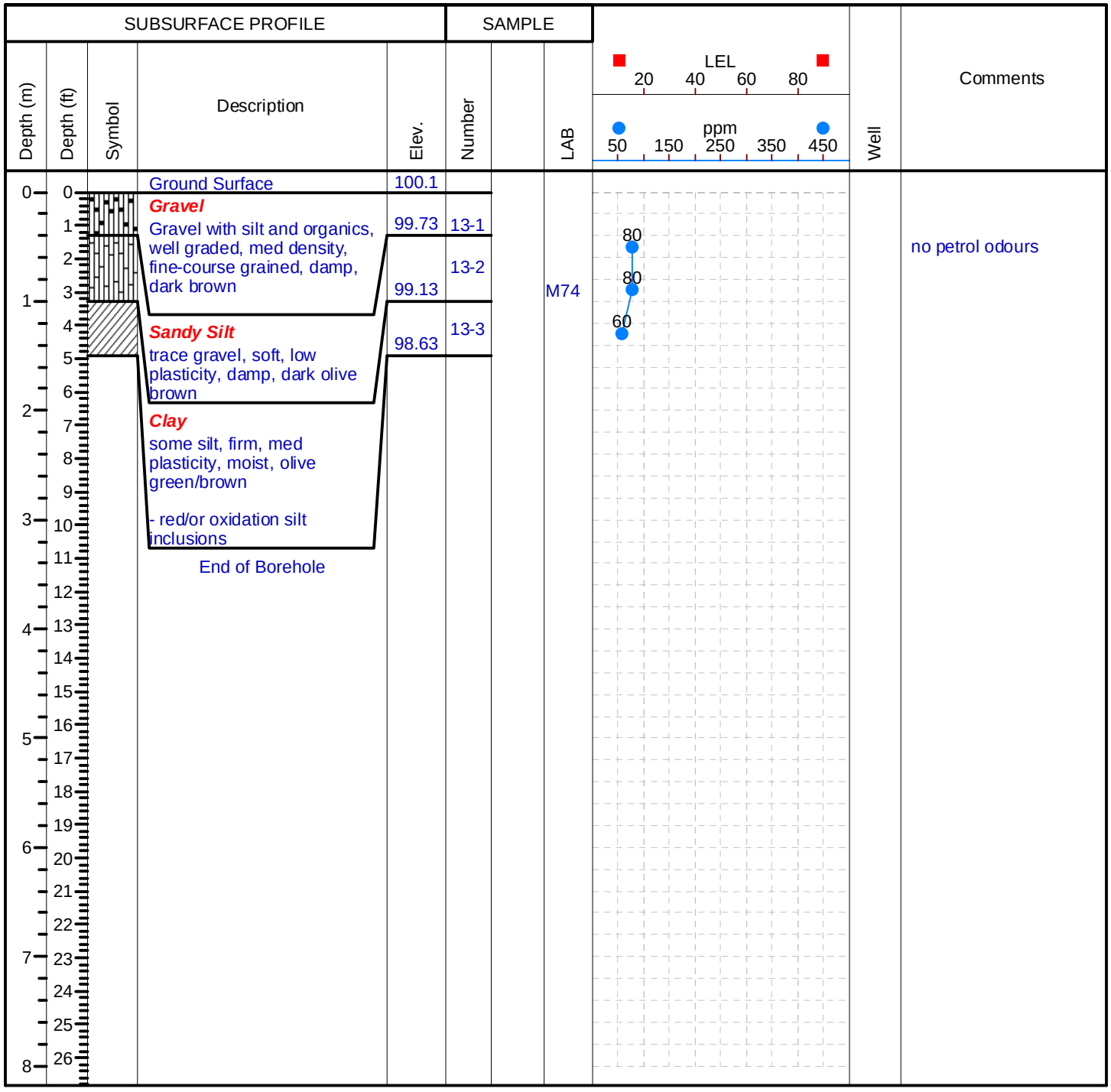
Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH14

