

Surface Emissions Phase 2 Survey Report

Brookhill Landfill Site

May 2015

Approval Sheet

Customer: TerraConsult

Site: Brookhill Landfill Site

Project title: Surface Emissions Phase 2 Survey

Project Manager: Dan Higgins

Project Staff: A Hammersley, E Rimmer

Address: enitlal
Enterprise Drive
Four Ashes
Wolverhampton
WV10 7DE

Tel: 01902 798798
Fax: 01902 798711

Issue	Status	Date	Prepared By	Signature	Date
2	Final	10/06/15	E Rimmer	E Rimmer	22/05/15
			M Keeley	M Keeley	29/05/15
			Approved By	Signature	Date
			D Higgins		10/06/15

Foreword

enital has used its best endeavours, experience and expertise to provide a meaningful, accurate and relevant representation of the works carried out. The works were based on a defined programme and scope of works and terms and conditions agreed with the Client.

The findings discussed in this document relating to information provided by the Client relate only to those to which we have had access. No attempt has been made to validate any data or information provided. It is acknowledged that certain aspects may be superseded or rendered irrelevant by information in documentation to which we have not accessed.

enital cannot accept responsibility to any parties whatsoever, following the issue of this report, for any matters arising which may be considered outside the agreed scope of works.

This report is issued solely to the Client. enital does not accept any responsibility to any third parties to whom this report may be circulated, in part or in full, and any such parties rely on the contents at their own risk.

Contents

<i>Approval Sheet, Foreword and Contents</i>	2-4
1. Introduction	5
2. Survey Summary	
2.1 Surface Emissions Phase 2 Survey	6
3. Results Summary	
3.1 Surface Emissions Phase 2 Survey Results	7
3.2 Notes on Calculation of Flux and Average Q Values	8
4. Field Log	
4.1 Weather Conditions and Meteorological Data	9
4.2 Site Personnel and Equipment	10

Appendix

- A. Surface Emissions Phase 2 Survey Summary
- B. Surface Emission Phase 2 Survey Results
- C. Flux Box Survey Calculations
- D. Surface Emissions Phase 2 Survey Plan

1.0 Introduction

enital were commissioned by TerraConsult to undertake a Surface Emissions Phase 2 (Flux Box) Survey at Brookhill Landfill Site. Brookhill Landfill Site is being managed by Flintshire County Council, and is situated approximately one mile to the north of Buckley, Cheshire (-3.08096°; 53.1831°). The site is no longer accepting waste inputs and the site is now permanently capped.

A desktop study was undertaken prior to the Surface Emissions Phase 2 Survey by collecting information supplied by TerraConsult in the form of drawings of capping areas and up to date topography and information regarding capping type and gas extraction / leachate infrastructure details. One zone was identified as requiring Surface Emissions Phase 2 testing: Zone 1 comprising of permanent welded membrane capping. The site is now fully, permanently capped.

2.0 Survey Summary

2.1 Surface Emissions Phase 2 Survey

The Surface Emissions Phase 2 Survey was undertaken on the 5th 7th 8th 11th and 13th May 2015 and included the capped and restored areas of the landfill site as indicated on the plan contained in Appendix D. A Gas-Tec Flame Ionisation Detector (FID) device was used to undertake the survey which measures hydrocarbons in parts per million by volume (ppmv) on a scale of 0 to 10,000.

The required number of test locations was calculated during the desktop study as detailed in the Environment Agency Guidance on Monitoring Landfill Gas Surface Emissions LFTGN 07 – v2 2010 (EA Guidance). Co-ordinates were generated for each test and each location was set out by the use of a handheld GPS with a typical accuracy of up to 3m. Where a test location was not accessible or unsuitable, the nearest practical location was used and the revised co-ordinates recorded. The flux box used was constructed as detailed in the EA Guidance, consisting of a white plasterer's bath with a quick release monitoring point connected to internal t-bar tubing. An activated carbon filter and balancing valve was fitted opposite to the monitoring point. Where required, each location was cleared of vegetation and / or levelled using hand tools prior to the test being undertaken. The flux box was then placed onto the surface and adequately sealed in addition to placing a weight on top of the flux box. Each location was tested for a duration of 15 minutes by connecting the Gas-Tec FID to the flux box monitoring point, with any concentration increases recorded at 30 second intervals within the first 5 minutes, and 1 minute intervals for the last 10 minutes. Where it became evident that an adequate seal was not present due to fluctuating readings, the flux box was resealed and the test restarted.

