

GEO-LOGIC INC.
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November 1, 2011

Gord Hamilton
3785 Sideline 14,
Pickering, Ontario
L1V 7E2

Re: Environmental Inspection Report
3785 Sideline 14, Pickering
Township of Brock, Region of Durham
Our Project No. G023256 E1

Dear Mr. Hamilton,

Further to your request, Geo-Logic completed soil sampling in regards to fill deposited at the above referenced property. The assessment was requested after approximately fifteen (15) loads of fill located in an area previously identified as containing elevated levels of hydrocarbons had been removed from the property. The testing was completed to evaluate the environmental suitability of the remaining fill soil. On-site sampling of selected fill materials was performed on October 21, 2011. Soil samples were collected from several locations throughout the remaining fill.

Background

The property is located on the east side of Sideline 14, approximately one (1) kilometre north of Highway 7, in the Town of Pickering, Regional Municipality of Durham. The project site has a municipal address of 3785 Sideline 14, and currently supports a rural residential property. The owner of the property had obtained a fill permit from the City of Pickering, to allow fill to be transported to the property.

The City of Pickering received a complaint concerning oil like odours in the fill transported to the property. On November 26, 2010 and June 15, 2011, Geo-Logic Inc. provided inspection and testing services relating to the fill materials. Ms. Laura Calvelli of the City of Pickering attended the site for both sampling events.

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Based on the soil testing conducted as part of the November 2010 and June 2011 inspections, the imported soil at 3785 Sideline 14 in Pickering had concentrations which exceeded the Provincial Standards for petroleum hydrocarbons (>C10 – C16) and (>C16 – C34) for placement on a Table 2 site.

In a letters dated January 12, 2011 and June 21, 2011, Geo-Logic recommended to classify the fill according to Ontario Regulation 347. Once classified, the soil was recommended to be moved by a licensed hauler to a destination with an appropriate Certificate of Approval for the waste classification. It was recommended that confirmatory sampling of the onsite soils that came in contact with the fill soil should be carried out, to ensure the original soils were not detrimentally affected. It was further recommended that should any of original soils be found to be impacted by the fill, such that it does not meet Table 2 residential standards, it was recommended that it should also be removed.

On October 21, 2011, Geo-Logic Inc. provided inspection and testing services relating to remaining fill materials located on the property after approximately fifteen (15) loads of fill had been removed from the property. A representative from the City of Pickering, Shawn Battersby, was contacted before and after the sampling event.

A Geo-Logic representative selected and sampled fifteen (15) sample locations from the fill materials. The sampling locations were representative over the area of fill materials identified.

Applicable Site Condition Standard

Based on our review of the property, the applicable site condition standard for this Property falls under the Ministry of the Environment (MOE) Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (residential/parkland/institutional property use), MOE, July 27, 2009, "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the *Environmental Protection Act*". This standard is applicable as the Property is privately serviced for potable water by an onsite well, as are the surrounding properties. The July 27, 2009 standards became effective July 1, 2011 and are the Standards to be used in evaluating the quality of the fill at this time.

Soil Chemical Testing

The soil samples collected by Geo-Logic Inc. were subjected to hydrocarbon vapour screening using a Thermo GasTector gas detector using methane elimination. Samples at six (6) locations had a noticeable odour and levels of hydrocarbon vapours were detected. Of the twelve (12) samples collected three (3) representative samples were selected for submission for chemical analysis.

The samples collected by Geo-Logic were submitted for analytical testing to SGS laboratories located in Lakefield, Ontario. The laboratory is accredited with the Canadian Association for Laboratory Accreditation (CALA) for the parameters tested for in this investigation. Sampling and analysis were completed for petroleum hydrocarbons (PHCs) fractions F1 to F4. Sample selection was completed based upon visual and olfactory observations, professional judgment following screening of soil samples and coverage for the area of fill identified.

The samples were delivered to SGS Laboratories, in Lakefield under chain of custody. The analytical method for PHC analysis includes a silica gel washing procedure to reduce the effects of organics on PHC analysis. The results of the chemical analyses are summarized below in Table 1, and the Certificates of Analysis are attached.

Table 1: Summary of Soil Sample Results

PARAMETER	SAMPLE IDENTIFICATION			Provincial Table 2 Standards (2009)*
	GS06 October 21, 2011 North Central area	GS07 October 21, 2011 Northeast area	GS09 October 21, 2011 Northwest area	
PHC F1 (C6 – C10)	22	17	12	55
PHC F1 (>C10 – C16)	324	176	165	98
PHC F1 (>C16 – C34)	2110	1210	1420	300
PHC F1 (>C34 – C50)	440	258	350	2800

NOTES: All units in (µg/g). “<” indicates less than laboratory reporting limit, **Bolded** values exceed Standard.