Bus Garage

Technician: WP



Drill Method: Bobcat Drill

Drill Date: June 25, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

Project No: JNT-025-20-0164

Project: 16 Findlater Avenue

Client: Mountain View School Division

Location: Gilbert Plains Manitoba

Log of Borehole: TH15

Bus Garage

Technician: WP

SUBSURFACE PROFILE					SAMPLE					
Depth (m)	Depth (ft)	Symbol	Description	Elev.	Number		LAB	LEL 20 40 60 80 / ppm 50 150 250 350 450	Well	Comments
0	0		Ground Surface	99.8						
	1		***Gravel*** with sand and silt, well graded, high density, fine-course grained, damp, dark brown/tan	99.5	15-1			120		no petrol odours
	2									
1	3			98.8	15-2			120		
	4		***Clayey Silt*** trace sand, firm, low - med plasticity, damp, dark olive brown/green							
	5				15-3			140		
	6						M77			
2	7		***Clay*** some silt, firm, med plasticity, moist, olive green/brown - red/or oxidation silt inclusions -wet below 1.5m		15-4					
	8			97.4				110		
	9									
3	10									
	11		End of Borehole							
	12									
4	13									
	14									
	15									
	16									
5	17									
	18									
	19									
6	20									
	21									
	22									
7	23									
	24									
	25									
8	26									

Drill Method: Bobcat Drill

Drill Date: June 25, 2020

Hole Size: 6"

Talon Projects Inc.
Rosewood, Manitoba
Phone: (204) 480 8904

Datum: 100.00

Checked by: WP

Sheet: 1 of 1

APPENDIX B
Laboratory Reports

Mountain View School Division
ATTN: ERNEST KARPIAK
PO Box 715
Dauphin MB R7N 3B3

Date Received: 26-JUN-20
Report Date: 07-JUL-20 08:41 (MT)
Version: FINAL REV. 2

Client Phone: 204-638-3001

Certificate of Analysis

Lab Work Order #: L2466808

Project P.O. #: NOT SUBMITTED
Job Reference: BUS GARAGE ROBLIN
C of C Numbers:
Legal Site Desc:

