



February 11, 2022

Mr. Andy De Jong, Landfill Technologist
Regional Municipality of Halton
Public Works - Waste Management & Road Operations
1151 Bronte Road
Oakville, Ontario
L6M 3L1

Dear Mr. De Jong:

**Subject: Closed Oakville Ninth Line Landfill Site
2021 Combustible Gas Monitoring**

We are pleased to provide a summary of the 2021 combustible gas monitoring results at the Closed Ninth Line Landfill Site (Site). Field measurements were obtained from gas monitoring wells at the Site on a monthly basis throughout 2021. The locations of the gas monitoring wells are provided on Figure 1 and the results are summarized in Table 1.

The readings at the gas monitors in 2021 were low, with concentrations remaining below the detection limit, with the exception of readings at monitors 99-1, 99-2, GP107, and GP108 on at least one occasion in 2021. In general, the combustible gas readings in 2021 were comparable to the historical results.

The measured combustible gas concentrations in 2021 ranged from 7% to 19% by volume in air and 0% to 20% by volume in air at monitors 99-1 and 99-2, respectively. Combustible gas has historically been detected at monitors 99-1 and 99-2, although elevated liquid levels have reduced the frequency of detections at monitor 99-2.

The measured combustible gas concentrations in gas probes GP107 and GP108 ranged from 0.1% to 4% by volume in air. Historically, combustible gas has not frequently been detected at these locations, with the previous event for gas detection occurring in 2015 at GP107 and 2017 at GP108. These locations will continue to be monitored to confirm combustible gas concentrations.

It is noted that monitors 99-1, 99-2, GP107 and GP108 are located within the refuse area and the presence of combustible gas at these locations is not unexpected.

A gas measurement was obtained within the Club House during the July and August monitoring events. Combustible gas concentrations were not detected during these

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monitoring events. Gas measurements will continue to be obtained within this building during future monitoring events, when access is available.

It is expected that the principal combustible gas generated within a landfill is methane, which has a lower explosive limit of 5% gas by volume in air, and an upper explosive limit of 15% gas by volume in air.

Based on the 2021 results, there was minimal hazard to structures on-site from combustible gases detected during the monitoring period.

We trust that this letter is satisfactory for your needs. If you have any questions or comments, please contact our office.

Yours truly,

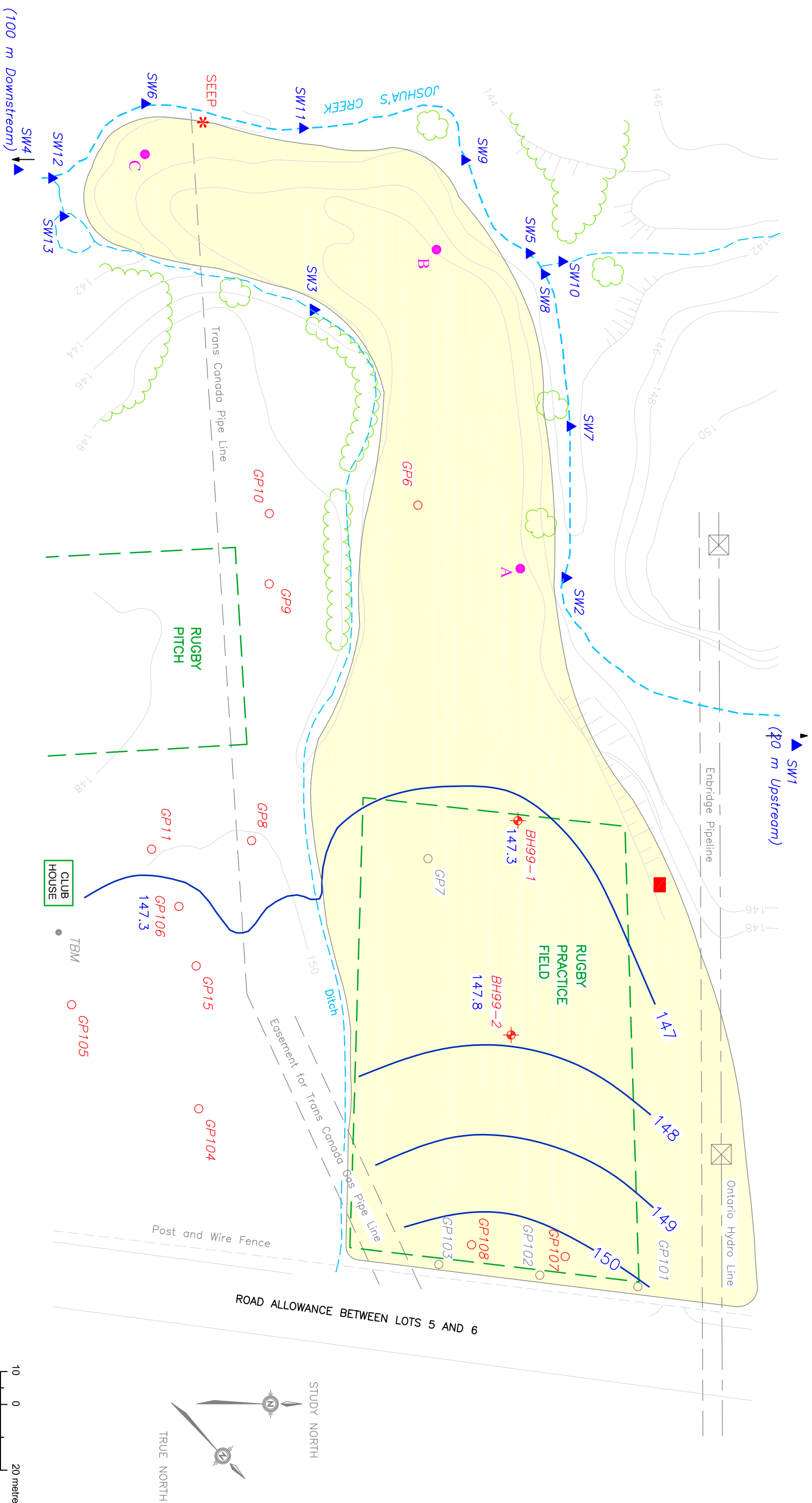
A handwritten signature in black ink, appearing to read 'Craig Leger'.

