



## **ANNUAL MONITORING REPORT**

### **LANDFILL GAS COLLECTION AND FLARING SYSTEM JANUARY 2024 – DECEMBER 2024**

**OXFORD COUNTY WASTE MANAGEMENT FACILITY**

**March 3<sup>rd</sup>, 2025**



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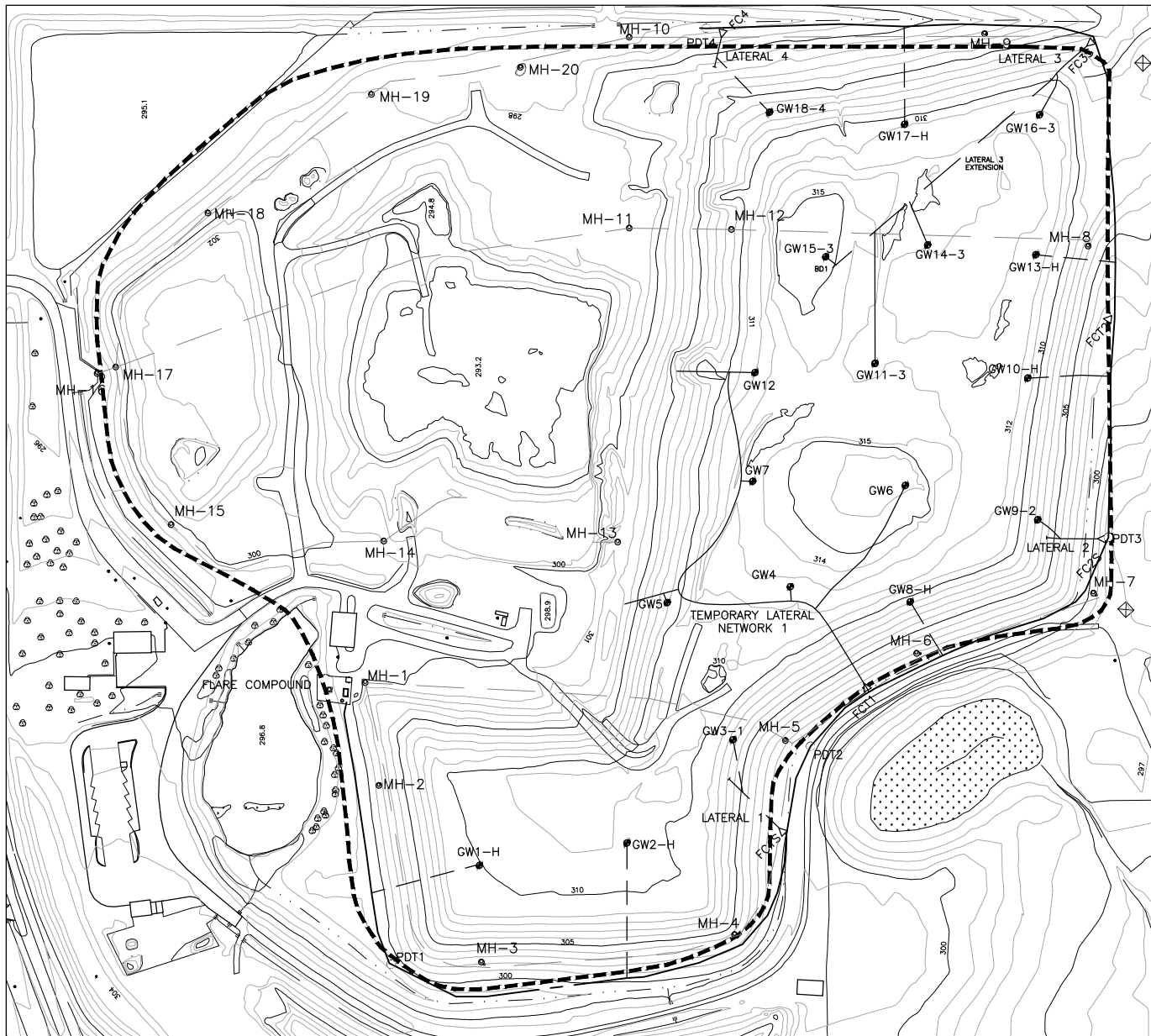
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## 1.0 INTRODUCTION




Oxford County (County) had Environmental Compliance Approval (ECA) (Waste) No. A070808 amended to allow for the installation of a landfill gas collection and flaring system (LGCFS) at the Oxford County Waste Management Facility (Salford Landfill) in Salford, Ontario. The original ECA amendment was issued by the Ministry of the Environment, Conservation and Parks (MECP) on September 29, 2010. The MECP revoked and replaced all previous ECAs and issued a new ECA to the County on November 7, 2013. This report is being submitted to fulfil Condition 6.0 which requires an Annual Report outlining the maintenance and monitoring activities of the gas collection system.

Construction of Phase 1 of the landfill gas collection system commenced in June 2010. It included the installation of eighteen vertical extraction wells within the waste. All construction on the collection system was substantially completed in August 2010, and the flaring system was commissioned in December 2010. In September 2016, three wells were drilled and connected to the permanent system after the original three wells were decommissioned to allow for filling in the vicinity.

In August 2014, as part of a Waste Management Strategy, County Council approved the change in the name of the landfill site from “Salford Landfill” to “Oxford County Waste Management Facility”. In early March 2015, the County applied for an amendment to ECA No. A070808 to formally change the name of the site on the ECA which was granted approval on July 14, 2015.



**LEGEND**

-  APPROVED LIMIT OF FILL
-  LANDFILL GAS EXTRACTION WELL
-  LATERAL 3 EXTENSION AND WELLS GW11-3, GW14-3, GW15-3 REPLACED IN SEPTEMBER 2016

## 2.0 2024 LANDFILL GAS COLLECTION SYSTEM OPERATIONS

### 2.1 Summary of Plant Operations

The flare ran at an average flow of 97.0 cfm and 39.3% methane by volume during 2024 as recorded during the monthly monitoring events. The average system vacuum for the year was -40.29 inches of water column. Run times were varied throughout the year, ranging from 47.8% runtime in October to 82.8% runtime in February, and an average runtime of 65.2%.

*Table 1: 2024 Flare Runtimes*

<b>Month</b>	<b>Runtimes (hrs)</b>	<b>Runtime (%)</b>
January	426.1	57.3%
February	576.5	82.8%
March	597.8	80.4%
April	511.0	71.0%
May	435.7	58.6%
June	531.9	73.9%
July	518.8	69.7%
August	567.9	76.3%
September	406.7	56.5%
October	355.5	47.8%
November	401.7	55.8%
December	398.3	53.5%
<b>Total</b>	<b>5727.9</b>	<b>65.2%</b>

### 2.2 MECP ECA Inspection

In 2023 the Ontario Ministry of the Environment, Conservation and Parks (MECP) completed an inspection of the Oxford County Waste Management Facility and identified two non-compliance issues. These issues were addressed in 2023 and the corrective actions incorporated into standard procedures for the site. Additionally, in 2023 a Drone Methane Study and Surface Emission Survey were completed by the MECP and Comcor respectively. These studies identified several areas with emission exceedances and the results of both studies were combined by the MECP in January 2024.

On January 25<sup>th</sup>, 2024, the MECP notified the County that they had observed landfill odours to the Southwest of the Facility. Upon investigation, it was determined that the flaring system had shut down on January 24<sup>th</sup> due to a flare flameout alarm encountered due to insufficient gas concentration. Comcor completed the flare restart on January 25<sup>th</sup> and then added the County to the alarm distribution list so that both Comcor and the County will receive notification for all alarms. Further to this, Comcor later trained the County on restarting the flaring system so that on-site staff can respond to flare outages and reduce the response time to flare shutdowns during normal working hours.

In July and August of 2024, the MECP conducted an additional drone methane sweep of the site. Hotspots were identified by the drone methane sweeps and the MECP requested that Oxford County follow up with a walking sweep to confirm these locations. The follow up walking sweep was completed by Comcor in September 2024 and the complete results and recommendations of the walking sweep are discussed in the Oxford Surface Emissions Sweep Report dated November 5<sup>th</sup>, 2024. Hotspot locations were confirmed at several perimeter manholes and throughout the centre portion of the site where no active gas collection is present, and the use of interim cover is widespread.

As a result of these surface emission sweeps, the County has been taking additional steps to reduce the potential for odours and emissions from the site. One such measure completed in 2024 was to drain down the leachate collection system (LCS) to a lower operating level and reduce the overall leachate level on site. High leachate levels can effectively form a barrier preventing the movement of gas and limiting the open screen with the collection wells. As such, lowering the leachate level on site has the potential to increase gas collection aiding with both odour control and providing additional gas to the flare. Another measure taken, has been investigating the use of biofilters to treat hotspots identified by surface emission sweeps. A biofilter program is set to commence in early 2025, with the intent to use organics/woodchips to produce a biofilter on-site that can be used for odour and emission control. It is expected that the biofilter will be trialed in early 2025 at several of the manholes on site that have seen surface emission exceedances in the past.

The County has also submitted plans for an expansion of the gas collection system to the MECP for approval, and intends to complete the first phase of this expansion in 2025.

### **2.3 Assessment of Effectiveness of Gas Collection System**

The Oxford County Waste Management Facility (OCWMF) has been in operation since 1986, has a maximum approved waste capacity of 5,905,200 m<sup>3</sup> (cubic metres), and receives approximately 45,000 tonnes of non-hazardous residential, commercial, institutional, and industrial solid waste annually. Table 2 presents the estimated landfill gas recovery rates for the years 2010 through 2030 using the Scholl Canyon Model with MECP Default inputs for Lo (methane production potential, m<sup>3</sup> CH<sub>4</sub>/tonne waste) and k (gas production coefficient, 1/yr).

**Table 2: Landfill Gas Recovery Rates**

<i>End of Year</i>	<i>Landfill Gas Recovery Estimate</i>			
	<i>Scholl Canyon Model</i>			
	<i>Production k=0.04, L=125 m<sup>3</sup>/tonne</i>		<i>70% Recovery</i>	
	<i>m<sup>3</sup>/hr</i>	<i>ft<sup>3</sup>/min</i>	<i>m<sup>3</sup>/hr</i>	<i>ft<sup>3</sup>/min</i>
2010	1,350	794	942	556
2011	1,352	796	946	557
2012	1,356	798	949	559
2013	1,362	802	954	561
2014	1,360	800	952	560
2015	1,359	800	951	560
2016	1,358	799	951	560
2017	1,353	796	947	557
2018	1,346	792	942	554
2019	1,342	790	940	553
2020	1,346	792	942	555
2021	1,362	801	943	561
2022	1,363	803	954	562
2023	1,368	805	958	564
<b>2024</b>	<b>1,372</b>	<b>808</b>	<b>960</b>	<b>565</b>
2025	1,376	810	963	567
2026	1,380	812	966	569
2027	1,384	814	969	570
2028	1,387	817	971	572
2029	1,391	819	974	573
2030	1,394	821	976	574

In 2024, the estimated landfill gas recovery of 960 m<sup>3</sup>/hr (565 cfm) is based on a 70% recovery rate. This recovery rate assumes full wellfield coverage and implies that with full coverage; 70% of the gas produced on site would be collected and flared. When looking at the wellfield coverage at the OCWMF, approximately 25-30% of the landfill has active gas collection. The wellfield coverage is primarily located around the perimeter of the waste and in areas primarily containing older waste. As LFG production slows down as waste ages, the 25-30% wellfield coverage on site may only account for 15-20% of the LFG production on site. The average flow rate of 97 cfm then corresponds to the lower gas production typical of aging waste. Overall, the flow rate and runtimes indicate that the system is operating and collecting gas as intended within the current coverage area.

The lower recovery rate at the OCWMF can be attributed to having a large area of the landfill not at final grade, which therefore does not have landfill gas coverage. Tonnages have declined significantly since 2009, which has slowed the process of closing and capping cells. In 2024, several areas of the landfill approaching final contours were identified. The ECA amendment submitted to the MECP includes the planned build out for the remaining wellfield based on a

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phased approach that corresponds to the landfill areas achieving final contours. As mentioned, the first phase of the landfill gas collection system expansion is anticipated to occur in 2025.

## 2.4 Summary of Flare Turndown and Investigations

The flare tripped numerous times over the course of 2024, and restarts were completed on 145 days throughout the year. In 2024, the County was trained by Comcor on system restarts and began completing basic restarts of the flaring system. A total of 876 alarms resulting in shutdowns were sent over the course of 2024, however in many instances, several of the alarms were associated with the same issue and were sent out simultaneously or in the same short time period. This contributed greatly to the high number of alarms over the course of the year. The primary causes of alarms in 2024 were those associated with flare flameouts (52.3%), compressed air related issues (15.7%), gas quality/quantity related issues (15.5%), power failures (8.0%), maintenance related/emergency stops (5.9%), and gas analyzer related issues (2.5%). The numerous flare flameouts are due to low gas quality to the flare.

Historically the system has had frequent shutdowns due to insufficient gas quantity to run the flare. In 2015, notification was given to the MECP that the flare would be run on an on/off basis due to gas quality. This notice is attached in Appendix C. Flare operations are now conducted in a manner to maximize run times while still achieving correct flare temperatures that for proper greenhouse gas destruction.