Comments:
7-JUL-2020 Revised report - Corrected job numbers

Hua Wo
Chemistry Laboratory Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-30 M33							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	113.0		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	02-JUL-20	02-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	97.9		60-140	%	02-JUL-20	02-JUL-20	R5139716
Chrom. to baseline at nC50	YES				02-JUL-20	02-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	20.4		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-31 M25							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	117.6		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	02-JUL-20	02-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	101.9		60-140	%	02-JUL-20	02-JUL-20	R5139716
Chrom. to baseline at nC50	YES				02-JUL-20	02-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	20.9		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-32 M13							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	0.376	EMPC	0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	0.849		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	7.35		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	0.193		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	9.05		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	790	DLHC	100	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	116.9		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	57		25	mg/kg	02-JUL-20	02-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	100.2		60-140	%	02-JUL-20	02-JUL-20	R5139716
Chrom. to baseline at nC50	YES				02-JUL-20	02-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	770		100	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	850		130	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	9.24		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	21.1		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-33 M36							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	102.3		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	02-JUL-20	02-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	02-JUL-20	02-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	98.0		60-140	%	02-JUL-20	02-JUL-20	R5139716
Chrom. to baseline at nC50	YES				02-JUL-20	02-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	8.50		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-34 M40							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	0.016		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	0.090		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	99.8		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	94.2		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	0.090		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	6.97		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-35 M42							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	0.0061		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	422		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	118.9		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	72		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	95.0		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	422		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	494		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	20.8		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-36 M47							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	23		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	109.0		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	91.7		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	23		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	26.1		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-37 M50							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.50	DLM	0.50	mg/kg	25-JUN-20	06-JUL-20	R5139759
Toluene	4.55	DLHC	0.50	mg/kg	25-JUN-20	06-JUL-20	R5139759
Ethyl benzene	45.7	DLHC	0.15	mg/kg	25-JUN-20	06-JUL-20	R5139759
o-Xylene	10.3	DLHC	0.50	mg/kg	25-JUN-20	06-JUL-20	R5139759
m+p-Xylenes	172	DLHC	5.0	mg/kg	25-JUN-20	06-JUL-20	R5139759
F1 (C6-C10)	2100	DLHC	1000	mg/kg	25-JUN-20	06-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	132.5	SOL:MI	70-130	%	25-JUN-20	06-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	260		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	111.8		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	1900		1000	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	2400		1000	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	182		5.0	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	21.1		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-38 M53							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	110.0		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	92.9		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	20.0		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-39 M56							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	3.05		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	16.1	DLHC	0.50	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	9.18		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	10.2		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	33.7	DLHC	0.50	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	570	DLHC	100	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	123.8		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	58		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	92.8		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	500		100	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	630		130	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	43.9		0.50	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	21.0		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-40 M59							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	0.056	EMPC	0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	5.75		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	0.778		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	1040	DLHC	100	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	122.5		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	129		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	96.4		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	1040		100	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	1170		130	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	0.778		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	20.7		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-41 M62							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.050	DLM	0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
Toluene	1.74	DLHC	0.50	mg/kg	25-JUN-20	04-JUL-20	R5139759
Ethyl benzene	30.9	DLHC	0.15	mg/kg	25-JUN-20	04-JUL-20	R5139759
o-Xylene	41.3	DLHC	0.50	mg/kg	25-JUN-20	04-JUL-20	R5139759
m+p-Xylenes	180	DLHC	5.0	mg/kg	25-JUN-20	04-JUL-20	R5139759
F1 (C6-C10)	1900	DLHC	1000	mg/kg	25-JUN-20	04-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	111.0		70-130	%	25-JUN-20	04-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	428		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	120.4		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	1700		1000	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	2300		1000	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	222		5.0	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	16.4		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-42 M66							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	104.8		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	89.3		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	10.0		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-43 M68							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	02-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	02-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	02-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	103.4		70-130	%	25-JUN-20	02-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	90.5		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	24.6		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-44 M71							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	0.0064	EMPC	0.0050	mg/kg	25-JUN-20	04-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	04-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
F1 (C6-C10)	99		10	mg/kg	25-JUN-20	04-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	107.7		70-130	%	25-JUN-20	04-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	29		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	797		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	282		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	94.1		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	99		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	1210		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	15.3		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-45 M74							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	03-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	03-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	03-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	03-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	03-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	03-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	104.1		70-130	%	25-JUN-20	03-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	93.2		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	14.5		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-46 M77							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	25-JUN-20	03-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	03-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	03-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	03-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	03-JUL-20	R5139759
F1 (C6-C10)	<10		10	mg/kg	25-JUN-20	03-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	106.6		70-130	%	25-JUN-20	03-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	90.1		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	11.0		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-47 M80							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	0.0069	EMPC	0.0050	mg/kg	25-JUN-20	04-JUL-20	R5139759
Toluene	<0.050		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
Ethyl benzene	<0.015		0.015	mg/kg	25-JUN-20	04-JUL-20	R5139759
o-Xylene	<0.050		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
m+p-Xylenes	<0.050		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
F1 (C6-C10)	59		10	mg/kg	25-JUN-20	04-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	105.5		70-130	%	25-JUN-20	04-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	31		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	885		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	307		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	94.4		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	59		10	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	1280		76	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	20.1		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-48 M82							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	8.72	DLHC	0.50	mg/kg	25-JUN-20	04-JUL-20	R5139759
Toluene	126	DLHC	5.0	mg/kg	25-JUN-20	04-JUL-20	R5139759
Ethyl benzene	45.6	DLHC	1.5	mg/kg	25-JUN-20	04-JUL-20	R5139759
o-Xylene	72.9	DLHC	5.0	mg/kg	25-JUN-20	04-JUL-20	R5139759
m+p-Xylenes	186	DLHC	5.0	mg/kg	25-JUN-20	04-JUL-20	R5139759
F1 (C6-C10)	1600	DLHC	1000	mg/kg	25-JUN-20	04-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	101.6		70-130	%	25-JUN-20	04-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	818		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	123.2		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	1100		1000	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	2400		1000	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	259		7.1	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	23.1		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2466808-49 M45							
Sampled By: CLIENT on 25-JUN-20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	3.49	DLHC	0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
Toluene	34.1	DLHC	0.50	mg/kg	25-JUN-20	04-JUL-20	R5139759
Ethyl benzene	8.40		0.015	mg/kg	25-JUN-20	04-JUL-20	R5139759
o-Xylene	11.8		0.050	mg/kg	25-JUN-20	04-JUL-20	R5139759
m+p-Xylenes	40.3	DLHC	0.50	mg/kg	25-JUN-20	04-JUL-20	R5139759
F1 (C6-C10)	840	DLHC	100	mg/kg	25-JUN-20	04-JUL-20	R5139759
Surrogate: 4-Bromofluorobenzene (SS)	120.2		70-130	%	25-JUN-20	04-JUL-20	R5139759
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	216		25	mg/kg	03-JUL-20	03-JUL-20	R5139716
F3 (C16-C34)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
F4 (C34-C50)	<50		50	mg/kg	03-JUL-20	03-JUL-20	R5139716
Surrogate: 2-Bromobenzotrifluoride	97.4		60-140	%	03-JUL-20	03-JUL-20	R5139716
Chrom. to baseline at nC50	YES				03-JUL-20	03-JUL-20	R5139716
CCME Total Hydrocarbons							
F1-BTEX	750		100	mg/kg		06-JUL-20	
Total Hydrocarbons (C6-C50)	1060		130	mg/kg		06-JUL-20	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	52.1		0.50	mg/kg		06-JUL-20	
Miscellaneous Parameters							
Moisture	19.4		0.10	%		03-JUL-20	R5142351