3.0 Results Summary

3.1 Surface Emissions Phase 2 Survey Results

A full set of Surface Emissions Phase 2 Survey results are presented in Appendix A along with a plan showing the location of each test in Appendix B.

The EA Guidance sets standards for gas emissions from a landfill surface which is expressed as the average flux of methane from the surface of the cap in each zone. The emission standards are:

Permanently capped zone: 0.001 mg/m²/second;

Temporarily capped zone: 0.1 mg/m²/second

As can be seen from the table below, the average flux of methane from the surface of the cap in Zone 1 is within the EA standards detailed above.

Zone	Capping Type	EA Standard for Capping Type (mg/m ² /sec)	Average Q Value for Zone (mg/m ² /sec)	Within EA Standard (Y/N)
1	Permanent	0.001	0.00057	Y

3.2 Notes on Calculation of Flux and Average Q Values

Data points used in the calculation of the Q values are shown as highlighted yellow in the tables presented in Appendix A. The concentration change is converted into mg/m³ by multiplying the ppmv value by 0.714 (source - EA Guidance). The volume of the flux box used is 0.16m³ with a basal area of 0.65m².

For the data to be considered acceptable, a correlation co-efficient of $r^2 > 0.8$ is required. If required, data points are removed (first from the last data collected and then initial readings as detailed in Section 7.2 of the EA Guidance), following data removal, as soon as the r^2 value is > 0.8 and more than 5 data points remain, the data is considered acceptable.

Where no elevated readings are detected (or the change in concentration is zero, or a negative change in concentration is recorded at locations when an initial zero reading cannot be attained due to elevated background readings), the location is reported as being less than the lower detection limit value of 5×10^{-5} mg/m²/second for the flux box used (<LOD).

Where data is 'at the limit of detection' of the flux box used, i.e. the r^2 value of > 0.8 could not be attained following data point removal, the data with the highest r^2 value or most representative data is used, subject to the possibility of retesting the location depending on the overall / average Q value for that zone, i.e. if the emission rate for that location is not likely to significantly affect the overall average Q value of the zone then retesting is not deemed necessary.

4.0 Field Log

4.1 Weather Conditions and Meteorological Data

Meteorological data was recorded from on site observations and by using environmental monitoring equipment. The table below details conditions and observations made during the survey.

Date / Time Period	Weather Conditions	Ground Conditions	Temperature (°C)	Atmospheric Pressure (mbar)	Wind Direction / Speed (mph)
05/05/2015 10:00	Mostly cloudy / high winds	Dry	12.0	986	WSW/30 +
05/05/2015 13:45	Mostly cloudy / high winds	Dry	12.0	986	WSW/30 +
07/05/2015 08:00	Cloudy	Wet	8.0	1040	WNW/5
07/05/2015 12:10	Heavy showers/rain	Wet	9.0	1050	NW/5
08/05/2015 08:20	Sunny	Wet	12.0	1014	ESE/8
08/05/2015 12:40	Rain	Wet	14.0	1020	SE/13
11/05/2015 08:00	Mostly cloudy	Dry	12.0	1013	S/12
11/05/2015 12:00	Sunny	Dry	16.0	1014	SW/16
13/05/2015 07:30	Sunny	Dry	10.0	1021	NNW/10
13/05/2015 12:00	Sunny	Dry	13.0	1020	WSW/4

4.2 Site Personnel and Equipment

The table below details the personnel on site during the survey and the equipment types used including serial numbers and calibration expiry details.

Date	Personnel	Instrument Type	Instrument Serial Number	Calibration Due	Flux Box Reference
05/05/2015	A Hammersley	FID	5-8218	07/10/15	3
07/05/2015	A Hammersley	FID	5-8218	07/10/15	3
08/05/2015	A Hammersley	FID	5-8218	07/10/15	3
11/05/2015	A Hammersley	FID	5-8218	07/10/15	3
13/05/2015	A Hammersley	FID	5-8218	07/10/15	3



Appendix A

Surface Emissions Phase 2 Survey Summary

Brookhill Landfill Site **Surface Emissions Survey - May 2015** **Flux Box Survey Summary**

