



Hendy Quarry Landfill

Annual Report

Permit Reference BT1088ID

01 January to 31 December 2021

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1.0 Introduction

1.1 Background

This report has been compiled in compliance with condition 4.2.1 of the Environmental Permit EPR/BT1088ID for Hendy Quarry Landfill.

The Permit was originally issued to Tarmac on 17 September 2002. The EP was varied by Tarmac in December 2005 in order to remove a daily limit for the importation of waste. A further variation reference XP3933MR was issued on 22 June 2007 by the Environment Agency to introduce the standard Permit template and conditions for landfills, combine the separate discharge consent into the single permit, introduce trigger levels for groundwater and increase the monitoring frequency.

As a result of changes to the conditions of the new EP, Tarmac submitted an application to vary the Permit further to revise the groundwater trigger levels, and also to increase the annual permitted tonnage from 200,000t to 450,000t. Before the trigger levels could be amended, Tarmac installed a further 8 perimeter monitoring boreholes at the request of the Environment Agency. The monitoring frequency of groundwater at the site was increased to obtain enough data for a detailed review of the hydrogeology to be undertaken. The independent hydrogeological assessment identified contaminants in the groundwater which were arising from an up-stream source. As a result of this contamination in the locality, the site could not comply with groundwater trigger levels, even in up-stream boreholes. This was accepted by the Environment Agency following extensive investigation and sampling and a varied EP establishing revised site trigger levels was issued on 09 October 2009, reference PP3738XM. The varied Permit contained a number of Improvement Conditions which have been discharged.

A further variation was accepted in May 2019, to increase the surface water discharge limits, and change the waste types to be accepted.

Section 4.2.1 of the Permit, requires that a report on the performance of the activities over the previous year shall be submitted to the Environment Agency (now Natural Resources Wales) by 31 January.

The report shall include as a minimum:

- a) A review of the monitoring and assessment carried out in accordance with the Permit against the relevant assumptions, parameters and results in the risk assessments submitted with the Application;
- b) Where the operator's management system encompasses annual improvement targets, a summary report of the previous year's progress against such targets;
- c) The energy consumed at the Site, reported in the format set out in Schedule 5 Table S5.3;
- d) The water consumed at the Site, reported in the format set out in Schedule 5 Table S5.3;
- e) The annual production/treatment set out in Schedule 5 Table S5.2;
- f) Details of any contamination or decontamination of the site which has occurred;
- g) The topographical surveys required by condition 3.6.3 other than those submitted as part of a CQA validation report;

- h) The volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;
- i) An assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys;
- j) A calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
- k) The compliance testing undertaken in the period.

The review period consists of 12 months of monitoring, from 1 January to 31 December 2021.

1.2 Site Location and Surrounding Land-use

Hendy Quarry Landfill is located at Grid Reference ST 05423 81045.

The site is located to the east of Miskin in Rhondda Cynon Taf, Wales. To the east of the site is the A4119 road. To the south of the site is Glyn Park, which comprises of the Miskin Wood and Mill Wood. The B4264 (School Road) is situated to the north of the site.

2.0 Landfill Gas

2.1 Introduction

The Permit requires monitoring for landfill gas at “All Landfill Gas Monitoring points”, the specific monitoring requirements are outlined in the approved Gas Management Plan¹ GMP (as required in CAR_NRW0038704).

Following the submission of the 2008 Gas Management Plan it was proposed to progressively install 18 in-waste gas monitoring points at a frequency of 2 per hectare. In 2008 eleven monitoring points were drilled within the existing waste mass at the site. As the monitoring points were installed within areas of the site that were still operational over time a number of these boreholes have been lost due to vehicle movements and waste placement activities and only five now remain (BH02, 05, 07, 08 and 09). Following discussions with NRW, Tarmac proposed to install replacement in-waste gas monitoring points and future in-waste gas monitoring points once area of the site were restored. In addition, it was agreed to undertake FID walkover surveys and update the GMP to reflect the changes; this was completed in 2019.