The underlying cause for most of these trips is the low flow of LFG to the flare. A sufficient quantity (flow rate) of LFG is required to operate the flare as without sufficient flow, the flare cannot maintain a consistent flame/temperature. At the same time, the quality of the gas (% CH<sup>4</sup>) also needs to be maintained to support proper combustion. Quantity and quality of LFG are both required for proper flare operation but also directly impact one another when balancing the wellfield. Typically, quantity can be increased at the expense of lower quality LFG and vice versa. This then stresses the importance of balancing the wellfield to maximize the gas recovered while maintaining sufficient gas quality. At the OCWMF, the wellfield has been balanced to maximize the quantity of LFG collected while maintaining a lower, but sufficient, quality of gas as seen in the average of 39.3% methane.

The existing gas collection system has not been expanded due to filling activities at the site. Low tonnages and a large active face have not been conducive to a gas system expansion. Therefore, the existing gas collection system is in older waste with declining gas production. The flare was designed to combust 1,400 cfm, however, as noted above, it only received 97 cfm on average in 2024. To accommodate these low LFG flows, Comcor and Enviro EMD (the flare manufacturer) have previously completed investigations to improve the flare's performance. In December of 2024, Enviro EMD implemented a new planned shutdown feature to the PLC on the gas collection system. This feature will allow the system to be set to shut down automatically at a pre-programmed point in time. This feature is currently being used to allow the system to shut down on Thursday evenings, for gas concentrations to build up. The system is then restarted end-of-day Friday, to give the system more run-time over the weekend when the site is not staffed.



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### 3.0 2024 MONITORING SUMMARY

The Landfill Gas Collection and Flaring System (LGCFS) is monitored to ensure that the system is controlling landfill gas related odours at the site and reducing greenhouse gases. The LGCFS is also monitored to ensure that the system operates in compliance with the ECA (Air).

System monitoring was conducted in 2024 in accordance with the Maintenance and Monitoring Schedules attached in Appendix B. The results of the 2024 field monitoring are summarized in Table 3. Note that the October monitoring event was to be completed on October 9<sup>th</sup> but the system was not running continuously so the monitoring event could not be accurately completed. Various repairs discussed further in this report were completed in October that helped improve flare runtime.

As of December 2024, the gas collection system has eighteen operating wells, five of which are operating on a temporary means, by being connected with above ground “Big O” piping. It is anticipated that a wellfield expansion including four new wells, two new manhole connections, and one existing well reconnection will be completed in 2025. This expansion would be the first installation for the wellfield expansion included in the ECA amendment application submitted in 2024.

On a quarterly basis throughout 2024 water levels and well depths were measured as part of the monitoring round. The depth to bottom measurements for the wells was consistent throughout the year with most of the wells all retaining 80% or greater of their original installation depth. Depth to water varied slightly throughout the quarters and seasons but was noticeably higher than the depth to bottom. Water levels can be used to calculate a percentage of available well screen compared to the well screen that was originally installed. For 2024, the wells on site typically had an average of 30% available screen. Taking water levels can be difficult due to the high moisture levels within in the well and foam that can be present in the well from leachate, but it can be used as a general indicator of water levels. As mentioned in Section 2.2, higher water levels can effectively block off gas collection within the lower portion of a well, thus reducing the overall collection efficiency of landfill gas wells. Lower water levels are then ideal for optimizing LFG collection. As the County has recently taken steps to lower the leachate level on site this will potentially be observed in the LFG water levels that will be completed in Q1 of 2025. The result of the water level monitoring for 2024 are summarized in Table 4.

Based on the average annual flow rate at the plant (97 cfm), the eighteen wells together result in an average flow of 5.4 cfm per well. However, individual flow calculations at each well shows a significant variation from the 5.4 cfm average, with typical flows ranging from non-detectable flows to approximately 70.5 cfm. This is typical of landfill gas collection and is a reflection of balancing wells to meet production in an individual area of a landfill. Variations can result due to differences in the local waste including saturation, waste composition, compaction, and pH to name a few. The challenge in balancing a system is to try and maximize gas collection in a localized area without overdrawing.

Table 3: 2024 Monitoring Data Summary

		11-Jan-24	23-Feb-24	13-Mar-24	17-Apr-24	13-May-24	18-Jun-24	16-Jul-24	19-Aug-24	16-Sep-24	October	18-Nov-24	9-Dec-24
Plant (Gauge and GEM)	Inlet Vac ("H2O)	-25.80	-45.53	-54.51	-42.80	-11.70	-43.60	-46.70	-39.30	-46.20		-58.30	-28.70
	Outlet Vac ("H2O)	0.20	0.65	0.72	0.56	0.30	6.50	0.40	0.40	0.60		0.40	0.40
	CH4 (%)	50.4	37.9	34.9	38.0	38.0	35.9	45.3	44.3	37.0		36.9	33.7
	CO2 (%)	32.5	30.2	29.9	28.7	26.3	30.6	30.3	31.8	28.0		28.7	24.8
	O2 (%)	2.1	3.9	3.8	3.5	6.9	3.4	3.3	2.4	4.2		3.5	7.1
	Flow	96	98	98	96	99	96	99	96	96		96	97
	Comment	flare restarted day before, shut down in the night, restarted before monitoring	flare running	Flare running	Flare running	flare restarted before monitoring round (down all weekend)	Flare running	flare started the day before and ran all night	flare restarted before monitoring (down all weekend)	Flare restarted before monitoring		Flare restarted before monitoring	Flare running
GW 1-H	Well Vac ("H2O)	-29.07	-44.58	-54.39	-46.61	-25.50	-47.47	-41.58	-26.76	-43.65		-56.22	-27.26
	Lat Vac ("H2O)	-29.10	-45.10	-54.80	-46.80	-26.40	-48.90	-41.90	-26.80	-44.20		-55.90	-27.40
	CH4 (%)	61.9	59.5	60.5	60.8	54.7	58.8	44.1	51.1	43.8		47.1	49.4
	CO2 (%)	37.6	40.4	36.7	38.8	34.1	37.9	29.4	33.3	29.1		32.4	33.3
	O2 (%)	0.4	0.1	0.2	0.4	2.1	0.8	5.5	2.4	5.3		3.2	2.1
	Max Velocity (m/s)	1.20	1.10	1.00	1.00	1.70	0.90	2.00	1.50	1.20		0.80	0.80
	Min Velocity (m/s)	1.00	1.00	0.90	0.90	1.50	0.70	1.90	1.40	1.10		0.70	0.70
	Temp (°C)	2.0	1.0	9.6	5.0	13.9	39.6	10.9	6.5	30.3		11.1	6.2
	Flow (cfm)	10.6	10.1	9.2	9.2	15.5	7.7	18.8	14.0	11.1	0.0	7.2	7.2
	Comments	3/4T->1T	1T	1T->1.25T	1.25T	1.25T	1.25T	3/4T->1/4T	1/4T	1/4T		1/4T	1/4T
GW 2-H	Well Vac ("H2O)	-28.64	-15.71	0.19	-22.97	-0.31	0.69	1.69	0.64	0.59		0.17	-0.24
	Lat Vac ("H2O)	-28.90	-44.90	-54.90	-46.73	-26.00	-49.40	-41.60	-26.80	-44.00		-56.30	-27.10
	CH4 (%)	49.5	3.9	62.5	6.9	47.6	63.4	62.6	61.8	61.1		60.6	56.5
	CO2 (%)	30.1	0.3	34.8	0.6	25.9	36.4	36.6	36.3	37.1		38.3	36.2
	O2 (%)	4.9	21.0	0.9	19.0	5.0	0.2	0.1	0.0	0.2		0.2	0.6
	Max Velocity (m/s)	0.90	-	0.80	0.80	0.90	-	-	-	0.50		0.80	0.60
	Min Velocity (m/s)	0.80	-	0.60	0.80	0.80	-	-	-	0.50		0.70	0.50
	Temp (°C)	4.0	-	7.2	6.0	14.2	-	-	-	28.0		10.5	5.8
	Flow (cfm)	8.21	-	6.76	7.73	8.21	-	-	-	4.83	0.00	7.25	5.31
	Comments	(high pressure)	cr->closed	Cl->Sl. Cr	Sl. Cr	closed	closed	closed	closed	closed		closed	closed
GW 3-1	Well Vac ("H2O)	-29.16	-44.24	-54.70	-46.55	-26.71	-48.43	-41.16	-26.53	-43.14		-55.58	-27.26
	Lat Vac ("H2O)	-29.00	-44.50	-54.70	-46.87	-27.20	-44.10	-41.40	-26.60	-43.70		-55.50	-27.40
	CH4 (%)	62.5	58.3	61.2	52.4	56.1	58.7	54.8	58.1	60.5		43.6	4.0
	CO2 (%)	36.6	37.8	38.0	31.4	38.9	38.9	35.2	34.6	35.9		27.5	2.4
	O2 (%)	0.9	0.3	0.0	3.1	1.4	0.5	1.2	1.1	0.6		5.2	18.8
	Max Velocity (m/s)	1.10	1.00	1.10	1.00	2.30	1.90	2.00	1.20	0.80		0.90	1.10
	Min Velocity (m/s)	0.90	0.90	1.00	0.90	2.10	1.70	1.90	1.00	0.70		0.80	1.00
	Temp (°C)	4.0	11.9	10.6	7.5	14.6	29.5	10.8	7.3	31.4		11.9	5.7
	Flow (cfm)	9.66	9.18	10.14	9.18	21.25	17.39	18.84	10.63	7.25	0.00	8.21	10.14
	Comments	2T->2.25T	2.25T	2.25->2.5	2.5T	2.5T	2.5T	2.5T	2.5T	2.5T		2.5T	2.5->2.25T
GW 4	Well Vac ("H2O)	-8.91	-36.37	-50.94	-40.50	-19.78	-43.66	-36.66	-25.46	-38.80		-48.50	-26.92
	Lat Vac ("H2O)	-30.80	-44.50	-58.00	-45.71	-22.30	-45.40	-41.60	-28.60	-55.20		-55.20	-29.50
	CH4 (%)	54.2	33.6	32.3	43.1	55.2	36.4	51.7	48.0	34.5		31.9	43.3
	CO2 (%)	37.1	31.6	28.2	35.5	37.5	34.9	37.4	33.4	31.2		29.3	31.9
	O2 (%)	0.4	3.4	3.8	0.9	1.0	1.6	1.2	1.3	0.2		1.0	0.0
	Max Velocity (m/s)	1.2	0.5	0.6	0.7	0.8	0.8	2.7	0.6	0.7		1.4	1.3
	Min Velocity (m/s)	1.1	0.4	0.5	0.4	0.7	0.8	2.6	0.4	0.5		1.3	1.1
	Temp (°C)	2.0	11.7	8.7	7.2	8.8	28.9	12.0	6.9	29.7		14.4	5.3
	Flow (cfm)	11.11	4.35	5.31	5.31	7.25	7.73	25.60	4.83	5.80	0.00	13.04	11.59
	Comments	Closed->1/4T	1/4T	1/4T	1/4T	1/4T	1/4T	1/4T	1/4T	1/4T		1/4T->1/2T	1/2T
GW 5	Well Vac ("H2O)	0.28	0.08	-0.02	-0.31	0.12	-0.05	-0.04	-0.04	-1.20		0.38	-1.06
	Lat Vac ("H2O)	-	-	-	-	-	-	-	-	-		-	-
	CH4 (%)	50.5	39.8	34.2	31.0	26.6	22.5	17.3	30.3	34.9		45.5	42.6
	CO2 (%)	40.5	36.1	32.0	29.8	26.3	27.3	17.4	26.1	31.4		41.2	38.3
	O2 (%)	2.0	4.9	7.1	8.3	9.2	10.1	15.0	10.0	6.9		2.2	2.7
	Max Velocity (m/s)	-	-	-	-	-	-	-	-	-		-	-
	Min Velocity (m/s)	-	-	-	-	-	-	-	-	-		-	-
	Temp (°C)	-	-	-	-	-	-	-	-	-		-	-
	Flow (cfm)	-	-	-	-	-	-	-	-	-		-	-
	Comments	closed	closed	closed	closed	closed	closed	closed	closed	closed	closed	closed	closed
GW 6	Well Vac ("H2O)	-29.59	-14.35	26.53	-45.59	-17.16	8.56	-9.25	-5.16	16.91		22.87	21.71
	Lat Vac ("H2O)	-30.6	-44.7	-55.9	-46.3	-18.2	-46.7	-42.4	-29.0	-44.5		-54.6	-29.2
	CH4 (%)	43.4	23.8	64.1	26.5	41.7	63.3	63.0	28.9	63.6		65.4	63.3
	CO2 (%)	27.7	15.2	35.9	16.8	25.5	34.5	34.4	18.0	33.4		33.7	32.7
	O2 (%)	5.6	12.9	0.0	13.0	7.1	0.0	0.2	11.3	0.0		0.0	0.0
	Max Velocity (m/s)	0.9	-	1.5	1.5	1.2	-	2.5	-	0.1		1.1	0.1
	Min Velocity (m/s)	0.7	-	1.4	1.3	1.0	-	2.3	-	0.1		1.0	0.1
	Temp (°C)	5.0	-	9.1	8.4	7.4	-	11.7	-	28.4		11.7	4.7
	Flow (cfm)	7.73	-	14.01	13.52	10.63	-	23.18	-	0.97	0.00	10.14	0.97
	Comments	closed -> cracked	cr->closed	Cl->CR	CR	cracked	cracked->closed	ed->crack (high pr	cracked->closed	closed		closed	closed