Zone	Test Ref	Date	Tech	Location		FID Reference	Flux Box Reference	Ground Type / Veg	Seeding Method	Test Start Time	ppmv at Start	Test End Time	ppmv at End	Fieldsheet Ref	Comments
				Easting	Northing										
Z1	01	05.05.15	AH	327756	365765	5	2	Med Grass	Weight	12:15	0	12:30	0		
Z1	02	05.05.15	AH	327791	365765	5	2	Med Grass	Weight	12:30	0	12:45	1		
Z1	03	05.05.15	AH	327756	365730	5	2	Med Grass	Weight	12:00	0	12:15	1		
Z1	04	05.05.15	AH	327791	365730	5	2	Med Grass	Weight	11:45	0	12:00	0		
Z1	05	05.05.15	AH	327826	365730	5	2	Med Grass	Weight	11:30	0	11:45	0		
Z1	06	05.05.15	AH	327861	365730	5	2	Med Grass	Weight	11:15	0	11:30	0		
Z1	07	05.05.15	AH	327896	365730	5	2	Med Grass	Weight	11:00	0	11:15	0		
Z1	08	07.05.15	AH	327756	365695	5	2	Med Grass	Weight	08:15	0	08:30	0		
Z1	09	05.05.15	AH	327791	365695	5	2	Med Grass	Weight	12:45	0	13:00	0		
Z1	10	05.05.15	AH	327826	365695	5	2	Med Grass	Weight	13:15	0	13:30	0		
Z1	11	05.05.15	AH	327861	365695	5	2	Med Grass	Weight	13:30	0	13:45	0		
Z1	12	05.05.15	AH	327896	365695	5	2	Med Grass	Weight	10:45	1	11:00	0		
Z1	13	07.05.15	AH	327756	365660	5	2	Med Grass	Weight	08:30	0	08:45	0		
Z1	14	07.05.15	AH	327791	365660	5	2	Med Grass	Weight	08:45	0	09:00	0		
Z1	15	07.05.15	AH	327826	365660	5	2	Short Grass	Weight	09:00	0	09:15	0		slight ambient odour of landfill gas
Z1	16	07.05.15	AH	327861	365660	5	2	Short Grass	Weight	09:15	0	09:30	2		
Z1	17	07.05.15	AH	327896	365660	5	2	Med Grass	Weight	09:30	2	09:45	0		
Z1	18	05.05.15	AH	327931	365660	5	2	Med Grass	Weight	10:30	0	10:45	0		
Z1	19	07.05.15	AH	327791	365625	5	2	Med Grass	Weight	11:00	0	11:15	0		
Z1	20	07.05.15	AH	327826	365625	5	2	Med Grass	Weight	10:45	0	11:00	0		
Z1	21	07.05.15	AH	327861	365625	5	2	Med Grass	Weight	10:30	1	10:45	1		
Z1	22	07.05.15	AH	327896	365625	5	2	Med Grass	Weight	10:15	0	10:30	3		
Z1	23	07.05.15	AH	327931	365625	5	2	Med Grass	Weight	10:00	0	10:15	0		
Z1	24	07.05.15	AH	327791	365590	5	2	Med Grass	Weight	11:30	0	11:45	0		
Z1	25	08.05.15	AH	327826	365590	14	2	Short Grass	Weight	09:15	2	11:45	8		Ambient odour of landfill gas
Z1	26	08.05.15	AH	327861	365590	14	2	Med Grass	Weight	09:30	0	09:45	0		
Z1	27	08.05.15	AH	327896	365590	14	2	Med Grass	Weight	09:45	0	10:00	0		
Z1	28	08.05.15	AH	327931	365590	14	2	Med Grass	Weight	10:00	0	10:15	0		
Z1	29	08.05.15	AH	327791	365555	14	2	Med Grass	Weight	11:15	0	11:30	0		
Z1	30	08.05.15	AH	327826	365555	14	2	Med Grass	Weight	11:00	0	11:15	0		