The approved GMP sets out the monitoring requirements as follows:

¹ Plan Reference: HNDY/GMP April 2019 Version 2.0

Table 1: LFG monitoring schedule

Location	Frequency	Determinands
External Boreholes		
B, H, PZ01/08, PZ02/08, PZ03/08, PZ05/08, PZ06/08, PZ07/08 and PZ08/08	Quarterly	Methane (%v/v), carbon dioxide (%v/v), oxygen (%v/v), Atmospheric pressure (Mb), Other meteorological data.
Internal Boreholes		
BH2, 5, 7, 8 and 9. In-waste boreholes installed following completion to restoration levels.	Quarterly	Methane (%v/v), carbon dioxide (%v/v), oxygen (%v/v), Atmospheric pressure (Mb), relative pressure, Other meteorological data.
Walk over gas survey (FID or Leak Dectector)	Six Monthly	Flammable gas (ppm)

Gas monitoring borehole locations are shown on the Monitoring Plan in Appendix A. Landfill gas data is presented in Appendix B.

PZ07/08 and PZ08/08 were not accessible in May 2021. No gas monitoring was undertaken in Q3 due to technician error; a Schedule 6 notification was submitted on 22/10/21 to report this.

Compliance limits are set for perimeter wells as per Table S4.3 of the Permit; these are reproduced in Table 2.

Table 2: EP Limits for Landfill Gas in external wells

LFG parameter	EP Limit
Methane (CH ₄)	1.0 % v/v
Carbon dioxide (CO ₂)	1.5 % v/v

2.2 Landfill Gas Data

The following general points can be made with regard to the gas data from the gas wells over the review period:

In Waste Boreholes

Zero to negligible (0.1%) methane concentrations were detected in the in-waste monitoring boreholes during the review period.

Carbon dioxide concentrations ranged from 0.1% to a maximum of 0.8% v/v in the in-waste boreholes.

Perimeter Boreholes

Zero methane was recorded in any of the perimeter monitoring locations during the review period. As such the compliance limit was not exceeded.

Carbon dioxide concentrations ranged from 0.1% to a maximum of 1.3%. As such the compliance limit was not exceeded.

FID Walkover survey

In the May FID survey, flammable gas concentrations were generally negligible 0-2ppm; however a maximum of 30ppm has detected at one location in the centre of the site. (See below).



In the December FID survey, 0ppm flammable gases was detected in all locations.

