

## Licence No 4627 Publication of Monitoring Data M8 St Peters Interchange –10-16 Albert Street, St Peters

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## Landfill Gas Monitoring – Subsurface Gas

4627 1<sup>st</sup>, 6<sup>th</sup>, 15<sup>th</sup>, 21<sup>st</sup>, 26<sup>th</sup>, 28<sup>th</sup> Date of Sampling 24 October 2023 Date Received Date of Publication 06 November 2023

Subsurface landfill gas monitoring is usually a number of measurements taken over time with two events. The first event is initial measurements and the second event is measurements after the air space in the well has been pumped out. The highest measurement in the first (initial) and second (post-purge) events are reported in the following table.

Where the groundwater level is above the well screen the high water level can interfere with the monitoring equipment and no measurement/s can be taken.

Monitoring Point	EPA Identification Number	Frequency	Pollutant										
			Carbon Dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen Sulphide (ppm)		Methane (%v/v)		Oxygen (%v/v)		
			Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	
LDS-GM-001	22	Quarterly	2.4	3.4	1	1	0	0	0.1	0.0	10.4	2.7	
LDS-GM-002	23	Quarterly	Well destroyed										
LDS-GM-002C		Quarterly	10.6	NR1	1	NR1	0	NR1	0.1	NR1	19.0	NR1	
LDS-GM-003A	24	Quarterly	Well destroyed										
LDS-GM-003B	25	Quarterly	Well destroyed										

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			Carbon Dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen Sulphide (ppm)		Methane (%v/v)		Oxygen (%v/v)		
			Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	
LDS-GM-003C		Quarterly	10.8	2.4	1	0	0	0	0.1	0.1	21.1	18.9	
LDS-GM-004	26	Quarterly	5.7	6.0	1	5	0	0	7.1	10.5	13.1	19.7	
LDS-GM-005	27	Quarterly	9.3	9.5	0	1	0	0	0.0	0.0	11.5	13.7	
LDS-GM-006A	28	Quarterly	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	
LDS-GM-006B	29	Quarterly	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	
LDS-GM-007A	30	Quarterly	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	
LDS-GM-007B	31	Quarterly	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	
LDS-GM-008A	32	Quarterly	NR4	NR4	NR4	NR4	NR4	NR4	NR4	NR4	NR4	NR4	
LDS-GM-008B	33	Quarterly	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	
LDS-GM-009C	34	Quarterly	21.2	1.8	6	1	0	0	0.1	0.1	21.2	20.9	
LDS-GM-009D	35	Quarterly	0.9	0.2	1	1	0	0	0.1	0.1	21.4	21.6	
LDS-GM-010A	36	Quarterly	0.3	0.4	1	0	0	0	0.0	0.0	20.6	10.6	
LDS-GM-010B	37	Quarterly	2.1	0.4	0	1	0	0	0.0	0.0	20.5	20.6	
LDS-GM-011A	38	Quarterly	0.0	0.0	0	0	0	0	0.0	0.0	16.7	16.9	
LDS-GM-012C	39	Quarterly	10.4	10.3	1	1	0	0	0.0	0.0	20.2	13.9	
LDS-GM-012D	40	Quarterly	2.3	0.2	0.0	1	0	0	0.0	0.0	20.5	20.3	
LDS-GM-013*	41	Quarterly	1.4	NR2	1	NR2	0	NR2	1.2	NR2	19.3	NR2	
LDS-GM-014	42	Quarterly	0.9	0.2	0	0	0	0	0.1	0.0	15.9	20.5	
LDS-GM-015	43	Quarterly	1.0	0.9	0	0	0	0	0.0	0.0	19.9	17.6	

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			Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	
LDS-GM-016	44	Quarterly	0.7	2.6	0	0	0	0	0.0	0.2	17.7	6.1	
LDS-GM-017	45	Quarterly	1.8	2.4	1	1	0	0	2.1	2.4	18.3	0.0	
LDS-GM-018	46	Quarterly	1.4	1.8	0	1	0	0	0.1	2.0	19.7	20.4	
LDS-GM-019	47	Quarterly	4.2	3.8	0	0	0	0	0.5	0.1	15.3	2.0	
LDS-GM-020	48	Quarterly	5.6	4.6	0	0	0	0	0.1	0.1	16.2	15.4	
LDS-GM-021	49	Quarterly	3.9	0.1	1	0	0	0	0.0	0.0	20.2	20.5	
LDS-GM-022A	50	Quarterly	1.5	NR3	0	NR3	0	NR3	0.0	NR3	21.1	NR3	
LDS-GM-023	51	Quarterly	Well Inaccessible due to Gateway Construction										
LDS-GM-024A	52	Quarterly				Well Inacc	essible due	to Gateway Co	onstruction				
LDS-GM-024B	53	Quarterly	NR3	NR3	NR3	NR3	NR3	NR3	NR3	NR3	NR3	NR3	
LDS-GM-025	54	Quarterly				Well Inacc	essible due	to Gateway Co	onstruction			·	
LDS-GM-026	55	Quarterly	2.2	0.5	0	1	0	0	0.1	0.1	18.6	21.2	
LDS-GM-027	56	Quarterly	5.8	5.6	0	0	0	0	0.1	0.1	18.3	12.6	
LDS-GM-028	57	Quarterly	31.3	31.1	1	1	0	0	69.3	68.6	20.8	0.2	
LDS-GM-029	58	Quarterly	4.9	5.0	1	1	0	0	0.2	0.2	19.6	11.9	
LDS-GM-030	59	Quarterly	10.5	10.5	0	0	0	0	0.0	0.0	20.3	10.1	
LDS-BH-10321A	17	Quarterly	10.1	10.1	0	0	0	0	0.3	0.2	15.4	2.1	
LDS-BH-10322	18	Quarterly	3.8	3.8	1	0	0	0	0.0	0.0	8.1	3.8	
LDS-BH-10329	19	Quarterly					Well d	estroyed					
LDS-BH-10329A		Quarterly	5.9	5.9	1	1	0	0	3.5	3.5	18.9	0.1	

Monitoring Point		n Frequency	Pollutant										
	EPA Identification Number		Carbon Dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen Sulphide (ppm)		Methane (%v/v)		Oxygen (%v/v)		
			Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	Initial	Post Purge	
LDS-BH-10331	20	Quarterly	8.6	0.6	1	0	0	0	0.1	0.0	18.1	20.0	
LDS-BH-10332	21	Quarterly	6.5	0.4	0	0	0	0	0.9	0	20	20.5	
LDS-GV-48	60	Quarterly	21.6	22.0	1	1	0	0	35.3	35.7	20.7	3.3	
LDS-GV-49	61	Quarterly	20.2	20.4	5	4	0	0	31.7	32.0	16.5	1.2	
LDS-GV-50	62	Quarterly	31.5	31.6	1	1	41	53	59.7	59.8	20.8	0.0	

\*The well LDS-GM-013 has been converted to a passive gas vent – the gas vent methodology of pre-purge results has been include in this table.

## NOTES:

- EPL Environment Protection Licence
- %v/v percentage by volume
- ppm parts per million
- NR1 no result 1 the water level too high to take measurement
- NR2 gas vent monitoring methodology used only pre-purge results recorded.
- NR3 no well cap.
- NR4 pump failure (monitoring equipment).

The wells LDS-GM-002, LDS-GM-003A, LDS-GM-003B and LDS-BH-10329 were destroyed before the present monitoring program started in October 2020. Replacement wells LDS-GM-002C and LDS–GM-003C have been installed adjacent to destroyed wells with the same depth and well screens. Replacement well LDS-GM-0329A has been installed at an agreed nearby location.