

Annual FID Survey Report

Pwllfawatkin Landfill Site

March 2020

Approval Sheet

Customer: FCC Environment

Site: Pwllfawatkin Landfill Site

Project title: Annual FID Survey

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Issue	Status	Date	Prepared By	Signature	Date
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			Approved By	Signature	Date
			G White	G White	07/04/2020

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 It is acknowledged that certain aspects may be superseded or rendered irrelevant by information in documentation to which we have not accessed.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.

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1.0 Introduction

1.1 Brief

enital were commissioned by FCC Environment (FCC) to undertake a Surface Emissions Phase 1 (Annual FID Walkover) Survey at their Pwllfawatkin Landfill Site in March 2020. Pwllfawatkin Landfill Site is situated off Rhyd-y-Fro, neat the town of Pontardawe, in West Glamorgan at NGR SN698088. The site is currently operational and accepting waste inputs, some areas of the site have been permanently or temporarily capped.

1.2 Desk Study

A desktop study was undertaken prior to the Annual FID Survey by collecting information supplied by FCC in the form of drawings of capping areas and up to date topography. Three zones were identified as requiring Annual FID Surveying: Zones 1 and 2 comprising of permanent welded geomembrane capping and Zone 3 comprising of temporary capping.

2.0 Survey Summary

2.1 Annual FID Survey

The Annual FID Survey was undertaken on 30 and 31 March 2020 and included the capped and restored areas of the landfill site as indicated on the plan contained in Appendix B. A Gas-Tec Flame Ionisation Detector device was used to undertake the survey which measures hydrocarbons in parts per million by volume (ppm) on a scale of 0 to 10,000.

The capped areas of the landfill site were surveyed on lines at 50m intervals for permanent capping and 25m intervals for temporary capping as detailed in the Environment Agency Guidance on Monitoring Landfill Gas Surface Emissions LFTGN 07 (EA Guidance) and at a distance of not exceeding 5cm from the surface where possible. In addition, all known infrastructure was surveyed which included all gas extraction and leachate wells and associated installations. Any distinctive features were also surveyed which generally include surface fissures, stressed vegetation, interfaces between caps, edges and side-slopes.

3.0 Results Summary

3.1 Annual FID Survey Results

A full set of Annual FID Survey results are presented in Appendix A along with plans showing the location of all survey transects and infrastructure in Appendix B.

The table below summarises infrastructure and features where a significant elevated hydrocarbon reading was recorded (100ppm for a surface emission and 1,000ppm for emissions from infrastructure) along with details of the point of emission.

Zone	Reference	Concentration in ppm	Comments
Z1	W2204	2,000	Base of well
Z2	PWLW0041	2,000	Top of well - around seal
Z2	PWLW0051	3,000	Top of well - around seal

A reading of 200ppm was also recorded along the southern cap edge of Zone 3 however this was noted as being ambient and is therefore not an exceedance.

4.0 Field Log

4.1 Weather Conditions and Meteorological Data

Meteorological data was recorded from on site observations and local weather station data. 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)
30/03/2020 08:28	Sunny	Dry	1	1039	NNE / 6
30/03/2020 11:36	Sunny	Dry	7	1037	N / 9
31/03/2020 08:30	Overcast	Dry	5	1034	NE / 8
31/03/2020 11:19	Sunny	Dry	9	1033	ENE / 12

4.2 Site Personnel and Equipment

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

Date	Personnel	Instrument Type	Instrument Serial Number	Calibration Due
30/03/2020	J Bate	Gas-Tec FID	8217	21/04/2020
31/03/2020	J Bate	Gas-Tec FID	8217	21/04/2020

Appendix A

Annual FID Survey Results

Pwllfawatkin Landfill Site
Surface Emissions Survey - March 2020
FID Survey - Transects

Zone	Transect Ref	Date	Location			Concentration in ppm	Comments
			Start - End	Easting	Northing		
Z1	Transect 1	30/03/2020	North	269750	209120	0	
			South	269750	208985		
Z1	Transect 2	30/03/2020	North	269800	209267	0	
			South	269800	209011		
Z1	Transect 3	30/03/2020	North	269850	209264	0	
			South	269850	209021		
Z1	Transect 4	30/03/2020	North	269900	209262	0	
			South	269900	208955		
Z1	Transect 5	30/03/2020	North	269950	209220	0	
			South	269950	208929		
Z1	Cap Edge	30/03/2020	North	See Plan		0	
			South				
Z2	Transect 1	31/03/2020	North	269650	208703	0	
			South	269650	208341		
Z2	Transect 2	31/03/2020	North	269700	208728	0	
			South	269700	208340		
Z2	Transect 3	31/03/2020	North	269750	208727	0	
			South	269750	208373		
Z2	Transect 4	31/03/2020	North	269800	208717	0	
			South	269800	208398		
Z2	Transect 5	31/03/2020	North	269850	208707	0	
			South	269850	208409		
Z2	Transect 6	31/03/2020	North	269900	208700	0	
			South	269900	208609		
Z2	Cap Edge	31/03/2020	North	See Plan		0	
			South				
Z3	Transect 1	30/03/2020	West	269863	208941	30	Ambient levels
			East	269919	208945		
Z3	Transect 2	30/03/2020	West	269756	208907	30	Ambient levels
			East	269961	208923		
Z3	Cap Edge	30/03/2020	North	See Plan		200	See Feature 1
			South				
Z3	Feature 1	30/03/2020		See Plan		200	Ambient levels across southern cap edge