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
EMPC	Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.
SOL:MI	Surrogate recovery outside acceptable limits due to matrix interference
SURR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BTEXS+F1-HSMS-WP	Soil	BTX plus F1 by GCMS	EPA 8260C

The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.

F1-F4-CALC-WP	Soil	CCME Total Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F2-F4-TMB-FID-WP	Soil	CCME Total Extractable Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001

A soil or sediment sample is extracted with 1:1 hexane/acetone in a tumbler, followed by a silica gel clean up to facilitate separation of the hydrocarbons from other polar extractions. An aliquot of the solvent is analyzed using a gas chromatograph equipped with a flame -ionization detector.

MOISTURE-WP	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)

Moisture content in solid matrices is determined gravimetrically after drying to constant weight at 105°C.

XYLENES-SUM-CALC-WP	Soil	Sum of Xylene Isomer Concentrations	CALCULATED RESULT

Total xylenes represents the sum of o-xylene and m&p-xylene.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTEXS+F1-HSMS-WP	**Soil**							
Batch R5139759								
WG3352089-4 DUP		**L2465673-1**						
Benzene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	30-JUN-20
Toluene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	30-JUN-20
Ethyl benzene		<0.015	<0.015	RPD-NA	mg/kg	N/A	50	30-JUN-20
o-Xylene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	30-JUN-20
m+p-Xylenes		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	30-JUN-20
F1 (C6-C10)		<10	<10	RPD-NA	mg/kg	N/A	50	30-JUN-20
COMMENTS: RRQC: Surrogate recovery marginally exceeded ALS DQO, associated non-detect results deemed reliable.								
WG3352089-8 DUP		**L2466808-2**						
Benzene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	03-JUL-20
Toluene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	03-JUL-20
Ethyl benzene		<0.015	<0.015	RPD-NA	mg/kg	N/A	50	03-JUL-20
o-Xylene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	03-JUL-20
m+p-Xylenes		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	03-JUL-20
F1 (C6-C10)		<10	<10	RPD-NA	mg/kg	N/A	50	03-JUL-20
WG3352940-4 DUP		**L2466808-22**						
Benzene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	02-JUL-20
Toluene		0.053	<0.050	RPD-NA	mg/kg	N/A	50	02-JUL-20
Ethyl benzene		1.25	1.20		mg/kg	4.1	50	02-JUL-20
o-Xylene		0.217	0.213		mg/kg	2.0	50	02-JUL-20
m+p-Xylenes		3.12	3.01		mg/kg	3.4	50	02-JUL-20
F1 (C6-C10)		441	430		mg/kg	2.6	50	02-JUL-20
WG3352940-8 DUP		**L2466808-42**						
Benzene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	04-JUL-20
Toluene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	04-JUL-20
Ethyl benzene		<0.015	<0.015	RPD-NA	mg/kg	N/A	50	04-JUL-20
o-Xylene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	04-JUL-20
m+p-Xylenes		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	04-JUL-20
F1 (C6-C10)		<10	<10	RPD-NA	mg/kg	N/A	50	04-JUL-20
WG3352089-2 LCS								
Benzene			90.1		%		70-130	30-JUN-20
Toluene			92.7		%		70-130	30-JUN-20
Ethyl benzene			95.2		%		70-130	30-JUN-20
o-Xylene			97.5		%		70-130	30-JUN-20
m+p-Xylenes			99.4		%		70-130	30-JUN-20