Craig Leger, M.Sc., C.E.T.
Environmental Consultant

Encl. Figure 1 – Site Plan, Table 1 – Combustible Gas Results

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LEGEND	
	APPROXIMATE EXTENT OF RUGBY PRACTICE FIELD
	GP101 EXISTING GAS PROBE LOCATION, DESIGNATION AND WATER LEVEL ELEVATION
	GP104 PREVIOUS GAS PROBE LOCATION AND DESIGNATION
	BH99-1 LEACHATE MONITOR LOCATION, DESIGNATION AND LEACHATE ELEVATION (Top of green hydro box, approx. 150.3 m)
	147.3 TEMPORARY BENCH MARK LOCATION (Top of green hydro box, approx. 150.3 m)
	SEEP INTERMITTENT SEEP (Detected only during the June 2000 surface water monitoring event)
	SW1 SURFACE WATER SAMPLING LOCATION AND DESIGNATION
	LOCATION OF MAXIMUM INSTANTANEOUS GAS EMISSION "HOT SPOT" (Concor, 1998)
	APPROXIMATE EXTENT OF REFUSE
	PROPOSED LEACHATE MONITOR

CLIENT:	REGIONAL MUNICIPALITY OF HALTON
PROJECT:	2021 MONITORING PROGRAM CLOSED OAKVILLE NINTH LINE LANDFILL SITE
CLIENT REF. #:	
PROJECT:	

PROJECT NO.:	181-30000-00 106	DATE:	FEBRUARY 2022
DESIGNED BY:	CL		
DRAWN BY:	PLB		
CHECKED BY:	CL		
FIGURE NO.:	1	SCALE:	1:1250

TITLE:	SITE PLAN
DISCIPLINE:	ENVIRONMENT
ISSUE:	
DATE OF:	

**TABLE 1
COMBUSTIBLE GAS READINGS
CLOSED OAKVILLE NINTH LINE LANDFILL SITE**

LOCATION	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
GP6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
GP8R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP9R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP15R	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
GP107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	0.2	0.1
GP108	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.2	0.0
99-1	10	7	8	9	10	11	13	19	15	12	15	8
99-2	0.0	0.0	0.0	0.0	0.0	1	4	4	15	20	-	4
CLUB HOUSE	-	-	-	-	-	-	0.0	0.0	-	-	-	-

NOTES: 1) All values are percent methane.

2) "-" - Indicates no measurement obtained.

3) Gas probes GP101, GP102, and GP103 were decommissioned in spring 2014 due to the roadwork expansion, and were replaced by gas probes GP107 and GP108 in June 2015.

4) Gas probes GP8, GP9 and GP15 were decommissioned and replaced with GP8R, GP9R, and GP15R in early September 2016.