

Methane Emissions Survey Sheet – Llanddulas Landfill

Site	Llanddulas Landfill	Date	26 th November 2015	Time	in: out:	09:30 15:30
Instrument	Gazomat Inspectra TDL (Serial No.: 1470311)					
		Background reading	1.8ppm	Time		10:30hrs.
Weather conditions:	Still Wet and Overcast			Atm. Press.		mb
Survey Undertaken by:	Tony Roberts					

General comments / observations
This emissions survey is being carried out as part of a routine site audit and also contributes to Natural Resources Wales' strategy to reduce methane emissions from landfill sites in Wales. The objectives include, being operated and maintained so as to maximise gas collection efficiency and minimise fugitive landfill gas emissions. Treating the gas in a manner that minimises point source emissions. An ATEX certified, Gazomat Inspectra Laser Methane Analyser was used to perform emissions testing at the site. Note: This survey was restricted to cell 3A the current operational area.

Point ref.	Date	Methane Reading (ppm)	Feature and / or Grid Reference	Description / Comment
1.	26 th November 2016	11	D277	Reading taken in the air 10m East of well. Slight odour detected
2.	26 th November 2016	58	D277	Reading taken in air 30m South of well D277
3.	26 th November 2016	22.6	D235	Slight emission from boot detail
4.	26 th November 2016		D223	Check well connection to pipe – small air leak detected.
5.	26 th November 2016		D232	Condensate blockage in 90mm pipe – pipe requires condensate clearing and re-laying to a fall.
6.	26 th November 2016		D213	Condensate blockage in pipe requiring clearance and re-laying to a fall.
7.	26 th November 2016	55-100	213	55-100 ppm in air along the base of the slope in this area and in easterly direction for approximately 100m

8.	26 th November 2016	850 in air close to well. 2300-3000	Leachate well 2BR (Re-drill)	Peak in air 850 ppm from around base of well. Check infrastructure and re-seal where appropriate. The peak emission of 3000ppm from the seal around the concrete ring may be indicative of a requirement to improve extraction efficiency in this area. New wells are programmed in imminently.
9.	26 th November 2016	50-80	290	Well tilted and in a depression in the waste. Methane detected in air around the well. Well to be replaced on next drilling round
10.	26 th November 2016	30-511 2200 from well seal and 3300 from pin well seal.	Transect between well 290 and 294	Ambient methane levels on this transect indicate the need for improved extraction efficiency in this area. Note: Well 294 to be replaced in the next round of drilling. Emissions from well seal and pin well seal elevated.
11.	26 th November 2016	31000	D289	High emission from well seal
12.	26 th November 2016	30-725	Pin 3	Emission detected directly from the ground 1m away from Pin 3
13.	26 th November 2016	4850	LW3/2	Emission from stone at the side of the leachate monitoring well.
14.	26 th November 2016	13-25ppm	Transect in air between LW2/3 and well 238	These levels in air indicate a requirement for improved extraction in this area. New wells are imminent on phase 3A
15.	26 th November 2016	9830	Well 283	Elevated emission from base of well. Well severely tilted.
16.				

Findings/Recommendations

The results indicate that whilst the gas extraction system is operated to an overall high standard and that external complaints are greatly reduced there are still some issues to address. The ambient gas levels on parts of the site and some emissions indicate that there are fugitive and point source emissions which require improved control. The site is embarking upon a well replacement scheme, with the installation of 12 new deep wells, this should provide mitigation for the findings. Actions were discussed with the Site Manager and Infinis on the day of the survey.