Brookhill Landfill Site

Surface Emissions Survey - May 2015

Flux Box Survey Summary

Zone	Test Ref	Date	Tech	Location		FID Reference	Flux Box Reference	Ground Type / Veg	Seeding Method	Test Start Time	ppmv at Start	Test End Time	ppmv at End	Fieldsheet Ref	Comments
				Easting	Northing										
Z1	31	08.05.15	AH	327861	365555	14	2	Med Grass	Weight	10:45	0	11:00	0		
Z1	32	08.05.15	AH	327896	365555	14	2	Med Grass	Weight	10:30	0	10:45	0		
Z1	33	08.05.15	AH	327931	365555	14	2	Med Grass	Weight	10:15	0	10:30	0		
Z1	34	08.05.15	AH	327756	365520	14	2	Med Grass	Weight	11:15	2	11:30	1		Slight odour from tipping area
Z1	35	08.05.15	AH	327791	365520	14	2	Med Grass	Weight	11:30	0	11:45	0		
Z1	36	08.05.15	AH	327826	365520	14	2	Med Grass	Weight	11:45	0	12:00	0		
Z1	37	08.05.15	AH	327861	365520	14	2	Med Grass	Weight	12:00	0	12:15	0		
Z1	38	08.05.15	AH	327896	365520	14	2	Short Grass	Weight	12:15	0	12:30	0		
Z1	39	08.05.15	AH	327861	365485	14	2	Short Grass	Weight	12:30	2	12:45	1		



Appendix B

Surface Emissions Phase 2 Survey Results

[illegible]

[illegible]



Appendix C

Flux Box Survey Calculations

ID	Date	Location		N	0	30	60	90	120	150	180	210	240	270	300	360	420	480	540	600	660	720	780	840	900	Linear Regression		V/A (V = 0.16m ³ A d (Q) = V/A x (dc/dt))	Flux (Q) in mg/m ² /second d (Q) = V/A x (dc/dt))	Comments		
		E	N																							r ² value	dc/dt					
Z1/01	05.05.15	327256	365765	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection	
Z1/02	05.05.15	327191	365165	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.771	0.006	0.246	0.00151	At limit of detection *		
Z1/03	05.05.15	327256	365730	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.007	0.246	0.00176	At limit of detection *
Z1/04	05.05.15	327191	365130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/05	05.05.15	327826	365730	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/06	05.05.15	327861	365130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/07	05.05.15	327896	365730	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/08	07.05.15	327156	365695	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/09	05.05.15	327791	365695	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/10	05.05.15	327826	365695	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/11	05.05.15	327861	365695	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/12	05.05.15	327896	365695	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	No concentration increase (<LOD)		
Z1/13	07.05.15	327256	365660	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.0	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.771	0.006	0.246	0.00151	At limit of detection *		
Z1/14	07.05.15	327791	365660	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.873	0.006	0.246	0.00156	At limit of detection *		
Z1/15	07.05.15	327826	365660	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1	1.4	1.4	1.4	0.804	0.003	0.246	0.00081	<2> 0.8	No concentration increase (<LOD)	
Z1/16	07.05.15	327861	365660	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/17	07.05.15	327896	365660	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/18	05.05.15	327931	365660	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/19	07.05.15	327791	365625	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/20	07.05.15	327826	365625	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/21	07.05.15	327861	365625	0.7	0.7	1.4	2.9	3.6	2.1	0.7	2.1	1.4	0.7	0.0	0.0	0.0	0.0	0.7	0.7	0.0	0.7	0.7	0.7	0.7	0.7	0.926	0.021	0.246	0.00519	<2> 0.8	No concentration increase (<LOD)	
Z1/22	07.05.15	327896	365625	0.0	0.0	0.0	0.0	0.0	0.7	0.7	1.4	1.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.813	0.004	0.246	0.00103	<2> 0.8	No concentration increase (<LOD)	
Z1/23	07.05.15	327931	365625	0.0	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/24	07.05.15	327791	365590	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/25	08.05.15	327826	365590	1.4	2.1	1.4	2.1	2.9	4.3	5.7	7.1	14.3	14.3	14.3	14.3	14.3	14.3	14.3	7.1	7.1	7.1	5.7	5.7	5.7	5.7	0.916	0.036	0.246	0.00882	<2> 0.8	Below limit of detection	
Z1/26	08.05.15	327861	365590	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/27	08.05.15	327896	365590	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/28	08.05.15	327931	365590	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/29	08.05.15	327791	365555	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/30	08.05.15	327826	365555	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/31	08.05.15	327861	365555	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/32	08.05.15	327896	365555	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/33	08.05.15	327931	365555	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/34	08.05.15	327256	365520	1.4	1.4	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	N/A	0.000	0.246	0.00030	No concentration increase (<LOD)		
Z1/35	08.05.15	327191	365520	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/36	08.05.15	327826	365520	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/37	08.05.15	327861	365520	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/38	08.05.15	327896	365520	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A	0.000	0.246	0.00030	Below limit of detection		
Z1/39	08.05.15	327861	365485	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	N/A	0.000	0.246	0.00030	No concentration increase (<LOD)		



Appendix D

Surface Emissions Phase 2 Survey Plan