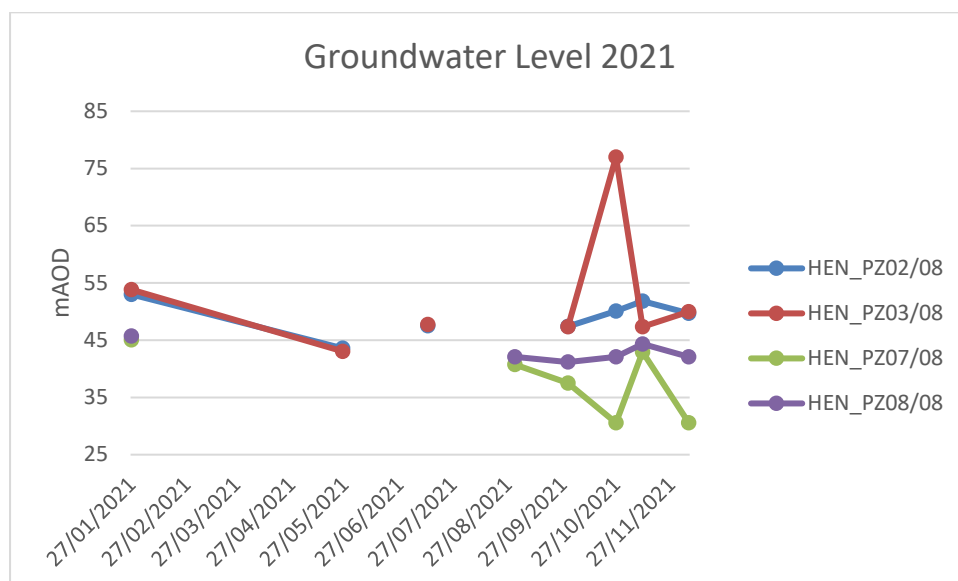
3.0 Groundwater

Four boreholes are specified in Table S4.4 of the Permit as requiring sampling on a quarterly basis these are PZ2/08 and PZ3/08 which are considered to be up gradient locations and PZ07/08 and PZ08/08 which are considered down gradient (see graph below) and as such have quality compliance limits as presented in Table S4.2 of the Permit. These limits have been reviewed in the 2018 HRA review² and the compliance limit for Nickel reduced; limits are presented in Table 3, and groundwater quality during the study period is reviewed on this basis. During May 2021 2 new boreholes were drilled to replace down gradient locations PZ07/08 & PZ08/08, these have been labelled PZ07/08R & PZ08/08R

Table 3: Groundwater Compliance Limits (PZ07/08 & PZ08/08)

Parameter	Permit Limits	HRA Review Limits
Chloride (mg/l)	150	150
Ammoniacal Nitrogen (mg/l)	0.5	0.5
Cadmium (mg/l)	0.001	0.001
Nickel (mg/l)	0.2	0.034
Sulphate (mg/l)	200	200
Napthalene (mg/l)	0.01	0.01

² 3145-CAU-XX-XX-RP-O-0301: HENDY LANDFILL SITE HYDROGEOLOGICAL RISK ASSESSMENT REVIEW 2017. CAULMERT LTD 12 JANUARY 2018.



Down gradient locations PZ07/08 and PZ08/08 were re-drilled in June 2021, and subsequently monitoring has been undertaken on a monthly basis in-order to build up a suitable dataset.

The locations of the boreholes are shown on the Monitoring Plan in Appendix A.

Tables of groundwater quality are presented in Appendix C.

3.1 Groundwater Quality

Ammoniacal nitrogen concentrations ranged from below the laboratory LOD to a maximum of 0.1mg/l, and so were below the compliance limit throughout the study period.

Chloride concentrations were low ranging from 17mg/l at PZ02/08 to a maximum of 79mg/l also at PZ02/08 and so were below the compliance limit throughout the study period.

Sulphate concentrations ranged from 6mg/l to 89mg/l with the maximum at PZ08/08 in October 2021. The compliance limit was not breached in the study period.

Cadmium concentrations ranged from <0.00002mg/l 0.0045mg/l. The compliance limit was not breached in the study period.

Nickel concentrations ranged from below detection limits to a maximum of 0.002mg/l, and so below the compliance limit.

Naphthalene concentrations were <0.01mg/l at all locations on all occasions, and so below the compliance limit.

Concentrations of total petroleum hydrocarbons (TPH in the range C10 to C40) were recorded, ranging between <0.01 and 0.11mg/l; the maximum concentration was detected at up-gradient PZ02/08.

4.0 Surface Water

The permit requires the collection of samples quarterly from the discharge to determine the quality of point source emissions to soak-away from the site.

The discharge is to be analysed for: pH, suspended solids, and mineral oil. In addition, there are limits on discharge volumes and rates. Surface water limits are set out in Table 4 below.

Table 4: Point Source emissions to water; emission limits and monitoring requirements

Monitoring point	Parameter	Limit	Monitoring frequency
Discharge to soakaway at NGR ST 0538 8136	Volume	5,000 m ³ /day	Daily
	Rate of discharge	58 l/s	Weekly
	Suspended solids	100mg/l	Quarterly
	Mineral Oil	5 mg/l	Quarterly
	pH	6-9	Quarterly

There was no discharge during the monitoring visits in Q2, Q3 or Q4 and as such a sample was only taken in Q1, with the following results:

- pH 7.6
- Suspended Solids <5mg/l
- TPH (substitute for mineral oil) <0.01mg/l

These parameters were therefore within consented limits.