Quality Control Report

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTEXS+F1-HSMS-WP	**Soil**							
Batch R5139759								
WG3352089-3 LCS								
F1 (C6-C10)			104.5		%		70-130	30-JUN-20
WG3352089-6 LCS								
Benzene			97.5		%		70-130	30-JUN-20
Toluene			100.5		%		70-130	30-JUN-20
Ethyl benzene			102.8		%		70-130	30-JUN-20
o-Xylene			106.0		%		70-130	30-JUN-20
m+p-Xylenes			107.4		%		70-130	30-JUN-20
WG3352089-7 LCS								
F1 (C6-C10)			105.8		%		70-130	30-JUN-20
WG3352940-2 LCS								
Benzene			87.6		%		70-130	02-JUL-20
Toluene			91.3		%		70-130	02-JUL-20
Ethyl benzene			91.2		%		70-130	02-JUL-20
o-Xylene			95.4		%		70-130	02-JUL-20
m+p-Xylenes			92.4		%		70-130	02-JUL-20
WG3352940-3 LCS								
F1 (C6-C10)			84.6		%		70-130	02-JUL-20
WG3352940-6 LCS								
Benzene			93.4		%		70-130	02-JUL-20
Toluene			92.1		%		70-130	02-JUL-20
Ethyl benzene			90.3		%		70-130	02-JUL-20
o-Xylene			97.0		%		70-130	02-JUL-20
m+p-Xylenes			91.5		%		70-130	02-JUL-20
WG3352940-7 LCS								
F1 (C6-C10)			76.6		%		70-130	02-JUL-20
WG3352089-1 MB								
Benzene			<0.0050		mg/kg		0.005	30-JUN-20
Toluene			<0.050		mg/kg		0.05	30-JUN-20
Ethyl benzene			<0.015		mg/kg		0.015	30-JUN-20
o-Xylene			<0.050		mg/kg		0.05	30-JUN-20
m+p-Xylenes			<0.050		mg/kg		0.05	30-JUN-20
F1 (C6-C10)			<10		mg/kg		10	30-JUN-20
Surrogate: 4-Bromofluorobenzene (SS)			109.7		%		70-130	30-JUN-20
WG3352089-5 MB								
Benzene			<0.0050		mg/kg		0.005	30-JUN-20

Quality Control Report

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTEXS+F1-HSMS-WP	**Soil**							
Batch R5139759								
WG3352089-5 MB								
Toluene			<0.050		mg/kg		0.05	30-JUN-20
Ethyl benzene			<0.015		mg/kg		0.015	30-JUN-20
o-Xylene			<0.050		mg/kg		0.05	30-JUN-20
m+p-Xylenes			<0.050		mg/kg		0.05	30-JUN-20
F1 (C6-C10)			<10		mg/kg		10	30-JUN-20
Surrogate: 4-Bromofluorobenzene (SS)			108.2		%		70-130	30-JUN-20
WG3352940-1 MB								
Benzene			<0.0050		mg/kg		0.005	02-JUL-20
Toluene			<0.050		mg/kg		0.05	02-JUL-20
Ethyl benzene			<0.015		mg/kg		0.015	02-JUL-20
o-Xylene			<0.050		mg/kg		0.05	02-JUL-20
m+p-Xylenes			<0.050		mg/kg		0.05	02-JUL-20
F1 (C6-C10)			<10		mg/kg		10	02-JUL-20
Surrogate: 4-Bromofluorobenzene (SS)			91.2		%		70-130	02-JUL-20
WG3352940-5 MB								
Benzene			<0.0050		mg/kg		0.005	02-JUL-20
Toluene			<0.050		mg/kg		0.05	02-JUL-20
Ethyl benzene			<0.015		mg/kg		0.015	02-JUL-20
o-Xylene			<0.050		mg/kg		0.05	02-JUL-20
m+p-Xylenes			<0.050		mg/kg		0.05	02-JUL-20
F1 (C6-C10)			<10		mg/kg		10	02-JUL-20
Surrogate: 4-Bromofluorobenzene (SS)			99.3		%		70-130	02-JUL-20
F2-F4-TMB-FID-WP	**Soil**							
Batch R5139716								
WG3353029-4 DUP		**L2466458-7**						
F2 (C10-C16)		<25	<25	RPD-NA	mg/kg	N/A	40	03-JUL-20
F3 (C16-C34)		<50	<50	RPD-NA	mg/kg	N/A	40	03-JUL-20
F4 (C34-C50)		<50	<50	RPD-NA	mg/kg	N/A	40	03-JUL-20
WG3353029-8 DUP		**L2466808-16**						
F2 (C10-C16)		<25	<25	RPD-NA	mg/kg	N/A	40	30-JUN-20
F3 (C16-C34)		167	159		mg/kg	4.5	40	30-JUN-20
F4 (C34-C50)		54	53		mg/kg	1.7	40	30-JUN-20
WG3354024-4 DUP		**L2466808-19**						
F2 (C10-C16)		<25	<25	RPD-NA	mg/kg	N/A	40	02-JUL-20