Table 3: 2024 Monitoring Data Summary

		11-Jan-24	23-Feb-24	13-Mar-24	17-Apr-24	13-May-24	18-Jun-24	16-Jul-24	19-Aug-24	16-Sep-24	October	18-Nov-24	9-Dec-24
GW 7	Well Vac ("H2O)	-30.5	-43.6	-57.7	-45.5	-21.8	-48.5	-41.7	-28.2	-45.0		-54.9	-30.2
	Lat Vac ("H2O)	-29.8	-43.8	-58.0	-45.6	-23.1	-45.1	-42.6	-28.4	-44.8		-54.2	-30.1
	CH4 (%)	48.7	57.2	49.7	55.3	55.9	51.3	57.6	51.2	54.2		55.1	55.5
	CO2 (%)	32.7	37.8	36.7	36.3	35.3	38.5	36.5	33.6	35.8		36.8	36.0
	O2 (%)	1.4	0.0	0.0	0.5	0.8	0.5	0.6	0.5	0.2		0.2	0.0
	Max Velocity (m/s)	2.8	0.5	0.5	0.5	1.6	1.1	0.5	1.8	0.9		0.5	0.5
	Min Velocity (m/s)	2.5	0.4	0.5	0.5	1.5	1.0	0.4	1.7	0.8		0.5	0.5
	Temp (°C)	5.0	11.2	9.2	9.1	7.8	29.6	19.2	6.7	31.2		15.4	4.2
	Flow (cfm)	25.60	4.35	4.83	4.83	14.97	10.14	4.35	16.91	8.21	0.00	4.83	4.83
	Comments	4.75T	4.75T	4.75T->5T	5T	5T->5.25T	5.25T	5.25->5.5T	5.5T	5.5T		5.5->5.75T	5.75T
GW 8-H	Well Vac ("H2O)	-30.42	-43.94	-54.48	-46.24	-11.23	-48.51	-41.44	-31.24	-44.38		-55.58	-29.47
	Lat Vac ("H2O)	-30.70	-44.30	-54.60	-46.25	-11.40	-45.10	-42.00	-32.30	-44.50		-55.00	-29.70
	CH4 (%)	59.50	57.70	59.40	58.90	57.40	48.60	50.20	41.90	50.20		38.30	54.60
	CO2 (%)	38.40	42.30	40.20	40.70	38.50	34.20	35.80	28.90	35.40		32.10	37.00
	O2 (%)	0.90	0.00	0.00	0.40	0.90	3.50	2.70	6.10	2.40		1.50	0.10
	Max Velocity (m/s)	0.80	0.50	0.80	0.90	1.70	1.20	2.20	1.90	1.60		0.90	0.80
	Min Velocity (m/s)	0.60	0.40	0.70	0.70	1.50	1.10	2.00	1.80	1.50		0.80	0.70
	Temp (°C)	3.00	10.90	10.2	5.50	7.80	26.50	14.60	10.40	33.80		12.20	6.10
	Flow (cfm)	6.76	4.35	7.25	7.73	15.46	11.11	20.29	17.87	14.97	0.00	8.21	7.25
	Comments	1T	1T	1T->1 1/4T	1 1/4T	1.25T	1.25T	1.25->1T	1T->1/2T	1/2T		1/2T->1T	1T->1.5T
GW 9-2	Well Vac ("H2O)	-28.32	-42.11	-54.35	-45.21	-10.80	-45.04	-41.66	-30.58	0.00		-0.92	-0.24
	Lat Vac ("H2O)	-30.20	-44.20	-55.70	-45.68	-10.66	-47.00	-43.00	-31.60	-44.40		-50.80	-30.30
	CH4 (%)	59.70	53.20	53.20	57.90	57.90	45.50	54.30	47.60	59.20		19.70	33.80
	CO2 (%)	38.30	38.90	39.00	38.00	39.00	35.90	37.70	34.60	38.80		12.90	23.90
	O2 (%)	0.40	0.60	0.60	0.30	0.60	1.30	1.30	0.80	0.00		14.30	8.60
	Max Velocity (m/s)	2.20	1.10	1.10	1.20	1.40	1.60	0.50	1.80	0.50		1.20	0.90
	Min Velocity (m/s)	2.10	0.80	1.00	1.10	1.30	1.30	0.40	1.60	0.50		1.10	0.80
	Temp (°C)	6.00	13.20	8.8	7.90	8.90	26.70	17.10	10.60	28.80		15.20	5.10
	Flow (cfm)	20.77	9.18	10.14	11.11	13.04	14.01	4.35	16.42	4.83	0.00	11.11	8.21
	Comments	1/2T->3/4T	3/4T	3/4T->1T	1T	1T->1.25T	1.25T	1.25T	1.25T	*3/4T after replacing valve		3/4T->1/2T	1/2T->1/4T
GW 10-H	Well Vac ("H2O)	-29.20	-44.66	-56.30	-45.99	-24.29	-46.64	-41.38	-31.18	-44.12		-52.51	-30.39
	Lat Vac ("H2O)	-30.50	-44.20	-55.97	-45.71	-24.50	-47.50	-41.90	-31.60	-44.60		-51.80	-30.70
	CH4 (%)	57.60	56.30	46.10	57.70	52.30	58.40	50.00	48.70	51.60		46.10	54.10
	CO2 (%)	37.10	41.70	34.80	40.60	36.50	41.20	36.70	34.70	39.20		36.90	37.50
	O2 (%)	0.90	0.30	4.10	0.60	2.90	0.20	3.00	2.00	0.20		0.70	0.30
	Max Velocity (m/s)	0.90	1.70	1.80	1.60	1.90	1.30	2.00	1.30	1.00		1.10	1.20
	Min Velocity (m/s)	0.80	1.20	1.60	1.30	1.70	0.90	1.80	1.10	0.90		1.00	1.00
	Temp (°C)	9.00	16.40	9.50	9.90	10.40	27.90	12.90	8.90	30.60		14.30	6.20
	Flow (cfm)	8.21	14.01	16.42	14.01	17.39	10.63	18.35	11.59	9.18	0.00	10.14	10.63
	Comments	1/4T	1/4T	1/4T->1/2T	1/2T	1/2T	1/2T	1/2T->1/4T	1/4T	1/4T		1/4T->1/2T	1/2T->3/4T
GW 11	Well Vac ("H2O)	-29.88	-43.23	-56.00	-45.74	-23.83	-45.05	-41.54	-29.41	-43.27		-53.49	-30.32
	Lat Vac ("H2O)	-29.90	-43.62	-55.47	-45.89	-24.50	-42.60	-42.40	-29.60	-44.50		-52.80	-30.40
	CH4 (%)	62.10	59.90	60.50	61.30	60.20	60.50	54.20	47.70	57.30		58.90	57.60
	CO2 (%)	37.20	40.10	38.00	38.50	37.90	38.70	34.60	29.30	35.30		37.40	36.90
	O2 (%)	0.60	0.00	0.00	0.20	0.00	0.10	1.40	4.70	1.90		1.00	0.10
	Max Velocity (m/s)	0.80	0.50	0.70	0.70	1.20	1.70	2.80	1.80	0.70		0.80	0.70
	Min Velocity (m/s)	0.60	0.50	0.50	0.60	1.00	1.40	2.60	1.60	0.50		0.70	0.60
	Temp (°C)	8.00	10.90	10.1	8.90	10.20	35.00	18.90	6.60	30.10		14.60	5.90
	Flow (cfm)	6.76	4.83	5.80	6.28	10.63	14.97	26.08	16.42	5.80	0.00	7.25	6.28
	Comments	1/2T->3/4T	3/4T	3/4T->1T	1T	1T->1.25T	1.25T	1.25T	1.25T->1T	1T		1->1.25T	1.25T
GW 12	Well Vac ("H2O)	-29.45	-3.20	-56.34	-45.09	-24.04	-48.22	-41.51	0.73	0.04		0.03	1.38
	Lat Vac ("H2O)	no lat port.	-	-	-	-	-	-	-	-		-	-
	CH4 (%)	47.20	61.20	44.80	48.90	60.60	40.40	41.30	63.70	62.80		68.20	62.90
	CO2 (%)	28.80	33.80	30.00	32.70	36.20	38.00	27.70	30.70	27.80		28.80	33.00
	O2 (%)	3.90	0.30	3.90	0.40	0.00	0.70	7.20	0.30	1.10		0.20	0.00
	Max Velocity (m/s)	-	-	-	-	-	-	-	-	-		-	-
	Min Velocity (m/s)	-	-	-	-	-	-	-	-	-		-	-
	Temp (°C)	-	-	-	-	-	-	-	-	-		-	-
	Flow (cfm)	-	-	-	-	-	-	-	-	-		-	-
	Comments	(high pressure)	cr->1/4T	1/4T	1/4T	1/4T	1/4T->1/2T	1.2T	1/2T-> closed	closed	closed	closed	closed