The site meter is not able to monitor discharge rate. The site is currently unmanned, and as such obtaining daily meter readings is not possible. Monthly readings are taken, and averages presented in Table 5 below.

Table 5: Discharge volumes (m³)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Meter Reading	1069947	1094128	1105521	1118656	1140717	1146106	1146106	1146106	1147001	1160535	1173755	1185101
Monthly Volume	23249	24181	11393	13135	22061	5389	0	0	895	13534	13220	11346
Daily Average	750	864	368	438	712	180	0	0	10	437	426	366

There was no pumping in July or August. The maximum monthly volume was in February, assuming that the pump was running full time in this month, the daily average was 864m³, meaning that the compliance limit of 5000m³/day was not exceeded.

5.0 Annual Performance Data

Annual production/treatment at Hendy Quarry Landfill during the period 01 January to December 2021 is reported in accordance with the Permit for the site. Information required by Table S5.2 and 5.3 of the Permit is presented as Table 6 below.

Table 6: Annual Production/Treatment and performance parameters

Surface water and/or groundwater	Cubic metres/year
Disposed of off site:	138,403
Disposed of to any onsite effluent treatment plant:	0
Parameter	Annual total
Total Energy Consumption:	0.24 MWh

6.0 Management improvements

The following management improvements are required in 2022:

1. Install a suitable meter to allow the monitoring and recording discharge flow rate and monitor on a weekly basis.
2. Report daily discharge readings.
3. Maintain access to all permit monitoring points.

7.0 Annual Topographical Surveys and Waste Volumes.

7.1 Annual Topographical Survey

The annual topographical survey was completed on 10 August 2021 and is presented in Appendix A, drawing reference H074 HENDY 2021-08-10 LF_A1L.pdf.

7.2 Annual Waste Volume

No waste was accepted in between surveys.

7.3 Settlement Behaviour

Drawing H074 HENDY 2021-08-10 QU SETTLEMENT_A3L shows settlement between July 2020 and August 2021, it appears that settlement is negligible.

7.4 Remaining Void Capacity

The calculated remaining void from the survey undertaken in August 2021 is 1,300,054m³.