Quality Control Report

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-TMB-FID-WP	**Soil**							
Batch R5139716								
WG3354024-4 DUP		**L2466808-19**						
F3 (C16-C34)		<50	<50	RPD-NA	mg/kg	N/A	40	02-JUL-20
F4 (C34-C50)		<50	<50	RPD-NA	mg/kg	N/A	40	02-JUL-20
WG3354974-4 DUP		**L2466808-40**						
F2 (C10-C16)		129	140		mg/kg	7.9	40	03-JUL-20
F3 (C16-C34)		<50	<50	RPD-NA	mg/kg	N/A	40	03-JUL-20
F4 (C34-C50)		<50	<50	RPD-NA	mg/kg	N/A	40	03-JUL-20
WG3353029-3 IRM		**ALS PHC RM3**						
F2 (C10-C16)			91.0		%		70-130	30-JUN-20
F3 (C16-C34)			96.9		%		70-130	30-JUN-20
F4 (C34-C50)			107.9		%		70-130	30-JUN-20
WG3353029-7 IRM		**ALS PHC RM3**						
F2 (C10-C16)			88.7		%		70-130	30-JUN-20
F3 (C16-C34)			97.9		%		70-130	30-JUN-20
F4 (C34-C50)			105.7		%		70-130	30-JUN-20
WG3354024-3 IRM		**ALS PHC RM3**						
F2 (C10-C16)			89.8		%		70-130	02-JUL-20
F3 (C16-C34)			100.1		%		70-130	02-JUL-20
F4 (C34-C50)			100.4		%		70-130	02-JUL-20
WG3354974-3 IRM		**ALS PHC RM3**						
F2 (C10-C16)			89.5		%		70-130	03-JUL-20
F3 (C16-C34)			99.1		%		70-130	03-JUL-20
F4 (C34-C50)			101.5		%		70-130	03-JUL-20
WG3353029-2 LCS								
F2 (C10-C16)			103.5		%		70-130	30-JUN-20
F3 (C16-C34)			95.4		%		70-130	30-JUN-20
F4 (C34-C50)			101.9		%		70-130	30-JUN-20
WG3353029-6 LCS								
F2 (C10-C16)			97.3		%		70-130	30-JUN-20
F3 (C16-C34)			96.1		%		70-130	30-JUN-20
F4 (C34-C50)			103.0		%		70-130	30-JUN-20
WG3354024-2 LCS								
F2 (C10-C16)			102.6		%		70-130	02-JUL-20
F3 (C16-C34)			103.2		%		70-130	02-JUL-20
F4 (C34-C50)			109.4		%		70-130	02-JUL-20
WG3354974-2 LCS								

Quality Control Report

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-TMB-FID-WP	**Soil**							
Batch R5139716								
WG3354974-2 LCS								
F2 (C10-C16)			102.7		%		70-130	03-JUL-20
F3 (C16-C34)			100.1		%		70-130	03-JUL-20
F4 (C34-C50)			112.9		%		70-130	03-JUL-20
WG3353029-1 MB								
F2 (C10-C16)			<25		mg/kg		25	30-JUN-20
F3 (C16-C34)			<50		mg/kg		50	30-JUN-20
F4 (C34-C50)			<50		mg/kg		50	30-JUN-20
Surrogate: 2-Bromobenzotrifluoride			95.9		%		60-140	30-JUN-20
WG3353029-5 MB								
F2 (C10-C16)			<25		mg/kg		25	30-JUN-20
F3 (C16-C34)			<50		mg/kg		50	30-JUN-20
F4 (C34-C50)			<50		mg/kg		50	30-JUN-20
Surrogate: 2-Bromobenzotrifluoride			101.5		%		60-140	30-JUN-20
WG3354024-1 MB								
F2 (C10-C16)			<25		mg/kg		25	02-JUL-20
F3 (C16-C34)			<50		mg/kg		50	02-JUL-20
F4 (C34-C50)			<50		mg/kg		50	02-JUL-20
Surrogate: 2-Bromobenzotrifluoride			88.7		%		60-140	02-JUL-20
WG3354974-1 MB								
F2 (C10-C16)			<25		mg/kg		25	03-JUL-20
F3 (C16-C34)			<50		mg/kg		50	03-JUL-20
F4 (C34-C50)			<50		mg/kg		50	03-JUL-20
Surrogate: 2-Bromobenzotrifluoride			91.8		%		60-140	03-JUL-20
MOISTURE-WP	**Soil**							
Batch R5140376								
WG3354315-3 DUP		**L2466729-13**						
Moisture		10.1	10.9		%	7.5	20	02-JUL-20
WG3354315-2 LCS								
Moisture			99.9		%		90-110	02-JUL-20
WG3354315-1 MB								
Moisture			<0.10		%		0.1	02-JUL-20
Batch R5142351								
WG3355060-3 DUP		**L2466808-8**						
Moisture		14.1	15.5		%	9.6	20	03-JUL-20
WG3355060-6 DUP		**L2466808-26**						