Table 3: 2024 Monitoring Data Summary

		11-Jan-24	23-Feb-24	13-Mar-24	17-Apr-24	13-May-24	18-Jun-24	16-Jul-24	19-Aug-24	16-Sep-24	October	18-Nov-24	9-Dec-24
GW 13-H	Well Vac ("H2O)	-30.48	-43.23	-55.43	-45.24	-23.29	-47.32	-41.05	-30.82	-43.82		-53.52	-30.03
	Lat Vac ("H2O)	-30.10	-43.60	-56.20	-45.47	-24.30	-41.70	-42.30	-31.10	-44.10		-52.90	-30.40
	CH4 (%)	46.50	59.90	31.70	42.00	52.30	40.10	47.40	43.30	39.70		36.40	45.00
	CO2 (%)	34.10	40.10	32.90	34.00	36.30	35.40	36.80	33.20	32.30		33.00	33.40
	O2 (%)	0.50	0.00	0.00	0.10	0.50	0.30	0.30	0.70	0.20		0.10	0.00
	Max Velocity (m/s)	7.40	0.60	0.60	0.70	4.90	4.40	3.00	3.50	2.60		5.00	3.60
	Min Velocity (m/s)	7.20	0.60	0.50	0.70	4.80	3.80	2.80	3.40	2.30		4.80	3.20
	Temp (°C)	4.00	11.20	9.7	8.6	10.60	27.80	14.00	8.10	32.50		16.60	6.50
	Flow (cfm)	70.52	5.80	5.31	6.76	46.85	39.61	28.02	33.33	23.67	0.00	47.34	32.85
	Comments	2.75T	2.75T	2.75T->3T	3T	3T->3.25T	3.25T	3.25T->3.5T	3.5T	3.5T		3.5T	3.5T
GW 14	Well Vac ("H2O)	-30.17	-9.50	-	-46.00	-7.60	-45.22	-41.32	-9.97	-44.88		-51.11	-28.28
	Lat Vac ("H2O)	-30.80	-43.78	-56.88	-46.70	-24.60	-42.30	-41.90	-32.00	-45.40		-52.50	-30.40
	CH4 (%)	57.50	33.40	63.60	46.30	60.60	51.20	33.30	60.70	53.10		46.80	55.40
	CO2 (%)	33.30	20.80	36.00	26.90	37.80	31.00	20.20	32.60	35.00		36.30	35.60
	O2 (%)	2.50	9.80	0.00	5.60	0.40	2.50	9.00	0.50	1.60		0.10	0.00
	Max Velocity (m/s)	0.70	-	0.60	0.50	0.90	0.60	-	0.90	0.60		0.50	0.50
	Min Velocity (m/s)	0.50	-	0.40	0.50	0.80	0.50	-	0.80	0.50		0.50	0.50
	Temp (°C)	3.00	-	8.1	9.50	10.50	32.60	-	8.20	29.30		15.20	4.20
	Flow (cfm)	5.80	-	4.83	4.83	8.21	5.31	-	8.21	5.31	0.00	4.83	4.83
	Comments	closed->cracked	cr->closed	CL->CR	CR	cracked->1/4T	1/4T	1/4T-> closed	->cracked (high pres)	cracked		cracked	cracked
GW 15	Well Vac ("H2O)	-1.42	-	-	-37.57	-24.88	-34.91	-33.83	-21.58	-9.88		-12.63	-22.00
	Lat Vac ("H2O)	-30.10	-43.93	-57.17	-45.66	-26.10	-43.00	-42.10	-29.70	-45.40		-54.50	-30.20
	CH4 (%)	61.70	50.90	61.20	20.30	54.60	17.20	33.90	27.10	48.00		47.30	32.60
	CO2 (%)	38.30	34.50	37.90	25.40	36.80	27.80	34.90	23.80	38.20		36.90	30.10
	O2 (%)	0.00	2.30	0.20	1.70	0.30	0.30	2.90	6.70	0.80		0.10	0.00
	Max Velocity (m/s)	0.80	1.90	2.00	1.60	1.70	0.50	2.50	1.80	0.90		1.10	0.90
	Min Velocity (m/s)	0.70	1.20	1.50	1.50	1.50	0.50	2.30	1.70	0.80		1.00	0.80
	Temp (°C)	5.00	10.60	30.80	9.10	10.20	28.40	18.80	6.30	29.90		14.60	5.70
	Flow (cfm)	7.25	14.97	16.91	15.46	15.46	4.83	23.18	16.91	8.21	0.00	10.14	8.21
	Comments	closed->slightly	sl.cracked	CR->1/4T	1/4T	1/4T	1/4T	1/4T	1/4T->cracked	cracked		cracked->1/4T	1/4T
GW 16-3	Well Vac ("H2O)	-8.90	-9.20	-11.98	-5.07	0.83	-3.20	-2.84	0.06	-0.19		-0.35	0.22
	Lat Vac ("H2O)	-30.70	-44.20	-57.30	-45.98	-24.10	-43.30	-42.10	-31.40	-45.10		-53.20	-30.40
	CH4 (%)	37.60	28.20	23.30	41.20	42.80	0.30	11.50	57.00	44.60		58.40	56.60
	CO2 (%)	31.10	28.60	26.80	32.20	32.90	0.20	9.30	34.60	28.90		32.90	31.80
	O2 (%)	1.00	2.40	3.50	0.20	0.00	20.20	13.40	0.80	2.10		1.10	0.30
	Max Velocity (m/s)	0.90	0.80	0.80	0.90	1.00	-	-	-	0.50		1.00	0.80
	Min Velocity (m/s)	0.80	0.50	0.80	0.90	0.80	-	-	-	0.10		0.90	0.70
	Temp (°C)	8.00	11.80	7.20	8.40	12.20	-	-	-	28.20		13.90	4.80
	Flow (cfm)	8.21	6.28	7.73	8.69	8.69	-	-	-	2.90	0.00	9.18	7.25
	Comments	closed	closed	sl. Cr	Sl. Cr	closed	closed	closed	closed	closed		closed	closed
GW 17-H	Well Vac ("H2O)	-15.74	-39.45	-50.08	-43.85	-23.12	-47.92	-40.79	-30.91	-42.44		-52.09	-30.09
	Lat Vac ("H2O)	-30.90	-44.50	-57.30	-45.91	-24.80	-47.50	-42.50	-31.70	-45.30		-53.50	-30.40
	CH4 (%)	61.30	42.30	33.20	36.10	55.90	32.70	49.10	34.20	42.70		43.60	51.50
	CO2 (%)	37.90	34.20	30.20	31.40	35.80	33.60	34.10	29.20	33.50		33.40	34.00
	O2 (%)	0.30	0.00	0.50	0.10	0.30	0.80	1.10	2.70	0.30		0.00	0.10
	Max Velocity (m/s)	1.00	0.50	-	0.60	2.30	1.60	2.30	2.20	1.20		0.90	1.40
	Min Velocity (m/s)	0.90	0.50	-	0.60	2.10	1.30	2.20	2.00	1.10		0.70	1.20
	Temp (°C)	10.00	13.10	-	7.80	11.90	36.70	19.20	6.80	30.40		14.20	6.00
	Flow (cfm)	9.18	4.83	-	5.80	21.25	14.01	21.74	20.29	11.11	0.00	7.73	12.56
	Comments	1/4T->1/2T	1/2T	1/2T->3/4T	3/4T	3/4T->1T	1T	1T	1T->1/2T	1/2T		1/2T->3/4T	3/4T
GW 18-4	Well Vac ("H2O)	-16.80	-42.49	-49.50	-44.50	-23.84	-46.77	-40.65	-30.66	-44.93		-54.86	-30.32
	Lat Vac ("H2O)	-30.90	-44.70	-50.20	-45.10	-25.50	-47.50	-42.70	-31.20	-45.50		-53.90	-30.40
	CH4 (%)	62.10	58.80	50.20	51.90	58.90	58.70	59.10	53.80	56.70		55.80	57.00
	CO2 (%)	37.40	40.10	35.60	32.70	37.30	40.00	39.00	34.60	37.30		37.20	35.70
	O2 (%)	0.50	0.00	0.40	0.60	0.50	0.20	0.40	1.80	0.00		0.10	0.20
	Max Velocity (m/s)	1.00	0.70	0.80	0.90	0.90	1.20	1.50	1.90	1.40		0.80	0.90
	Min Velocity (m/s)	0.90	0.50	0.70	0.80	0.70	1.10	1.40	1.80	1.20		0.70	0.70
	Temp (°C)	7.00	12.80	9.5	9.30	12.30	36.50	18.00	6.30	30.10		13.80	4.10
	Flow (cfm)	9.18	5.80	7.25	8.21	7.73	11.11	14.01	17.87	12.56	0.00	7.25	7.73
	Comments	cracked->1/4T	1/4T	1/4T	1/4T	1/4T	1/4T->1/2T	1/2T	1/2T->3/4T	3/4T		3/4T->1T	1T
PDT (cycles)	PDT1	162026	163097	164010	164904	166664	167999	168340	168530	168964		171903	172932
	PDT2	338	338	340	340	553	556	1012	1042	1432		1475	1475
	PDT3	57363	60151	62056	62104	65520	67667	68839	70153	70889		71136	71136
	PDT4	711829	712077	712112	712146	712177	712177	712177	712177	712177		712457	712462
	Cond. Chamber	539575	541294	541294	542350	542670	543517	545150	546620	546917			546917
	Total cycles since last round	2732	5826	2855	5740	4332	3602	3004	3004	1797			
Approximate volume	6010.4	12817.2	6281	4470.4	12628	9530.4	7924.4	6608.8	3953.4				

Table 4: 2024 Water Levels

Water Levels - Oxford County

				04-Mar-24				13-Jun-24				11-Sep-24				25-Nov-24			
	Installed (m)	Screen (m) *	Riser to ground surface	DTW (m)	DTB (m)*	Percent Open Well (%)	Percent Open Screen (%)	DTW (m)	DTB (m)*	Percent Open Well (%)	Percent Open Screen (%)	DTW (m)	DTB (m)*	Percent Open Well (%)	Percent Open Screen (%)	DTW (m)	DTB (m)*	Percent Open Well (%)	Percent Open Screen (%)
GW 1-H	13.26	10.21	3.05	4.50	11.05	83.3%	14.2%	8.54	11.20	84.5%	53.8%	7.23	11.11	83.8%	40.9%	7.05	10.64	80.2%	39.2%
GW 2-H	15.24	12.19	3.05	3.78	12.85	84.3%	6.0%	9.88	13.41	353.0%	56.0%	7.45	13.21	86.7%	36.1%	6.42	12.62	82.8%	27.6%
GW 3-1	8.94	5.89	3.05	5.90	8.30	92.8%	48.4%	6.60	8.22	162.0%	60.3%	6.13	8.29	92.7%	52.3%	5.71	8.20	91.7%	45.2%
GW 4	16.76	13.72	3.05	5.03	11.75	70.1%	14.4%	8.87	12.45	358.0%	42.4%	8.21	12.35	73.7%	37.6%	6.89	11.58	69.1%	28.0%
GW 5	10.67	7.62	3.05	7.70	10.30	96.5%	61.0%	7.49	9.50	201.0%	58.3%	7.01	10.10	94.7%	52.0%	3.78	9.97	93.4%	9.6%
GW 6	13.11	10.06	3.05	6.15	13.12	100.1%	30.8%	10.45	13.50	305.0%	73.6%	5.96	13.35	101.8%	28.9%	5.79	13.05	99.5%	27.2%
GW 7	16.76	13.72	3.05	5.61	15.66	93.4%	18.7%	11.22	15.10	388.0%	59.5%	4.81	13.20	78.8%	12.8%	6.19	13.01	77.6%	22.9%
GW 8-H	10.54	7.49	3.05	5.58	7.25	68.8%	33.8%	5.65	7.20	155.0%	34.7%	5.30	7.26	68.9%	30.0%	3.81	6.58	62.4%	10.1%
GW 9-2	8.94	5.89	3.05	5.69	7.33	82.0%	44.8%	6.23	7.25	102.0%	54.0%	5.12	7.36	82.3%	35.1%	5.76	6.71	75.1%	46.0%
GW 10-H	12.07	9.02	3.05	4.10	10.76	89.1%	11.6%	7.99	10.86	287.0%	54.8%	4.99	10.82	89.6%	21.5%	4.27	6.00	49.7%	13.5%
GW 11	13.72	10.67	3.05	6.03	9.00	65.6%	27.9%	8.00	9.42	142.0%	46.4%	4.39	8.71	63.5%	12.6%	6.07	8.75	63.8%	28.3%
GW 12	13.72	10.67	3.05	5.14	12.10	88.2%	19.6%	9.55	12.30	275.0%	60.9%	3.98	12.15	88.6%	8.7%	6.22	11.86	86.4%	29.7%
GW 13-H	10.21	7.16	3.05	8.48	10.00	97.9%	75.8%	9.00	10.12	112.0%	83.1%	4.73	9.76	95.6%	23.5%	8.23	9.48	92.9%	72.3%
GW 14	14.99	11.94	3.05	5.30	13.86	92.5%	18.8%	10.61	14.02	341.0%	63.3%	2.69	13.66	91.1%	-3.0%	4.66	13.17	87.9%	13.5%
GW 15	14.88	6.71	3.05	8.91	13.65	91.7%	87.3%	10.61	13.60	299.0%	112.7%	5.36	13.24	89.0%	34.4%	5.79	13.23	88.9%	40.8%
GW 16-3	9.75	6.71	3.05	7.99	9.70	99.5%	73.6%	7.87	9.71	184.0%	71.8%	4.27	9.48	97.2%	18.2%	6.04	9.51	97.5%	44.6%
GW 17-H	13.72	10.67	3.05	7.44	13.50	98.4%	41.1%	9.15	13.56	441.0%	57.2%	4.56	13.36	97.4%	14.2%	5.49	13.20	96.2%	22.9%
GW 18-4	10.52	7.47	3.05	5.88	9.10	86.5%	37.9%	6.26	9.05	279.0%	43.0%	9.23	9.11	86.6%	82.7%	5.15	8.84	84.0%	28.1%

## **4.0 2024 MAINTENANCE SUMMARY**

In 2024, system maintenance was conducted in accordance with the Maintenance and Monitoring Schedule attached in Appendix B. The Maintenance Schedule was developed in accordance with the manufacturers' recommendations for preventative maintenance. These schedules outline the work and frequency of the tasks required for all components of the system. Any potential problems observed while conducting the routine maintenance were addressed in a timely manner. This schedule was originally published in the Operating Procedures and Maintenance Program Manual for the LGCFS created during plant construction.

The maintenance program for the LGCFS consists of three major parts: the Landfill Gas Wellfield System, the Mechanical System, and the Flare and Control System. The following sections summarize the maintenance completed on these individual components.

### **4.1 Wellfield System**

All activities outlined in the Operation and Maintenance schedules were carried out as recommended. Various other wellfield system activities occurred throughout 2024 and are further described below.

With the gas collection system having temporary "Big O" drainage tile type piping connections above ground, the system is susceptible to wind and freezing. During high wind conditions, the "Big O" piping is often blown apart and the system shuts down on a high oxygen alarm. In addition to wind being problematic with the temporary piping, cold temperatures can also be a problem. When the moist warm gas comes above ground into this piping, condensate forms and can often block the pipe and freeze solid. The piping has to be drained or replaced depending on temperature conditions.

In 2024, the Big-O piping required repairs and maintenance to maintain the system and operation of the flare. On March 13<sup>th</sup>, the flare was shut down so that the Big-O lines could be drained of accumulated condensate that was causing surging and negatively impacting the gas quality at the flare. Starting in June 2024, small repairs to the Big-O piping were frequently made when Comcor was on-site for flare restarts and monitoring. On August 6<sup>th</sup>, a new roll of Big-O was purchased and subsequently used to replace several of the Big-O sections that continued to crack and require repairs.

On September 9<sup>th</sup>, high oxygen was observed at the flare and the typical sources of oxygen intrusion were investigated. Once it was confirmed that there were no leaks in the Big-O piping or any of the pump drain traps (PDTs) the wellheads were investigated. It was eventually determined that the gate valve housing on GW9-2 was the source of the leak. The downstream flow control (FC) was then utilized to isolate this well until a replacement gate valve could be installed on October 18<sup>th</sup>.

On February 1<sup>st</sup>, it was noted that the condensate chamber was not pumping down consistently due to a check valve on the pump getting stuck. The pump was removed for inspection and reinstalled as no major issues were noted. Comcor has continued to monitor the operation of this pump, and will replace when necessary.