8.0 Compliance Testing

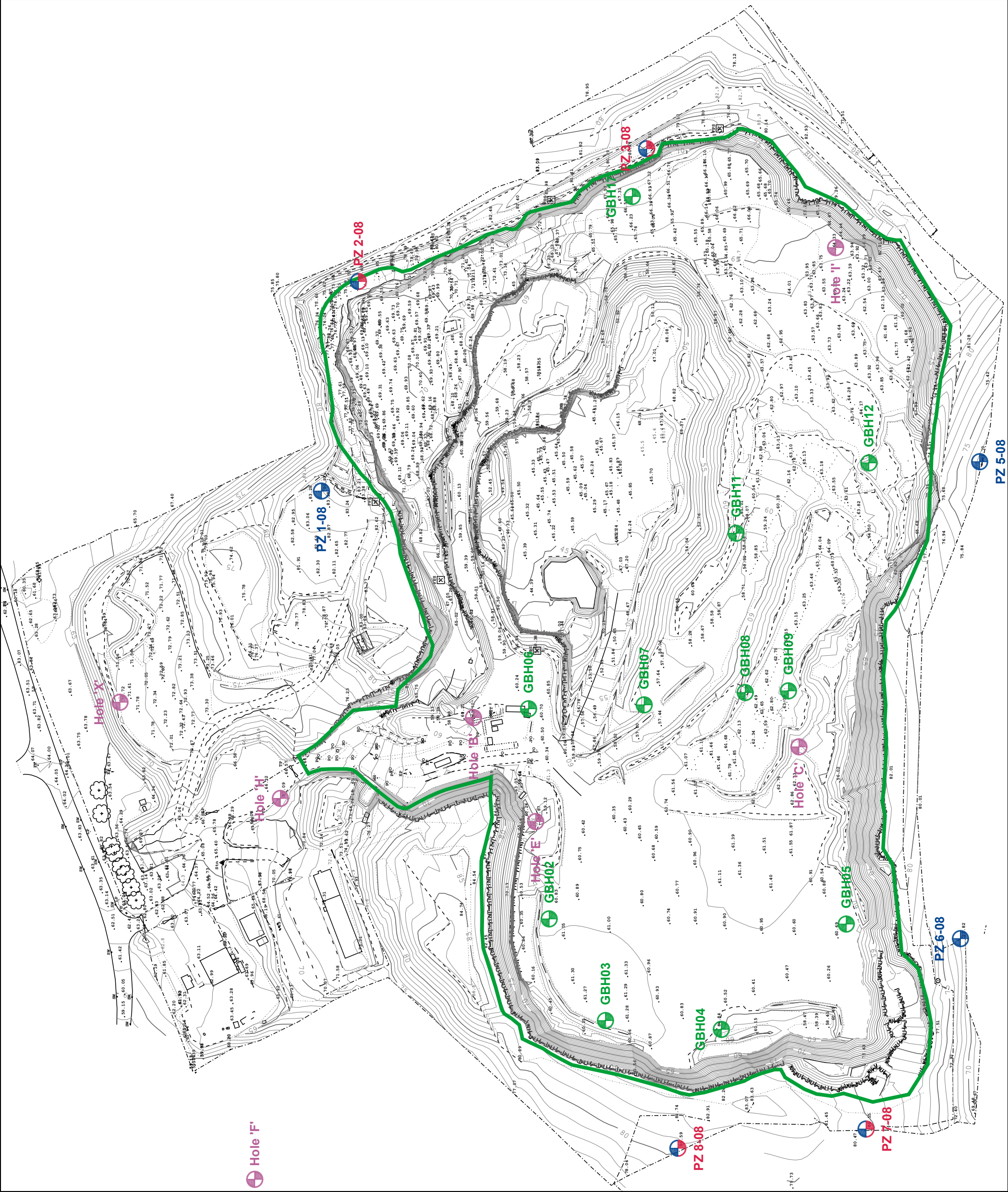
Compliance testing has not been undertaken in the reporting period.

Appendix A

Monitoring Plan (CE/HNDY/08)

H074 HENDY 2021-08-10 QU SETTLEMENT_A3L

H074 HENDY 2021-08-10 LF_A1L (H074-00070)



Legend:



Environmental Permit area



Groundwater monitoring boreholes to be included within the Permit



Internal landfill gas monitoring boreholes



Landfill gas monitoring boreholes external to the body of waste



Existing/former boreholes at the site

Final revision:	Date:	Description:
-	-	-
-	-	-

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Site: **HENDY QUARRY LANDFILL**

Drawing Title:

MONITORING PLAN

Drawn By: PSW	Date: 4th June '09	Scale: 1:2,000	Page Size: A3
Status: FINAL	Final Revision: -	Drawing No: CE/HNDY/08	