Pwllfawarkin Landfill Site
Surface Emissions Survey - March 2020
FID Survey - Infrastructure

Zone	Feature Ref	Date	Location		Concentration in ppm	Valve Position	Comments
			Easting	Northing			
Z1	H0003	30/03/2020	269780	209036	0	-	
Z1	H0004	30/03/2020	269774	209017	0	-	
Z1	L000A	30/03/2020	269957	209196	0	-	
Z1	L000B	30/03/2020	269958	209194	0	-	
Z1	LCS	30/03/2020	269966	209106	0	-	
Z1	LCS	30/03/2020	269966	209106	0	-	
Z1	NOID 5	30/03/2020	269960	209151	-	-	Well not found
Z1	P0016	30/03/2020	269941	209137	0	90	
Z1	PWLMW1A	30/03/2020	269907	209202	0	50	
Z1	PWLMW1B	30/03/2020	269858	209178	0	75	
Z1	PWLMW2A	30/03/2020	269897	209134	0	50	
Z1	PWLMW2B	30/03/2020	269859	209113	0	0	
Z1	PWLMW3A	30/03/2020	269872	209081	0	25	
Z1	PWLMW3B	30/03/2020	269830	209048	0	75	
Z1	PWLMW3SB	30/03/2020	269889	209020	0	10	
Z1	PWLSW003	30/03/2020	269964	209038	0	50	
Z1	PWLW2101	30/03/2020	269901	209219	0	20	
Z1	PWLW2102	30/03/2020	269869	209225	0	90	
Z1	PWLW2103	30/03/2020	269834	209228	0	0	
Z1	PWLW2104	30/03/2020	269809	209223	0	25	
Z1	PWLW2205	30/03/2020	269927	209194	0	0	
Z1	PWLWS002	30/03/2020	269941	209107	0	0	
Z1	R2201	30/03/2020	269898	209178	0	5	
Z1	R2203	30/03/2020	269837	209187	0	20	
Z1	R2301	30/03/2020	269900	209162	0	5	
Z1	R2303	30/03/2020	269836	209162	0	50	
Z1	W1301	30/03/2020	269795	209053	0	90	
Z1	W1304	30/03/2020	269901	209063	0	5	
Z1	W1306	30/03/2020	269904	209092	0	90	
Z1	W1307	30/03/2020	269807	209131	0	50	
Z1	W1308	30/03/2020	269795	209097	0	10	
Z1	W1310	30/03/2020	269825	209108	0	10	
Z1	W1311	30/03/2020	269841	209132	0	10	
Z1	W1312	30/03/2020	269873	209138	0	0	
Z1	W1313	30/03/2020	269856	209111	0	100	
Z1	W1314	30/03/2020	269883	209110	0	0	
Z1	W1315	30/03/2020	269778	209083	0	25	
Z1	W1601	30/03/2020	269870	209083	0	0	
Z1	W1602	30/03/2020	269876	209049	0	0	
Z1	W1604	30/03/2020	269840	209080	0	25	
Z1	W1605	30/03/2020	269811	209070	0	50	
Z1	W1701	30/03/2020	269847	209051	0	5	
Z1	W1702	30/03/2020	269830	209019	0	25	
Z1	W1704	30/03/2020	269769	209005	0	100	

Pwllfawarkin Landfill Site
Surface Emissions Survey - March 2020
FID Survey - Infrastructure