The goal of the gas collection system is to maximize gas collection, minimize odours and reduce greenhouse gas emissions. With this in mind, the individual wells are adjusted to maximize flow and maintain a sustainable gas concentration for the flare to operate within the standards outlined in the ECA (Air). Wells with gas below 35% methane are closed or throttled until a sustainable production level is reached. Wells with approximately 50% are opened over consecutive monitoring events until a sustainable production level is reached. The actions taken during each monitoring round can be seen in Table 3: 2024 Field Monitoring Data.

## **4.2 Mechanical System**

All activities outlined in the Operation and Maintenance schedules were carried out as recommended. There was also minor work conducted throughout 2024 to improve the flare operation and maintain the flare.

In 2023, the air compressor was offline for an extended duration for repairs and a portable air compressor was used in the interim. This continued until January 25<sup>th</sup>, 2024 when the air compressor was repaired and restarted. Periodic air compressor shutdowns then occurred in February until a new 120V coil was installed on February 14<sup>th</sup>. On April 17<sup>th</sup> an oil leak was noted within the air compressor that ultimately led to Atlas Copco completing an overhaul on the existing air compressor. Atlas Copco was contacted again for an air compressor service on November 25<sup>th</sup> as the air dryer had a persistent fault and alarm. Due to the age of the air compressor, Comcor recommended that the County should consider replacing the unit and a budget for a new air compressor was developed. The air compressor replacement is anticipated to be a part of the Capital Maintenance / Replacement project occurring in 2025.

As part of the Operation and Maintenance schedule, Comcor completes visual inspections of the flare including the burner tips, insulation, paint, concrete, and ladder safety rail. These visual inspections help determine when any additional maintenance may be required. In August 2024 it was noted that some rust spots on the flare have developed. These spots have been noted to monitor but no immediate actions were required.

## **4.3 Flare and Control System**

Throughout the year, the HMI computer continually logged all control information during flaring operations including gas concentrations, flare temperatures, and runtimes. On occasion, there were minor repairs or maintenance required due to improperly operating valves, gauges (knock out pot), sensors (i.e. heat trace, oxygen, carbon dioxide), and various errors/faults/failures (i.e. analyzer, pilot flame, purge blower). Due to the age of the controls system in place, a budget was developed for the replacement of controls system, including the building as part of the Capital Maintenance / Replacement project. The Capital Maintenance / Replacement project is anticipated to occur in 2025 and includes replacement of the gas analyzer, replacement of the air compressor, controls upgrades, and connecting to 3 phase power that was recently brought to site.

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In 2023, Comcor worked with Enviro EMD to improve the flares performance with the lower LFG quantities. The initial results in December 2023 were positive with increased flare runtimes and this continued in 2024. Flare runtimes were notably higher throughout the year indicating that the modifications have proved beneficial.

Issues with the ignitor and pilot flame were experienced in January 2024 when trying to restart the flare. Ice within the ignitor and conduit for the spark plug wiring was identified and once resolved, restored function to the ignitor. Further issues with generating a pilot flame were experienced so the propane regulator was replaced which ultimately resolved the issue. Additional repairs to the ignitor were made on July 15<sup>th</sup> & September 18<sup>th</sup> and involved the replacement of the ignitor wiring sheath and re-gapping the ignitor respectively.

In April it was noted that the lower thermocouple had stopped functioning correctly and prevented the flare from running due to temperature alarms. The thermocouple was then replaced at this time.

To maintain the gas analyzer, the H<sub>2</sub>S scrubber beads were replaced as required and quarterly service and calibration was performed by Novatech. In April 2024, a new O<sub>2</sub> sensor was sourced and replaced by EnvironEMD. During a calibration on June 24<sup>th</sup>, it was then noted that the sensor required additional repairs that were completed the following month on July 15<sup>th</sup>. A new gas analyzer is anticipated to be included as part of the Capital Maintenance / Replacement project that is set to occur in 2025.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

1. Although there is declining gas quantity/quality in the existing wellfield area, the LGCFS operated as intended in 2024.
2. The monitoring and maintenance schedule should be continued in order to maintain collection of landfill gas and safe operation of the Landfill Gas Collection and Flaring System. The system also must be monitored and maintained in order to remain in compliance with regulatory agency approvals.
3. The temporary portion of the wellfield should be replaced with permanent buried HDPE to prevent condensate accumulation, freezing, and breakage that all contribute to increased downtime, restarts and reduced collection efficiency.
4. Once the ECA amendment application is approved, the planned wellfield expansion should be prioritized to increase gas collection and reduce surface emissions. Filling in the future expansion areas should be prioritized to accommodate the phased installations of the remaining wellfield.

All of which is Respectfully Submitted,

**COMCOR ENVIRONMENTAL LIMITED**



Ian Censner  
Engineering Project Coordinator



Luxon Burgess, CET, LET  
Supervisor, Wellfield Operations

**APPENDIX A**

Ministry of the Environment, Conservation and Parks Environmental Compliance Approval  
(Waste) No. A070808



**AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER A070808

Issue Date: November 7, 2013

County of Oxford  
21 Reeve St  
Post Office Box, No. 1614  
Woodstock, Ontario  
N4S 7Y3

Site Location: Salford Landfill  
Lot 11 & 12, Concession 2  
South-West Oxford Township, Restructured County of Oxford

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

*the use and operation of a **43.7 hectare** (108 acre) Waste Fill Area within a total Site area of **89.44 hectares** (221 acres)*

*For the purpose of this environmental compliance approval, the following definitions apply:*

**DEFINITIONS**

"Approval" means this Environmental Compliance Approval No. A070808, including all items, conditions and Schedules attached to and forming part of this Approval, as amended by the Director;

"Director" means any Ministry employee appointed in writing by the Minister pursuant to Section 5 of the EPA as a Director for the purpose of Part II.1 of the EPA;

"District Manager" means the District Manager of the local district office of the Ministry in which the Site is geographically located;

"EPA" means Environmental Protection Act, R.S.O. 1990, c. E. 19, as amended;

"MOE" or "Ministry" means the Ontario Ministry of the Environment;

"Operator" means any person, other than the Owner's employees, authorized by the Owner as having the charge, management or control of any aspect of the Site and includes its successors or assigns;

"Owner" means any person that is responsible for the establishment or operation of the Site being approved by this Approval, and includes the County of Oxford, its successors and assigns;

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, C. O.40, as amended;

"PA" means the Pesticides Act, R.S.O. 1990, c. P-11, as amended;

"Provincial Officer" means any person designated in writing by the Minister as a provincial officer pursuant to Section 5 of the OWRA or Section 5 of the EPA or section 17 of PA;

"Regional Director" means the Regional Director of the Southwestern Regional Office of the Ontario Ministry of the Environment;

"Regulation 347" or "Reg. 347" means Regulation 347, R.R.O. 1990, made under the EPA, as amended;

"Site" or "Facility" means the entire waste disposal site, including the waste fill Area, the buffer lands/contaminant attenuation zone, and all the operations approved by the Approval, as amended and located at part of Lot 11 & 12, Concession 2, South-West Oxford Township, Restructured County of Oxford, known as Salford and or Oxford Landfill; and

"Trained personnel" means personnel knowledgeable in the following through instruction and/or practice:

- relevant waste management legislation, regulations and guidelines;
- major environmental concerns pertaining to the waste to be handled;
- occupational health and safety concerns pertaining to the processes and wastes to be handled;
- management procedures including the use and operation of equipment for the processes and wastes to be handled;
- emergency response procedures;
- specific written procedures for the control of nuisance conditions;
- specific written procedures for refusal of unacceptable waste loads; and
- the requirements of the Approval.

*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

## **1.0 GENERAL**

### **Compliance**

1.1 The Owner/Operator shall ensure compliance with all the conditions of this Approval and shall ensure that any person authorized to carry out work on or operate any aspect of the Site/System is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same. Any noncompliance constitutes a violation of the EPA, R.S.O. 1990 and is grounds for enforcement.

### **In Accordance**

1.2 Except as otherwise provided for in this Approval, the Site shall be designed, developed, used, operated and maintained, and all facilities, equipment and fixtures shall be built and installed, in accordance with the documentation listed in the attached Schedule "A" and the terms and conditions of this Approval.

1.3 The requirements specified in this Approval are the requirements under the EPA, R.S.O. 1990. The issuance of this Approval in no way abrogates the Owner's legal obligations to take all reasonable steps to avoid violating other applicable provisions of this legislation and other legislation and regulations.

### **Interpretation**

1.4 (a) Where there is a conflict between a provision of any document, including the application, referred to in Schedule "A" of this Approval, and the conditions of this Approval, the conditions in this Approval shall take precedence.

(b) Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the Ministry approved the amendment.

(c). Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.

1.5 The conditions of this Approval are severable. If any condition of this Approval, or the application of any condition of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

### **Adverse Effect**

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1.6 The Owner and Operator shall take steps to minimize and ameliorate any adverse effect on the natural environment or impairment of water quality resulting from the Site, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

1.7 Despite the Owner/Operator or any other person fulfilling any obligations imposed by this Approval the person remains responsible for any contravention of any other condition of this Approval or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

### Notifications

1.8 The Owner shall notify the Director, in writing, and forward a copy of the notification to the District Manager, within 30 days of the occurrence of any changes in the following information:

(a) change of the Ownership and/or Operator of the Site;

(b) change of the address of the Owner or Operator;

(c) the partners, where the Owner or Operator is or at any time becomes a partnership and a copy of the most recent declaration filed under the Business Names Act, R. S. O. 1990, c. B.17, shall be included in the notification;

(d) any change of name of the corporation where the Owner or Operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (Form 1 or 2 of Ontario Regulation 182, Chapter C-39, R.R.O. 1990 as amended from time to time), filed under the Corporations Information Act shall be included in the notification to the Director.

1.9 (a) The Owner/Operator shall, forthwith upon request of the Director, District Manager, or Provincial Officer, furnish any information requested by such persons with respect to compliance with this Approval, including but not limited to, any records required to be kept under this Approval; and

(b) In the event the Owner/Operator provides the Ministry with information, records, documentation or notification in accordance with this Approval (for the purposes of this condition referred to as "Information"),

i. the receipt of Information by the Ministry;

ii. the acceptance by the Ministry of the Information's completeness or accuracy; or

iii. the failure of the Ministry to prosecute the Owner, or to require the Owner to take any action, under this Approval or any statute or regulation in relation to the Information;

shall not be construed as an approval, excuse or justification by the Ministry of any act or omission of the Owner/Operator relating to the Information, amounting to noncompliance with this Approval or any statute or regulation.

1.10 The Owner/Operator shall allow Ministry personnel, or Ministry authorized representative(s), upon presentation of credentials, to carry out any and all inspections authorized by the Environmental Protection Act, R.S.O. 1990, and the Ontario Water Resources Act, R. S. O. 1990 or the Pesticides Act, R. S. O. 1990, as amended, of any place to which this Approval relates and without restricting the generality of the foregoing to:

(a) enter upon the premises or the location where the records required by the conditions of this Approval are kept;

(b) have access to and copy, at any reasonable time, any records required by the conditions of this Approval;

(c) inspect at reasonable times any facilities (including monitoring and control equipment), equipment, practices or operations required by the conditions of this Approval; and

(d) sample and monitor at reasonable times for the purposes of assessing compliance with the conditions of this Approval.

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1.11 All records and monitoring data required by the conditions of this Approval shall be kept on the Owner's premises for a minimum period of two (2) years from the date of their creation.

1.12 The Owner/Operator shall ensure that all communication made pursuant to this Approval refers to the Approval No. A070808.

1.13 Any information relating to this Approval and contained in Ministry files shall be made available to the public in accordance with the provisions of the Freedom of Information and Protection of Privacy Act, R.S.O. 1990, C. F-31.

### **2.0 SITE DESIGN, DEVELOPMENT AND OPERATION**

2.1 (a) The Site shall be designed, operated and maintained at all times, in accordance with the EPA, Regulation 347, the conditions of this Approval, report entitled Oxford County Salford Landfill Site Design and Operations Report, prepared by M.M. Dillon Limited, dated September 12, 1984, and revised on June 17, 1986 and report entitled County of Oxford, Oxford Landfill Site, Amendment to 1986 Design and Operation Report, prepared by R.J. Burnside & Associates Limited, dated April 2013, included in Schedule "A" as Items 6 and 7.

(b) The combined capacity of North Fill Area and South Fill Area, including waste, daily, and final cover, shall not exceed 5,900,000 cubic metres, as represented by final contours in Figure 5, Item 7 of Schedule "A".

(c) Two years prior to North Fill Area reaching final capacity and before South Fill Area is to be utilized, the Owner shall submit to the Director, a complete design and operation plan for utilization of the approved capacity in the South Fill Area.

### **DAILY, INTERMEDIATE AND FINAL COVER**

2.2 Waste shall be deposited in the fill area in an orderly manner. All waste shall be compacted and then covered in accordance with the following schedule:

(a) (i) Soil cover material with a minimum thickness of 150 mm or an equivalent thickness of alternative cover material as approved by the Director shall be placed over the entire working face at the end of each operating day;

(ii) The Owner shall ensure that a minimum cover material supply equal to two days requirements is maintained at the Site to ensure that adequate cover is always available.