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H074 - HENDY

AREA OF LANDFILL
10th AUGUST 2021

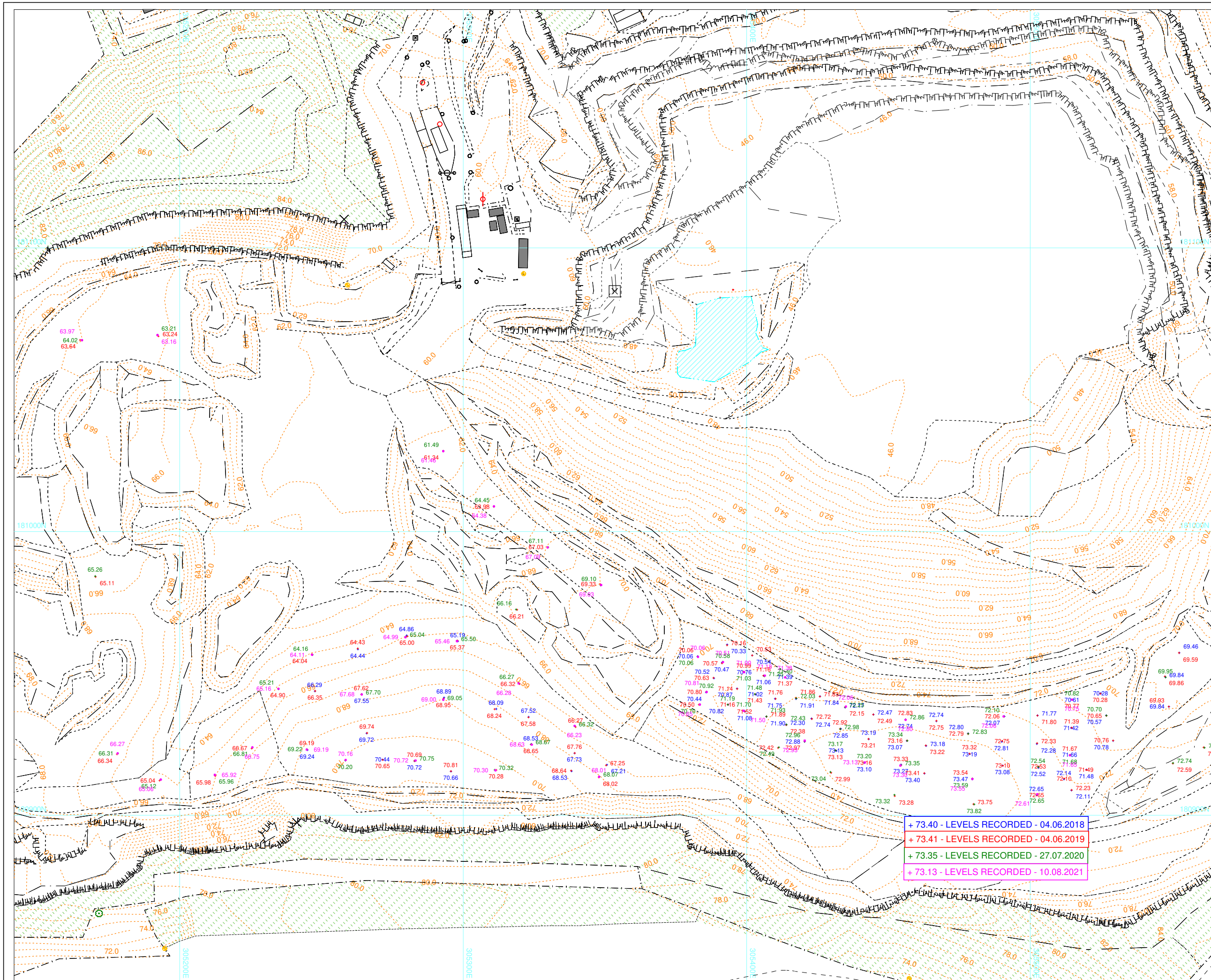
LSS Models Used To Create Plot
H074 HENDY 2021-08-10 QU