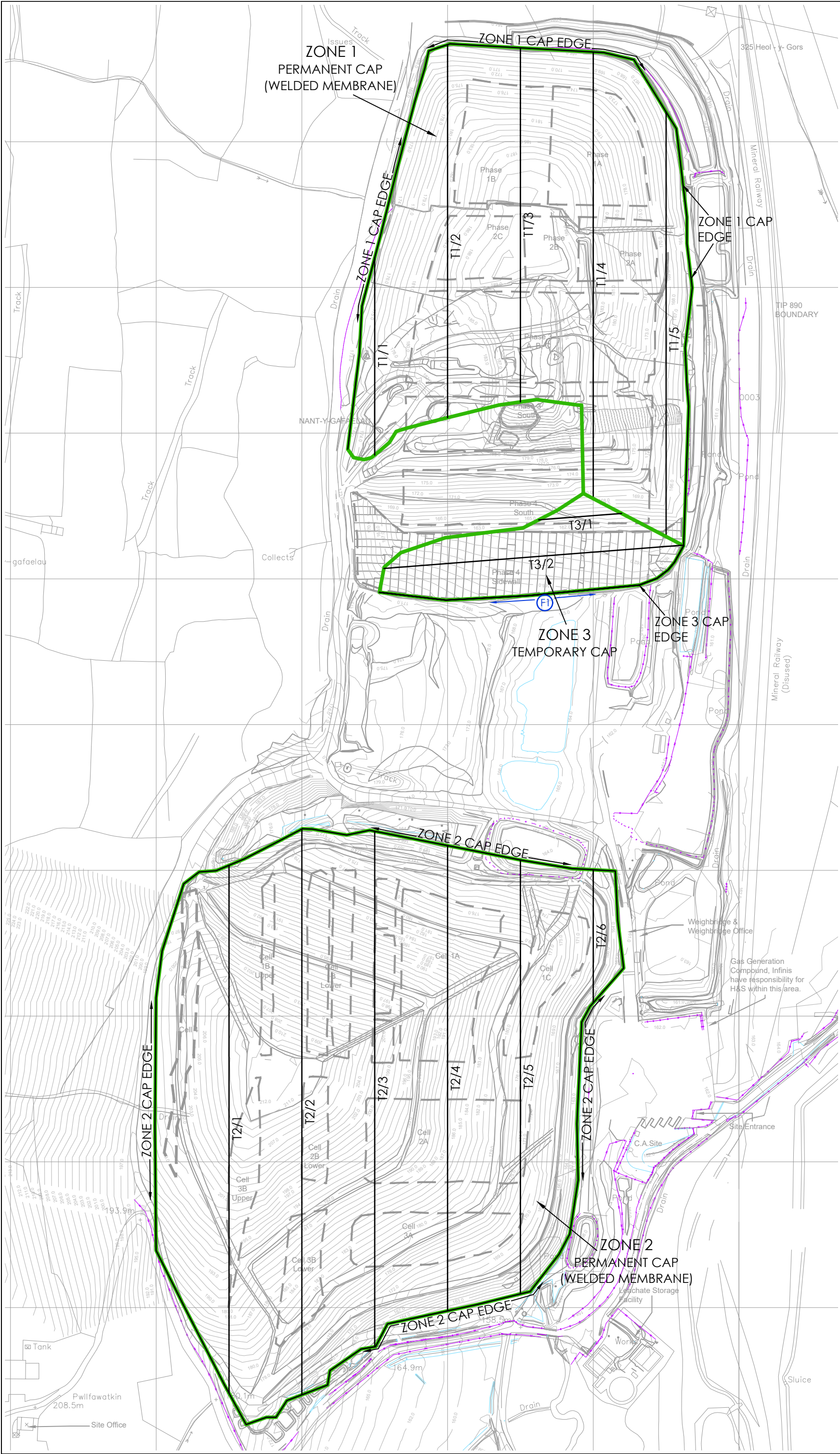
Zone	Feature Ref	Date	Location		Concentration in ppm	Valve Position	Comments
			Easting	Northing			
Z1	W1705	30/03/2020	269790	209034	0	5	
Z1	W1706	30/03/2020	269818	209044	0	5	
Z1	W1405	30/03/2020	269909	208970	0	50	
Z1	W1406	30/03/2020	269932	208973	0	0	
Z1	W1407	30/03/2020	269934	208998	0	0	
Z1	W2202	30/03/2020	269872	209196	0	5	
Z1	W2204	30/03/2020	269808	209188	2,000	0	Base of well
Z1	W2205	30/03/2020	269924	209190	-	-	Well not found
Z1	W2302	30/03/2020	269863	209161	0	5	
Z1	W2304	30/03/2020	269807	209164	0	25	
Z1	W2305	30/03/2020	269938	209164	0	0	
Z1	W2401	30/03/2020	269917	209127	0	5	
Z1	W2402	30/03/2020	269882	209132	0	90	
Z1	W2404	30/03/2020	269800	209138	0	75	
Z1	W2501	30/03/2020	269926	209104	0	25	
Z1	W2601	30/03/2020	269925	209078	0	0	
Z1	Z00A5	30/03/2020	269912	209257	0	0	
Z1	Z00B2	30/03/2020	269956	209118	0	50	
Z2	NP10	31/03/2020	269844	208422	0	5	
Z2	PWLW0041	31/03/2020	269875	208645	2,000	0	Top of well - around seal
Z2	PWLW0051	31/03/2020	269856	208610	3,000	0	Top of well - around seal
Z2	PWLW0074	31/03/2020	269833	208539	0	25	
Z2	PWLW0082	31/03/2020	269829	208487	0	0	
Z2	PWLW0091	31/03/2020	269804	208449	0	0	
Z2	PWLW0101	31/03/2020	269767	208436	0	0	
Z2	PWLW0141	31/03/2020	269622	208484	0	0	
Z2	PZC1C-1	31/03/2020	269836	208598	0	0	
Z2	PZC1C-2	31/03/2020	269862	208643	0	0	
Z2	PZC2A-1	31/03/2020	269829	208500	0	10	
Z2	PZC2A-2	31/03/2020	269828	208528	0	0	
Z2	PZC3A-1	31/03/2020	269744	208437	0	0	
Z2	PZC3A-2	31/03/2020	269792	208460	0	5	
Z2	R0085	31/03/2020	269689	208553	0	5	
Z2	R0162	31/03/2020	269663	208574	0	0	
Z2	W0002	31/03/2020	269658	208659	0	0	
Z2	W0003	31/03/2020	269730	208690	0	0	
Z2	W0005	31/03/2020	269770	208676	0	0	
Z2	W0007	31/03/2020	269850	208663	0	50	
Z2	W0030	31/03/2020	269821	208444	0	10	
Z2	W0031	31/03/2020	269718	208639	0	0	
Z2	W0032	31/03/2020	269747	208622	0	0	
Z2	W0036	31/03/2020	269708	208517	0	0	
Z2	W0052	31/03/2020	269835	208583	0	0	
Z2	W0053	31/03/2020	269790	208613	0	5	