(b) Interim cover consisting of a minimum thickness of 300 mm of soil cover or an equivalent thickness of alternative cover material as approved by the Director shall be placed on areas where landfilling has been temporarily discontinued for six months or more.

(c) In areas where landfilling has reached final contours, final cover shall be applied within two years in accordance to details outlined in Item 6 of Schedule "A".

(d) The landfilling area shall be inspected monthly for erosion of the interim and final cover material. Appropriate corrective measures shall be undertaken by the Owner within 5 working days, weather permitting, after an erosion problem is identified.

2.3 The Owner shall ensure that there is no burning of waste at the Site.

2.4 The Owner shall ensure that there is no uncontrolled scavenging of waste at the Site.

### **WASTE DIVERSION FACILITIES**

2.5 (a) Diversion Facilities shall be operated and maintained as outlined in Section 2.1, Item 7 of Schedule "A".

(b) The Owner shall ensure that the Site and the Diversion facilities are operated and maintained such that the vermin, vectors, dust, litter, odour, noise and traffic do not create a nuisance.

(c) The Owner shall ensure that all white goods containing refrigerants are stored in a segregated area in an upright position and in a manner that allows for safe handling and removal of refrigerants as required by O. Reg. 189, until refrigerant has been drained and item has been tagged by a licensed contractor.

#### **SITE INSPECTIONS AND RECORD KEEPING**

2.6 (a) An inspection of the working area of the Site and all active equipment shall be conducted each day the Site is in operation to ensure that the Site is being operated in compliance with this Approval. Any deficiencies discovered as a result of the inspection shall be remedied immediately, including temporarily ceasing operations at the Site if needed.

- (b) A record of the inspections shall be kept in a daily log book or a dedicated electronic file that includes:
- a. the name and signature of person that conducted the inspection;
  - b. the date and time of the inspection;
  - c. the list of any deficiencies discovered;
  - d. the recommendations for remedial action; and
  - e. the date, time and description of actions taken.

#### **SITE SECURITY AND ACCESS**

2.7 (a) The Owner shall construct adequate fence and gate to secure Site from unauthorized access. During non-operating hours, the Site entrance and exit gates shall be locked and the Site shall be secured against access by unauthorized persons

(b) Access roads and on-Site roads shall be provided and maintained in a manner that vehicles hauling waste to and on the Site may travel readily and safely on any operating day. During winter months, when the Site is in operation, roads must be maintained to ensure safe access to the landfill working face. Access roads must be clear of mud, ice and debris which may create hazardous conditions.

#### **COMPLAINT PROCEDURE**

2.8 If at any time, the Owner receives complaints regarding the Site, the Owner shall respond to these complaints according to the following procedure:

- (a) The Owner shall record and number each complaint, either electronically or in a log book, and shall include the following information: the nature of the complaint, the name, address and the telephone number of the complainant (if the complainant will provide this information) and the time and date of the complaint;
- (b) The Owner shall initiate appropriate steps to determine all possible causes of the complaint, proceed to take the necessary actions to eliminate the cause of the complaint if applicable and forward a formal reply to the complainant; and
- (c) The Owner shall complete and retain on-site a report written within two (2) weeks of the complaint date, listing the actions taken to resolve the complaint if applicable and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents.

#### **GROUNDWATER AND SURFACE WATER MONITORING**

2.9 (a) The Owner shall ensure that all groundwater monitoring wells which form part of the monitoring program are properly capped, locked and protected from damage.

(b) Monitoring wells shall be inspected during groundwater monitoring events and any changes in the physical condition of each well shall be documented. Necessary repairs shall be undertaken, as needed. If a monitoring well is greatly damaged and cannot reasonably be repaired, the District Manager shall be notified and the well shall be properly abandoned. The well shall be replaced by a new monitoring well if directed by the District Manager to do so in accordance with O. Reg. 903.

(c) All monitoring wells which are no longer required as part of the groundwater monitoring program, and have been

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approved by the District Manager for abandonment, shall be decommissioned by the Owner, as required, in accordance with O.Reg. 903. A report on the decommissioning of the well shall be included in the Annual Report for the period during which the well was decommissioned.

2.10 The Owner shall conduct groundwater and surface water monitoring at the Site in accordance with the details outlined in Section 3.2, Item 7 of Schedule "A" and as listed in the following table:

<b>Groundwater Monitoring Locations</b>	<b>Frequency</b>	<b>Parameters</b>
00-03, 022R, 023R, 101R, 111, 141R, 191, 231R, 232R, 233R, 263R, 381R, 531R, 541(new well to be drilled in Lower Till), 551R, 552R, 561, 562, 571, 581, 591(new well to be drilled west of 591 with screens in Fractured Till, Upper Till, and Inter-Till Sand), 998, 999 (bedrock well), 03-08 (existing leachate well), and proposed South Fill Area leachate well when it is developed	Twice per year	pH, Conductivity, Hardness, Chloride, DOC, Alkalinity, Carbonate, Bicarbonate, Nitrate, Nitrite, Sulphate, Calcium, Potassium, Magnesium, Sodium, Phenols, Fluoride, colour and turbidity
Private Wells: 902, 904, 906, 907, 908, 909, 911, 912, 913, 916, 917, 918, 920, 921, 922	Once per year	pH, Conductivity, Hardness, Chloride, DOC, Phenols, Fluoride, colour and turbidity
Leachate Sampling: all accessible collection system manholes	Once per year	pH, Conductivity, Hardness, Chloride, DOC, Phenols, Fluoride, colour and turbidity

<b>Surface Water Monitoring Locations</b>	<b>Frequency</b>	<b>Parameters</b>
SW1 (971), Sediment Basin A SW4(974), Wet area at Manicom boundary, 11/12 lot line SW7(977), Sediment Basin B SW8(978), Hooper Drain catchbasin upstream of site SW9(979), Hooper Drain manhole downstream from site	Four times per year	pH, Conductivity, Hardness, Chloride, DOC, Phenols, Fluoride, colour and turbidity
To be added when South Fill Area is developed: SW2(972), Pond at Bartram boundary, 10/11 lot line SW5(975), Culvert at Hwy 19 on Anscombe Drain	Four times per year	pH, Conductivity, Hardness, Chloride, DOC, Phenols, Fluoride, colour and turbidity

2.11 The Owner shall follow trigger mechanisms outlined in Section 3.3.1 Item 7 of Schedule "A".

**CHANGES TO THE MONITORING PLAN**

2.12 (a) The Owner may request changes to the monitoring program(s) to the District Manager in writing.

(b) Within fourteen (14) days of receiving the written correspondence from the District Manager confirming that the District Manager is in agreement with the proposed changes to the environmental monitoring program, the Owner shall



forward a letter identifying the proposed changes and a copy of the correspondences from the District Manager and all other correspondences and responses related to the changes to the monitoring program, to the Director requesting the Approval be amended to approve the proposed changes to the environmental monitoring plan prior to implementation.

### **3.0 LANDFILL GAS COLLECTION AND FLARING SYSTEM**

3.1 A landfill gas collection system, comprising vertical gas extraction wells, a network of sub-laterals, laterals and perimeter header piping, and a flaring facility, shall be constructed and operated, in accordance with the conceptual design and operation described in Section 2.1 in the Design Report, Item 1 in Schedule "A", as amended by Item 3 in Schedule "A", attached to this Approval.

3.2 The landfill gas collection and flaring system, phase 1, shall be constructed and operated in accordance with the detailed design and development, as described in Section 2.2 in Item 1 in Schedule "A", as amended by Item 3 in Schedule "A", attached to this Approval.

3.3 Detailed design in phase 2 and all subsequent phases of the landfill gas collection and flaring system, shall be submitted by the Owner/Operator, for the approval of the Director, with copies to the District Manager, prior to construction. The detailed design, development drawings and specifications, shall reflect the conceptual design of the landfill gas collection and flaring system, as presented in Item 1 in Schedule "A", as amended by Item 3 in Schedule "A", attached to this Approval. Any design optimization or modification shall be clearly identified, along with an explanation of the reasons for the change.

3.4 The detailed Phase 2 design shall, at a minimum include the following:

- (a) full-scale design drawings and specifications, including profiles, site plan showing all engineered facilities associated with the headers, laterals and sub-laterals, and material descriptions and requirements for delivery, storage, installation and sampling;
- (b) detailed quality assurance/quality control (QA/QC) program for construction of the landfill gas collection and flaring system ;
- (c) details of nuisance control programs and necessary precautions to avoid disturbance to the natural environment caused by the operation of the landfill gas collection and flaring system;
- (d) details on the monitoring, maintenance, repair and replacement of components of the landfill gas collection and flaring system, as necessary; and
- (e) contingency plans for environmental controls.

3.5 The Owner shall operate and maintain the landfill gas collection and flaring system in accordance with Operation and Maintenance Manual, Landfill Gas Collection and Flaring System, Oxford County Landfill Site, prepared by Comcor Environmental Limited, dated January 17, 2011, Items No. 5 of Schedule "A".

3.6 During construction of the landfill gas collection system, the Owner/Operator shall implement as a minimum, odour control plan described in Item 3 in Schedule "A", attached to this Approval. The effectiveness of the odour control plan shall be monitored and evaluated regularly, and updated or amended as necessary, based on operational experience and odour complaints received.

3.7 After commissioning the landfill gas collection and flaring system, the Owner/Operator shall prepare and submit to the District Manager, with copies maintained at the Site, a written report covering any significant landfill gas collection system expansion or modification. The report shall detail the construction activities, QA/QC program carried out for the construction, as-built drawings of the landfill gas collection and flaring system to date, including a description and reasons for any changes to the design of the landfill gas collection and flaring system.

### **4.0 LANDFILL GAS COLLECTION AND FLARING SYSTEM OPERATION**

4.1 Prior to implementation of any changes in the landfill gas collection and flaring system operation, that may result in

activities not specified in the Design Report, Item 1, in Schedule "A", as amended in Item 3 in Schedule "A", attached to this Approval, or in this Approval, and that may likely cause the discharge of contaminant to the natural environment, the Owner/Operator shall obtain approval from the Director.

4.2 The Owner/Operator shall maintain records of landfill gas flow. Such records shall be made available for inspection upon request by a Provincial Officer.

4.3 In the event of a discharge of a contaminant, including landfill gas, landfill gas condensate, etc., the Owner/Operator shall immediately notify the District Manager and the Ministry's "Spills Action Centre", and advise of actions being taken to contain, control and ameliorate the situation.

4.4 For any situation when landfill gas is not being collected and incinerated and which cannot be rectified within 48 hours, the Owner/Operator shall notify the District Manager and advise of actions being taken to contain, control and ameliorate the situation.

4.5 Any gas extraction well that needs to be replaced due to damage or the well is deemed to be not functioning properly, the Owner/Operator shall replace the gas extraction well within a reasonable time frame of identifying the need for replacement. Any such changes to the gas extraction system shall be documented in the Annual Report.

4.6 The Owner/Operator shall carry out odour and landfill gas management, as well as the rehabilitation of the Site, in accordance with a report entitled "Landfill Gas and Odour Management Plan", Item 4 in Schedule "A", attached to this Environmental Compliance Approval.

4.7 The Owner/Operator shall document and include in the subsequent Annual Report, the results of the emissions survey completed. The reporting on the emissions survey shall, as a minimum, include tabulated results, drawing showing survey grid nodes, and a site map showing colour-coded concentration levels of landfill gas emissions based on the results of the surface emissions survey.

## **5.0 LANDFILL GAS ENVIRONMENTAL CONTROL, MONITORING/INSPECTION AND MAINTENANCE**

5.1 The Owner/Operator shall carry out monitoring program for landfill gas to monitor the performance of the landfill gas collection and flaring system, as described in Item 1 in Schedule "A", as amended in Item 3 in Schedule "A", attached to this Approval, and as per written recommendations of the District Manager, through the review of Annual Monitoring Reports, and any related EPA requirements.

5.2 Components of the active gas collection system shall be monitored on an as-needed basis, with a routine frequency of once per month for the full collection field. Any observed deficiencies/problems shall be repaired as soon as practicable and a summary of remedial actions carried out, shall be reported in the Annual Monitoring Report.

### **Subsurface Migration of Combustible Gas**

5.4 Buildings and structures existing or to be built on Site shall be situated, constructed and monitored in a manner which minimizes the potential for explosive hazards due to combustible gas. Appropriate methane detection and alarm equipment, shall be installed and maintained for all enclosed unvented buildings and/or structures on Site, which at times are occupied by people.

Note: For the purposes of Condition 5.4, vented building or structure is a building or structure built with its floor sealed and elevated above ground and having adequate air space underneath the floor of the building or structure.

5.5 Subsurface migration of combustible methane gas shall meet the following limits, as required by Ontario Reg. 232/98:

(a) The concentration of methane gas must be less than 2.5 percent by volume at the limits of the property boundary.

(b) The concentration of methane gas must be less than 1.0 percent by volume in any on-site building or enclosed structure, and in the area immediately outside the foundation or basement floor of the building or structure that is located on Site, if the building or structure is accessible by people or contains electrical equipment or a potential source

of ignition.