*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act, July 27, 2009*

Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition (Residential Land Use).

All of the samples exceeded the Provincial Table 2 Standards for Petroleum Hydrocarbons (>C10 – C16) and the Provincial Table 2 Standards for Petroleum Hydrocarbons (>C16 – C34).

Summary and Conclusions

Based on the limited soil testing conducted as part of this sampling event, the onsite fill materials have PHC concentrations which exceed the Provincial Standards for F2 (>C10 – C16) and F3 (>C16 – C34) fractions for placement on a Table 2 site.

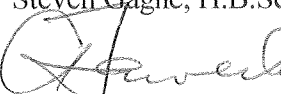
The soil testing completed as part of this sampling event did not delineate the extent of the environmentally unsuitable fill materials nor the extent of impact to the pre-fill onsite soils. Delineation of impacted soils may require an extensive excavation, sampling and chemical analysis program. Additional chemical parameters should be tested to confirm removal of the environmentally unsuitable materials. The additional parameters should be based on the identified parameters of concern from the originating property of the fill.

Based on our observations, and chemical testing conducted to date, the fill material is not environmentally suitable for deposition as fill. The fill material should be characterized according to Ontario Regulation 347 (Reg 558 TCLP). Once the soil is classified, the soil should be removed by a licensed hauler to a destination with an appropriate Certificate of Approval for the material classification. Confirmatory sampling of the pre-fill soils that came in contact with the fill should be carried out, to ensure the pre-fill soils were not detrimentally affected. Any pre-fill soils impacted by the fill, such that it does not meet Table 2 residential standards, should also be removed.

We trust that this letter report meets with your immediate requirements. Should you have any questions, please contact our office.

Yours Truly,
Geo-Logic Inc.
Geotechnical Engineers
And Hydrogeologists


Steven Gagné, H.B.Sc.


Andy Fawcett, P.Eng.

/bs

Attachments:

Chemical Certificate's of Analysis (2)

Email : gordh@idirect.com

Cc: City of Pickering
One The Esplanade,
PICKERING, Ontario
L1V 6K7
Attention: Ms. Laura Calvelli
Email: lcalvelli@cityofpickering.com



SGS Canada Inc.
 P.O. Box 4300 - 185 Concession St.
 Lakefield - Ontario - K0L 2H0
 Phone: 705-652-2000 FAX: 705-652-6365

Geo-Logic Inc.
 Attn : Bruce Selman

347 Pido Rd., Unit #29
 Peterborough, ON
 K9J 6Z8,

Phone: 705-749-3317
 Fax:

Monday, October 31, 2011

Date Rec. : 24 October 2011
 LR Report: CA10385-OCT11
 Reference: G023256E1

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Analysis	3:	4:	9:	10:	11:	12:	13:	14:
	Analysis Approval Date	Analysis Approval Time	QC - Blank	QC - DUP % Recovery	QC - STD % Recovery	GS06	GS07	GS09
Sample Date & Time						21-Oct-11 11:00	21-Oct-11	21-Oct-11
Moisture Content [%]	28-Oct-11	09:54	---	---	---	14.8	18.9	17.8
CCME F1 (C6-C10) [mg/kg]	27-Oct-11	14:41	< 10	107%	100%	22	17	12
CCME F2 (C10-C16) [mg/kg]	28-Oct-11	09:54	< 10	ND	126%	324	176	165
CCME F3 (C16-C34) [mg/kg]	28-Oct-11	09:54	< 50	ND	126%	2110	1210	1420
CCME F4 (C34-C50) [mg/kg]	28-Oct-11	09:54	< 50	ND	126%	440	258	350
Chromatogram returned to baseline at nC50 [Yes / No]	28-Oct-11	09:54	---	---	---	NO	NO	NO
CCME F4G-sg (GHH) [mg/kg]	31-Oct-11	09:00	< 200	NSS	98%	3870	1650	2120



SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

LR Report: CA10385-OCT11

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in soil and have been validated for use at the SGS Laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nc6 and nc10 response factors within 30% of response factor for toluene: YES

nc10, nc16 and nc34 response factors within 10% of each other: YES

C50 response factors within 70% of nc10 + nc16 + nc34 average: YES

Linearity is within 15%: YES

Hydrocarbon results are expressed on a dry weight basis.
Quality control data are available upon request.

Brian Graham B. Sc.
Project Specialist
Environmental Services, Analytical