Pwllfawatkin Landfill Site
Surface Emissions Survey - March 2020
FID Survey - Infrastructure

Zone	Feature Ref	Date	Location		Concentration in ppm	Valve Position	Comments
			Easting	Northing			
Z2	W0061	31/03/2020	269784	208572	0	0	
Z2	W0075	31/03/2020	269781	208539	0	25	
Z2	W0076	31/03/2020	269765	208551	0	0	
Z2	W0077	31/03/2020	269719	208571	0	0	
Z2	W0083	31/03/2020	269777	208508	0	0	
Z2	W0084	31/03/2020	269718	208545	0	0	
Z2	W0085	31/03/2020	269685	208553	0	0	
Z2	W0092	31/03/2020	269782	208469	0	10	
Z2	W0093	31/03/2020	269738	208493	0	0	
Z2	W0102	31/03/2020	269737	208457	0	0	
Z2	W0103	31/03/2020	269734	208428	0	0	
Z2	W0111	31/03/2020	269699	208398	0	10	
Z2	W0112	31/03/2020	269701	208445	0	0	
Z2	W0113	31/03/2020	269703	208479	0	5	
Z2	W0114	31/03/2020	269667	208523	0	5	
Z2	W0121	31/03/2020	269675	208367	0	0	
Z2	W0122	31/03/2020	269667	208434	0	0	
Z2	W0124	31/03/2020	269650	208403	0	0	
Z2	W0131	31/03/2020	269636	208444	0	0	
Z2	W0151	31/03/2020	269616	208521	0	0	
Z2	W0161	31/03/2020	269622	208559	0	0	
Z2	W0162	31/03/2020	269660	208575	0	0	
Z2	W0163	31/03/2020	269623	208596	0	0	
Z2	W0171	31/03/2020	269642	208645	0	0	
Z2	W0172	31/03/2020	269650	208625	0	0	
Z2	W1107	31/03/2020	269680	208605	0	0	
Z2	W1134	31/03/2020	269722	208592	0	0	
Z2	W1194	31/03/2020	269719	208530	0	0	
Z3	W1802	30/03/2020	269762	208905	0	0	
Z3	W1803	30/03/2020	269801	208909	0	100	
Z3	W1804	30/03/2020	269840	208912	3	100	Base of well
Z3	W1805	30/03/2020	269875	208916	0	100	
Z3	W1806	30/03/2020	269914	208919	0	0	
Z3	W1807	30/03/2020	269936	208936	0	100	
Z3	W1808	30/03/2020	269899	208942	0	0	
Z3	W1809	30/03/2020	269862	208939	0	0	

Appendix B

Annual FID Survey Plans



LEGEND

- Indicative Extent of FID Walkover Survey
- FID Survey Lines (at 50m and 25m centres dependant on cap type)
- Feature Location and Reference

PWLLFAWTKIN LANDFILL SITE

ANNUAL FID SURVEY PLAN
TRANSECTS PLAN (1 of 2)
MARCH 2020

DRAWN BY	TF/CK	DATE	07/04/2020
APPROVED BY	JF	SCALE @ A3	1:2500
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