(c) Sub-condition (b) does not apply to a leachate collection, storage or pumping station or a landfill gas collection and/or treatment facility for which specific Occupational Health and Safety measures and procedures relating to the risk of asphyxiation and the risk of explosion, must be followed.

d) The concentration of methane gas from the Site in any off-Site building or enclosed structure, and in the area immediately outside the foundation or basement floor of the building or structure, if the building or structure is accessible by people or contains electrical equipment or a potential source of ignition, must be less than 0.05% by volume.

5.6 If a measured gas concentration at any specific compliance location, reaches the applicable limit identified in Sub-conditions 5.5 (a) and (b) above, or if a notification is given that gas concentration has reached the limit specified in Sub-condition 5.5(d), above, the reading shall be re-measured immediately and daily for a period of up to three (3) consecutive days. If these readings confirm an exceedance of the applicable limit, the District Manager shall be notified immediately, and appropriate control measures shall be implemented as soon as possible thereafter.

## **6.0 ANNUAL REPORT**

6.1 By April 30th following the end of each operating year, the Owner/Operator shall prepare and submit to the District Manager an annual report, covering the previous calendar year. The report shall include, as a minimum, the following information:

- (a) a survey of the Site's waste disposal area, drawings showing areas of fill, buffer areas, current landfilling area contours, percentage of available space utilized, and an estimate of the remaining disposal capacity;
- (b) a summary of the quantities of waste received;
- (c) a drawing(s) indicating all groundwater, surface water and gas monitoring locations;
- (d) tables outlining monitor locations, analytical parameters sampled and frequency of sampling;
- (e) the results and an interpretive analysis of the results of all monitoring at the Site including groundwater, surface water, leachate and landfill gas monitoring, and an assessment of the need to amend the monitoring program or to develop and implement contingency measures;
- (f) review and assessment of any environmental and operational problems, that could negatively impact the environment, encountered during the operation of the Site and during Site inspections and any mitigative actions taken;
- (g) a summary of any public complaints received by the Owner/Operator and the responses made;
- (h) a statement as to compliance with all Conditions of this Approval and all applicable Ministry Acts, Regulations, Guidelines, including Guideline B-7, Incorporation of the Reasonable Use Concept Into MOEE Groundwater Management Activities, (MOEE 1994), and Ontario Provincial Water Quality Objectives;
- (i) any recommendations to minimize environmental impacts from the operation of the Site and to improve Site operations and monitoring programs in this regard; and
- (j) any other information with respect to the Site which the District Manager may require from time to time.

## **7.0 CLOSURE PLAN**

7.1 At least 2 years prior to the anticipated date of closure of this Site or any aspect of the operations at the site, the Owner shall submit to the Director for approval, with copies to the District Manager, a detailed site closure plan pertaining to the termination of landfilling operations and/or any aspect of the operations at this Site, post-closure inspection, maintenance and monitoring, and end use. The plan shall include but not limited to the following:

- (a) a plan showing Site appearance after closure;
- (b) a description of the proposed end use of the Site;
- (c) a description of the procedures for closure of the Site;
- (d) advance notification of the public of the landfill closure;
- (e) posting of a sign at the Site entrance indicating the landfill is closed and identifying any alternative waste disposal arrangements;
- (f) completion, inspection and maintenance of the final cover and landscaping;
- (g) site security;
- (h) removal of unnecessary landfill-related structures, buildings and facilities; and

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- (i) final construction of any control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
- (j) a schedule indicating the time-period for implementing sub-conditions (a) to (e) above.
- (k) description of the procedures for post-closure care of the Site, including operation, inspection and maintenance of the control, treatment, disposal and monitoring facilities for leachate, groundwater, surface water and landfill gas;
- (l) record keeping and reporting; and
- (m) complaint contact and response procedures;
- (n) an assessment of the adequacy of and need to implement contingency plans for leachate and methane gas; and
- (o) an updated estimate of the contaminating life span of the Site, based on the results of the monitoring programs to date.

7.2 Within ten (10) days after closure of the Site, the Owner shall notify the Director, in writing, that the Site is closed and that the Site Closure Plan has been implemented.

***The following documentation hereby forms Schedule "A", and part of Approval No. A070808.***

1. Report entitled "Ontario Regulation 347 Design Report, Oxford County Landfill Site, Salford, Ontario", dated June 26, 2009.
2. Application for Provisional Certificate of Approval for a Waste Disposal Site, Installation and Operation of Landfill gas Collection and Flaring System, dated March 29, 2010, signed by Robert Walton, Director of Public Works, County of Oxford.
3. Letter dated April 15, 2010, from Denise Burgess, Comcor Environmental Limited to Dickson Odame-Osafo, Ministry of the Environment, Re: response to MOE comments on the design report.
4. Report entitled "Landfill Gas and Odour Management Plan, Landfill Gas Collection and Flaring System, Oxford County Landfill Site" Salford, Ontario, dated March 15, 2011, prepared by COMCOR Environmental Limited.
5. Report entitled "Operation and Maintenance Manual, Landfill Gas Collection and Flaring System, Oxford County Landfill Site", prepared by Comcor Environmental Limited, dated January 17, 2011.
6. Report entitled "Oxford County Salford Landfill Site Design and Operations Report", prepared by M.M. Dillon Limited, dated September 12, 1984, and revised on June 17, 1986.
7. Report entitled "County of Oxford, Oxford Landfill Site, Amendment to 1986 Design and Operation Report", prepared by R.J. Burnside & Associates Limited, dated April 2013.

*The reasons for the imposition of these terms and conditions are as follows:*

1. The reasons for **Conditions 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.9, 1.11, 1.12, and 1.13** are to clarify the legal rights and responsibilities of the Owner and Operator under this Approval.
2. The reasons for **Conditions 2.1(a), 3.2, 3.3 and 4.2** are to ensure that the Site is designed, operated, monitored and maintained in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider.
3. The reason for **Condition 1.8** is to ensure that the Site is operated under the corporate name which appears on the application form submitted for this approval and to ensure that the Director is informed of any changes.
4. The reason for **Condition 1.10** is to ensure that appropriate Ministry staff has ready access to the Site for inspection of facilities, equipment, practices and operations required by the conditions in this Certificate of Approval. This condition is supplementary to the powers of entry afforded a Provincial Officer pursuant to the EPA and OWRA.
5. The reason for **Condition 2.1(b)** is to specify the site approved capacity.
6. The reason for **Condition 2.1(c)** is to ensure submission of a design and operation plan which will meet the future standards of best practices.
7. The reasons for **Conditions 2.1, 3.1, 3.2, 3.3, 3.4, and 3.5** are to ensure that the Site is designed, constructed and operated in a manner which conforms to current standards of landfill development and operation and as approved..
8. The reason for **Condition 2.2** is to ensure that the waste is covered regularly and that final cover is applied as the site reaches final contours.

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9. The reason for **Condition 2.8** is to ensure that complains are handled properly.
10. The reasons for **Conditions 2.3, 2.4, 2.5, 2.6, and 2.7** are to ensure that the Site is operated, inspected and maintained in an environmentally acceptable manner and does not result in a hazard or nuisance to the natural environment or to any person.
11. The reasons for **Conditions 3.5, 4.1, 4.2, 4.3, and 4.4** are to ensure site is operated in a controlled manner.
12. The reasons for **Condition 3.7, 4.5 and 4.6** are to ensure optimized performance and capture efficiency of the landfill gas collection and control system design, based on operating experience and monitoring results, and to mitigate possible odour impacts from the site.
13. The reason for **Condition 4.7** is to ensure that landfill gas emission data are documented and mapped clearly to identify and remediate areas deficient of landfill gas collection.
14. The reasons for **Conditions 2.9, 2.10, 2.11, 2.12, 5.1 and 5.2** are to demonstrate that the landfill site is performing as designed and the impacts on the natural environment are acceptable. Regular monitoring allows for the analysis of trends over time and ensures that there is early warning of potential problems so that any necessary remedial/contingency action can be taken.
15. The reason for **Condition 5.4** is to ensure protection of public health and safety of people against potential for explosion due to accumulation of landfill gas generated at this Site.
16. The reasons for **Conditions 5.5 and 5.6** are to ensure that landfill gas generated at this Site is managed in an environmentally acceptable manner.
17. The reason for **Condition 6.1** is to ensure that regular review of site operations and monitoring data is documented and any possible improvements to site operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site operations and monitoring.
18. The reasons for **Conditions 7.1 and 7.2** are to ensure that final closure of the Site is completed in an environmentally acceptable manner in order to ensure the long-term protection of the natural environment.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). A070808 issued on August 16, 1983 and all subsequent amendments.**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

CONTENT COPY OF ORIGINAL

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of  
the Environmental Protection Act  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at:  
Tel: (416) 212-6349, Fax: (416) 314-3717 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 7th day of November, 2013

Dale Gable, P.Eng.  
Director  
appointed for the purposes of Part II.1 of the  
*Environmental Protection Act*

NP/  
c: District Manager, MOE London - District  
Kent Hunter, P.Eng., R.J. Burnside & Associates Limited



**AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER A070808

Notice No. 1

Issue Date: July 14, 2015

County of Oxford  
21 Reeve Street  
Post Office Box No. 1614  
Woodstock, Ontario  
N4S 7Y3

Site Location: Oxford County Waste Management Facility  
Lot 11 & 12, Concession 2  
South-West Oxford Township, Restructured County of Oxford

*You are hereby notified that I have amended Approval No. A070808 issued on November 7, 2013 for the use and operation of a **43.7 hectare** (108 acre) Waste Fill Area within a total Site area of **89.44 hectares** (221 acres), as follows:*

The name of the landfill site is hereby changed, as follows;

From: Salford Landfill  
Lot 11 & 12, Concession 2  
South-West Oxford Township, Restructured County of Oxford

To: Oxford County Waste Management Facility  
Lot 11 & 12, Concession 2  
South-West Oxford Township, Restructured County of Oxford

The reason for this amendment to the Approval is as follows:

all in accordance with the application for approval dated March 4, 2015 and received on March 9, 2015.

**This Notice shall constitute part of the approval issued under Approval No. A070808 dated November 7, 2013**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the  
Environmental Protection Act  
Ministry of the Environment and Climate Change  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at:  
Tel: (416) 212-6349, Fax: (416) 314-3717 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 14th day of July, 2015

Dale Gable, P.Eng.  
Director  
appointed for the purposes of Part II.1 of the  
*Environmental Protection Act*

KH/  
c: District Manager, MOECC London District  
Diana Pepall, Comcor Environmental Limited.



## **APPENDIX B**

### Maintenance and Monitoring Schedules



Oxford Landfill  
Operation and  
Maintenance  
Requirements

**WEEKLY**

Date Completed:	GEM Serial Number _____
Completed by (print):	Anemometer Serial Number _____
Signature:	General Weather _____
	Barometric Pressure _____

Piece of equipment	Maintenance item	Details	frequency (hours)	Scheduled event	Approx. time requirement (min)	Comments	Completed (initial)
Air compressor	Check oil level	Ensure oil level is within proper range	50	1weekly	5		
Air compressor	Check DD, PD prefilter	Ensure filters are draining, ensure indicator is in green range	50	1weekly	5		
Air compressor	Inspection	Inspect for pressure, noise, temperature, vibration, etc		1weekly	5		
Air compressor	Record pressure, run hours			1weekly	5	Pressure: _____ Run Hours: _____	
Blower skid	Check vibration	Compare vibration to typical		1weekly	5		
Blower skid	Check bearing temperatures	Compare temperatures to typical		1weekly	5	Drive End: _____ Non-drive end: _____	
Blower skid	Drain blower	Open blower drain valves and remove moisture		1weekly	5	Moisture Present?	
Blower skid	Record operational parameters	Record: vacuum, pressure, flow, CH4, O2, temp, blower number and separator differential pressure		1weekly	5	Gauge: Inlet outlet: VLS Diff: CH4: CO2: O2: Blower#: Flow: Temp:	
Control room	Record operational parameters	Record vacuum, pressure, blower number, CH4, O2, flow, and run hours		1weekly	5	Screen On Arrival: Inlet outlet: Blower#: CH4: O2: Flow: Run Hours:	
Gas analyzer	Check operation	Check pressure gauges, flow meters, heat trace, drier temp, condensate drain, exhaust		1weekly	5		
Wellfield	Drain temporary piping	Drain liquid and inspect piping for leaks		1weekly	240		



Oxford Landfill  
Operation and  
Maintenance  
Requirements

# MONTHLY

Date Completed:	GEM Serial Number _____
Completed by (print):	Anemometer Serial Number _____
Signature:	General Weather _____
	Barometric Pressure _____