Quality Control Report

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WP	**Soil**							
Batch R5142351								
WG3355060-6 DUP		**L2466808-26**						
Moisture		10.6	10.5		%	0.8	20	03-JUL-20
WG3355060-9 DUP		**L2466808-46**						
Moisture		11.0	10.6		%	3.4	20	03-JUL-20
WG3355060-2 LCS								
Moisture			100.3		%		90-110	03-JUL-20
WG3355060-5 LCS								
Moisture			100.1		%		90-110	03-JUL-20
WG3355060-8 LCS								
Moisture			100.2		%		90-110	03-JUL-20
WG3355060-1 MB								
Moisture			<0.10		%		0.1	03-JUL-20
WG3355060-4 MB								
Moisture			<0.10		%		0.1	03-JUL-20
WG3355060-7 MB								
Moisture			<0.10		%		0.1	03-JUL-20

Quality Control Report

Workorder: L2466808 Report Date: 07-JUL-20

Client: Mountain View School Division
PO Box 715
Dauphin MB R7N 3B3
Contact: ERNEST KARPIAK

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
RRQC	Refer to report remarks for information regarding this QC result.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2466808-COFC

COC Number: 17 - 749450

Page 5 of 5

Report To	Contact and company name below will appear on the final report	Report Format / Distribution	- Contact your AM to confirm all E&P TATs (surcharges may apply)
Company:	MOUNTAIN VIEW SCHOOL DIV.	Select Report Format: ☒ PDF ☒ EXCEL ☐ EDD (DIGITAL)	Regular [R] ☒ Standard TAT if received by 3 pm - business days - no surcharges apply
Contact:		Quality Control (QC) Report with Report ☐ YES ☐ NO	PRIORITY (Business Days): 4 day [P4-20%] ☐ / 3 day [P3-25%] ☐ / 2 day [P2-50%] ☐
Phone:	SEE PAGE 1	☐ Compare Results to Criteria on Report - provide details below if box checked	EMERGENCY: 1 Business day [E - 100%] ☐ / Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] ☐
	Company address below will appear on the final report	Select Distribution: ☐ EMAIL ☐ MAIL ☐ FAX	
Street:		Email 1 or Fax	Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm
City/Province:		Email 2 SEE PAGE 1	For tests that can not be performed according to the service level selected, you will be contacted.
Postal Code:		Email 3	

Invoice To	Same as Report To ☐ YES ☐ NO	Invoice Distribution
	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax
Contact:		Email 2

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	W11030	AFE/Cost Center:	PO#:
Job #:	GILBERT PLAINS BUS GARAGE	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact:	Sampler:

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	BTEX F-F4	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
42	M66	24/06/20		SOIL	X	X		
43	M69				X	X		
44	M71				X	X		
45	M74				X	X		
46	M77				X	X		
47	M80				X	X		
48	~~AR45~~ M82				X	X		
49	~~AR82~~ M45				X	X		

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? ☐ YES ☐ NO	
Are samples for human consumption/ use? ☐ YES ☐ NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐		SIF Observations	Yes ☐	No ☐	
Ice Packs ☐	Ice Cubes ☐	Custody seal intact	Yes ☐	No ☐	
Cooling Initiated ☐					

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by: CD	Date: JUN 29	Time: 1430

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.