Piece of equipment	Maintenance item	Details	frequency (hours)	Scheduled event	Approx. time requirement (min)	Comments	Completed (initial)
Air compressor	Check oil level	Ensure oil level is within proper range	50	1weekly	5		
Air compressor	Check DD, PD prefilter	Ensure filters are draining, ensure indicator is in green range	50	1weekly	5		
Air compressor	Inspection	Inspect for pressure, noise, temperature, vibration, etc		1weekly	5		
Air compressor	Record pressure, run hours			1weekly	5	Pressure: _____ Run Hours: _____	
Air compressor	Clean air filter	Remove and inspect filter, replace when needed	500	2monthly	15		
Air compressor	Check condensate drain	Manually open condensate drain valve to ensure drainage	500	2monthly	5	Moisture Present?	
Air compressor	Check belt tension	Inspect belt tension and wear, replace as needed	500	2monthly	30		
Blower skid	Check vibration	Compare vibration to typical		1weekly	5		
Blower skid	Check bearing temperatures	Compare temperatures to typical		1weekly	5	Drive End: _____ Non-drive end: _____	
Blower skid	Drain blower	Open blower drain valves and remove moisture		1weekly	5	Moisture Present?	
Blower skid	Record operational parameters	Record: vacuum, pressure, flow, CH4, O2, temp, blower number and separator differential pressure		1weekly	5	Gauge: Inlet outlet: VLS Diff: CH4: CO2: O2: Blower#: Flow: Temp:	
Blower skid	Inspection	Inspect for wear: vibration pads, rubber couplings, orange blower/motor coupling,		2monthly	15		
Blower skid	Operate valves	Operate all valves to stops		2monthly	15		
Blower skid	Check vapour liquid separator (VLS)	Check differential pressure, heat trace, drainage		2monthly	5		
Control room	Record operational parameters	Record vacuum, pressure, blower number, CH4, O2, flow, and run hours		1weekly	5	Screen On Arrival: Inlet outlet: Blower#: CH4: O2: Flow: Run Hours:	
Control room	Record operational parameters	Record vacuum, CH4, O2, and flow before and after round		2monthly	5	Screen After Round: Inlet outlet: Blower#: CH4: O2: Flow: Run Hours:	
Flare	Inspect flare	Visual inspection from outside the flare while shutdown including, burner tips, insulation, paint, concrete, ladder safety rail		2monthly	5		
Gas analyzer	Check operation	Check pressure gauges, flow meters, heat trace, drier temp, condensate drain, exhaust		1weekly	5		
Wellfield	Drain temporary piping	Drain liquid and inspect piping for leaks		1weekly	240		
Wellfield	Inspect pump drain traps	Check for operation, leaks, record counter, psi		2monthly	60	PSI Chamber: Counter Chamber: PDT1: PDT2: PDT1: PDT2: PDT3: PDT4: PDT3: PDT4:	
Wellfield	Operate valves	Operate all valves to stops		2monthly	60		
Wellfield	Wellfield monitoring	Gas levels, pressure and flow, valve adjustments		2monthly	240		



Oxford Landfill  
Operation and  
Maintenance  
Requirements  
**QUARTERLY**

Date Completed:	GEM Serial Number _____
Completed by (print):	Anemometer Serial Number _____
Signature:	General Weather _____
	Barometric Pressure _____

Piece of equipment	Maintenance item	Details	frequency (hours)	Scheduled event	Approx. time requirement (min)	Comments	Completed (initial)
Air compressor	Check oil level	Ensure oil level is within proper range	50	1weekly	5		
Air compressor	Check DD, PD prefilter	Ensure filters are draining, ensure indicator is in green range	50	1weekly	5		
Air compressor	Inspection	Inspect for pressure, noise, temperature, vibration, etc		1weekly	5		
Air compressor	Record pressure, run hours			1weekly	5	Pressure: _____ Run Hours: _____	
Air compressor	Clean air filter	Remove and inspect filter, replace when needed	500	2monthly	15		
Air compressor	Check condensate drain	Manually open condensate drain valve to ensure drainage	500	2monthly	5	Moisture Present?	
Air compressor	Check belt tension	Inspect belt tension and wear, replace as needed	500	2monthly	30		
Air compressor	Change air filter	Replace as needed	2000	3quarterly	5		
Air compressor	Change oil	Depressurize compressor, allow to cool, drain oil, fill to specified level	2000	3quarterly	30		
Air compressor	Change oil filter	Change filter when changing oil	2000	3quarterly	15		
Blower skid	Check vibration	Compare vibration to typical		1weekly	5		
Blower skid	Check bearing temperatures	Compare temperatures to typical		1weekly	5	Drive End: _____ Non-drive end: _____	
Blower skid	Drain blower	Open blower drain valves and remove moisture		1weekly	5	Moisture Present?	
Blower skid	Record operational parameters	Record: vacuum, pressure, flow, CH4, O2, temp, blower number and separator differential pressure		1weekly	5	Gauge: Inlet outlet: VLS Diff: CH4: CO2: O2: Blower#: Flow: Temp:	
Blower skid	Inspection	Inspect for wear: vibration pads, rubber couplings, orange blower/motor coupling,		2monthly	15		
Blower skid	Operate valves	Operate all valves to stops		2monthly	15		
Blower skid	Check vapour liquid separator (VLS)	Check differential pressure, heat trace, drainage		2monthly	5		
Blower skid	Change blower grease	Remove old grease and replace	1500	3quarterly	60		
Control room	Record operational parameters	Record vacuum, pressure, blower number, CH4, O2, flow, and run hours		1weekly	5	Screen On Arrival: Inlet outlet: Blower#: CH4: O2: Flow: Run Hours:	
Control room	Record operational parameters	Record vacuum, CH4, O2, and flow before and after round		2monthly	5	Screen After Round: Inlet outlet: Blower#: CH4: O2: Flow: Run Hours:	
Control room	Check operation of ambient gas monitor	Bump test with cal gas		3quarterly	10		
Flare	Inspect flare	Visual inspection from outside the flare while shutdown including, burner tips, insulation, paint, concrete, ladder safety rail		2monthly	5		
Flare	Inspect thermal valve and flame arrestor	Ensure thermal valve is fully Open and remove inspect and clean flame arrestor banks		3quarterly	60		

Piece of equipment	Maintenance item	Details	frequency (hours)	Scheduled event	Approx. time requirement (min)	Comments	Completed (initial)
Gas analyzer	Check operation	Check pressure gauges, flow meters, heat trace, drier temp, condensate drain, exhaust		1weekly	5		
Gas analyzer	Replace filter media	Change bowl filters and H2S scrubber media as required		3quarterly	120		
Wellfield	Drain temporary piping	Drain liquid and inspect piping for leaks		1weekly	240		
Wellfield	Inspect pump drain traps	Check for operation, leaks, record counter, psi		2monthly	60	<b>PSI</b> Chamber: <b>Counter</b> Chamber: PDT1:            PDT2:            PDT1:            PDT2: PDT3:            PDT4:            PDT3:            PDT4:	
Wellfield	Operate valves	Operate all valves to stops		2monthly	60		
Wellfield	Wellfield monitoring	Gas levels, pressure and flow, valve adjustments		2monthly	240		



Oxford Landfill  
Operation and  
Maintenance  
Requirements  
**YEARLY**

Date Completed:	GEM Serial Number _____
Completed by (print):	Anemometer Serial Number _____
Signature:	General Weather _____
	Barometric Pressure _____

Piece of equipment	Maintenance item	Details	frequency (hours)	Scheduled event	Approx. time requirement (min)	Comments	Completed (initial)
Air compressor	Check oil level	Ensure oil level is within proper range	50	1weekly	5		
Air compressor	Check DD, PD prefilter	Ensure filters are draining, ensure indicator is in green range	50	1weekly	5		
Air compressor	Inspection	Inspect for pressure, noise, temperature, vibration, etc		1weekly	5		
Air compressor	Record pressure, run hours			1weekly	5	Pressure: _____ Run Hours: _____	
Air compressor	Clean air filter	Remove and inspect filter, replace when needed	500	2monthly	15		
Air compressor	Check condensate drain	Manually open condensate drain valve to ensure drainage	500	2monthly	5	Moisture Present?	
Air compressor	Check belt tension	Inspect belt tension and wear, replace as needed	500	2monthly	30		
Air compressor	Change air filter	Replace as needed	2000	3quarterly	5		
Air compressor	Change oil	Depressurize compressor, allow to cool, drain oil, fill to specified level	2000	3quarterly	30		
Air compressor	Change oil filter	Change filter when changing oil	2000	3quarterly	15		
Air compressor	Clean oil cooler	Use compressed air and/or brush to clean cooler fins	4000	4yearly	30		
Air compressor	Change oil separator	Change air/oil separator during oil change	4000	4yearly	15		
Air compressor	Change DD prefilter	Depressurize system, remove bowl, replace filter	4000	4yearly	15		
Air compressor	Change PD prefilter	Depressurize system, remove bowl, replace filter	4000	4yearly	15		
Air compressor	Service air dryer	Bypass drier, depressurize drier, unplug unit.	12000	4yearly	120		
Blower skid	Check vibration	Compare vibration to typical		1weekly	5		
Blower skid	Check bearing temperatures	Compare temperatures to typical		1weekly	5	Drive End: _____ Non-drive end: _____	
Blower skid	Drain blower	Open blower drain valves and remove moisture		1weekly	5	Moisture Present?	
Blower skid	Record operational parameters	Record: vacuum, pressure, flow, CH4, O2, temp, blower number and separator differential pressure		1weekly	5	Gauge: Inlet outlet: VLS Diff: CH4: O2: CO2: O2: Blower#: Flow: Temp:	
Blower skid	Inspection	Inspect for wear: vibration pads, rubber couplings, orange blower/motor coupling,		2monthly	15		
Blower skid	Operate valves	Operate all valves to stops		2monthly	15		
Blower skid	Check vapour liquid separator (VLS)	Check differential pressure, heat trace, drainage		2monthly	5		
Blower skid	Change blower grease	Remove old grease and replace	1500	3quarterly	60		
blower skid	Inspect moisture separator filter	Disconnect and remove filter, clean/replace as required		4yearly	240		
Control room	Record operational parameters	Record vacuum, pressure, blower number, CH4, O2, flow, and run hours		1weekly	5	Screen On Arrival: Inlet outlet: Blower#: CH4: O2: CO2: O2: Flow: Run Hours:	
Control room	Record operational parameters	Record vacuum, CH4, O2, and flow before and after round		2monthly	5	Screen After Round: Inlet outlet: Blower#: CH4: O2: CO2: O2: Flow: Run Hours:	

Piece of equipment	Maintenance item	Details	frequency (hours)	Scheduled event	Approx. time requirement (min)	Comments	Completed (initial)
Control room	Check operation of ambient gas monitor	Bump test with cal gas		3quarterly	10		
control room	Calibrate ambient gas monitor	Refer to manual		4yearly	60		
Flare	Inspect flare	Visual inspection from outside the flare while shutdown including, burner tips, insulation, paint, concrete, ladder safety rail		2monthly	5		
Flare	Inspect thermal valve and flame arrestor	Ensure thermal valve is fully Open and remove inspect and clean flame arrestor banks		3quarterly	60		
Gas analyzer	Check operation	Check pressure gauges, flow meters, heat trace, drier temp, condensate drain, exhaust		1weekly	5		
Gas analyzer	Replace filter media	Change bowl filters and H2S scrubber media as required		3quarterly	120		
Gas analyzer	Calibrate analyzer	Refer to manual		4yearly	120		
Wellfield	Drain temporary piping	Drain liquid and inspect piping for leaks		1weekly	240		
Wellfield	Inspect pump drain traps	Check for operation, leaks, record counter, psi		2monthly	60	PSI Chamber: PDT1: PDT2: PDT3: PDT4: Counter Chamber: PDT1: PDT2: PDT3: PDT4:	
Wellfield	Operate valves	Operate all valves to stops		2monthly	60		
Wellfield	Wellfield monitoring	Gas levels, pressure and flow, valve adjustments		2monthly	240		
Wellfield	Clean drain trap pumps	Disassemble and clean pumps		4yearly	480		

## **APPENDIX C**

### Notification of Intermittent Flaring





December 17, 2015

320 Pinebush Road, Suite 12  
Cambridge, ON N1T 1Z6  
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By: Email

Ministry of the Environment  
Bob Slivar – Environmental Office  
London Regional Office  
2nd Floor.  
733 Exeter Road  
London ON N6E 1L3

9-440-11

Dear Mr. Slivar:

RE: **LANDFILL GAS CONTROL SYSTEM – INTERMITTENT OPERATIONS**  
**Oxford County Waste Management Facility, Salford, ON**

The Landfill Gas Collection and Flaring System at the Oxford County Waste Management Site has been operating under Environmental Compliance Approval (ECA) No. A070808 since December 2010. The system is comprised of eighteen vertical gas extraction wells that are connected to a permanent main header and lateral system, including and some temporary Big “O” piping placed above ground. The average system flow at the plant in 2015 was near the minimum system threshold.

In order to maintain proper combustion temperatures in the flare, it is proposed that operations be cycled on an on/off schedule. This will allow gas reserves to build up to levels that will support combustion at the required temperatures over the operating periods. The purpose of the landfill gas collection and flaring system is primarily reduce greenhouse gases and control odours from the site. The County is not aware of any odour complaints or occurrences near the site. Therefore, the County believes that an intermittent operating schedule will not have any effect on odours from the site.

If you have any questions, please call the undersigned.

Yours truly,  
**Comcor Environmental Limited**

Shannan McGarr, B.Sc.  
Operations and Maintenance Manager

cc: Pamela Antonio – Waste Management Coordinator