Drawn By
SJB

Scale
1 : 1250

LIS Drawing Number
H074-00070

Drawing Name
H074 2021-08-10 LF_A1L.pdf



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H074 - HENDY

SETTLEMENT SURVEY
10th AUGUST 2021

LSS Models Used To Create Plot
H074 HENDY 2021-08-10 QU SETTLEMENT

Drawn By
SJB

Date
JANUARY 2022

Scale
1 : 1250

Drawing No.
H074 SETTLEMENT 2021-08

Appendix B

Landfill Gas Data

Perimeter

Sample Point	Date	Methane (%Vol)	Carbon Dioxide (%Vol)	Oxygen (%Vol)	Atmospheric pressure (mb)	Relative Pressure (mb)	Carbon Monoxide (PPM)	Hydrogen Sulphide (PPM)	Flow l/hr	Data Comments
BH0B	27/01/2021	0	0.3	20.7	1004	-0.02	0	0		
BH0B	26/05/2021	0	0.3	20	1011	0.19	0	0	0	
BH0B	13/07/2021									No gas data - Schedule 6 sent 22/10/21
BH0B	27/10/2021	0	0.2	20.8	1011	-0.35	0	0	0.9	
BH0E	27/01/2021									Unable to locate
BH0E	26/05/2021									Unable to locate
BH0E	13/07/2021									Unable to locate
BH0E	27/10/2021									Unable to locate
BH0H	27/01/2021	0	0.2	20.9	1003	-0.04	0	0		
BH0H	26/05/2021	0	0.1	20.9	1010	0.25	0	0	0	
BH0H	13/07/2021									No gas data - Schedule 6 sent 22/10/21
BH0H	27/10/2021	0	0.1	20.7	1011	-0.26	0	0	0.9	
BH0X	27/01/2021									compound lock number changed - no access
BH0X	26/05/2021	0	0.1	19.8	1010	0.56	0	0	0	
BH0X	13/07/2021									No gas data - Schedule 6 sent 22/10/21
BH0X	27/10/2021	0	0.1	20.7	1010	-0.12	0	0	0.7	
BH0Y	27/01/2021									Unable to locate
BH0Y	26/05/2021									Unable to locate
BH0Y	13/07/2021									Unable to locate
BH0Y	27/10/2021									Unable to locate
PZ01/08	27/01/2021	0	0.9	20.5	1003	-0.05	0	0		
PZ01/08	26/05/2021	0	0.1	20.8	1008	0.11	0	0	-0.1	
PZ01/08	13/07/2021									No gas data - Schedule 6 sent 22/10/21
PZ01/08	27/10/2021	0	0.5	20.4	1009	-0.11	0	0	0.9	
PZ02/08	27/01/2021	0	0.2	20.7	1003	-0.07	0	0		
PZ02/08	26/05/2021	0	0.1	21.1	1009	0.12	0	0	-0.1	
PZ02/08	13/07/2021									No gas data - Schedule 6 sent 22/10/21
PZ02/08	27/10/2021	0	0.3	20.5	1009	-0.09	0	0	0.8	Sample is light cream
PZ03/08	27/01/2021	0	0.4	20.6	1003	-0.04	0	0		slotted pipe above ground level
PZ03/08	26/05/2021	0	0.1	21.2	1009	0.18	0	0	0	
PZ03/08	27/05/2021									
PZ03/08	13/07/2021									Waterra pipe has fallen down into BH - No gas data recorded
PZ03/08	27/10/2021	0	0.4	20.5	1009	-0.14	0	0	0.8	Waterra removed, sample is light cream
PZ04/08	27/01/2021									not installed
PZ04/08	26/05/2021									not installed
PZ04/08	13/07/2021									not installed
PZ04/08	27/10/2021									not installed
PZ05/08	27/01/2021	0	1.1	19.1	1004	0.02	0	0		
PZ05/08	26/05/2021	0	0.9	18.3	1010	0.09	0	0	0	
PZ05/08	13/07/2021									No gas data - Schedule 6 sent 22/10/21
PZ05/08	27/10/2021	0	1.2	19.7	1009	-0.16	0	0	0.8	
PZ06/08	27/01/2021	0	1.2	19.3	1003	0.02	0	0		
PZ06/08	26/05/2021	0	0.8	20.4	1010	0.02	0	0	0.1	
PZ06/08	13/07/2021									No gas data - Schedule 6 sent 22/10/21
PZ06/08	27/10/2021	0	1.3	20	1009	-0.05	0	0	0.9	
PZ07/08	27/01/2021	0	0.5	20.4	1002	-0.07	0	0		insufficient to sample
PZ07/08	26/05/2021									Locked
PZ07/08R	13/07/2021									Waterra fitted - No gas data - Schedule 6 sent 22/10/21
PZ07/08R	27/10/2021	0	0.3	20.8	1008	-0.23	0	0	0.6	No padlock or gas bung/tap, sample is cream
PZ08/08	27/01/2021	0	0.5	20	1002	-0.02	0	0		bh distorted - unable to sample
PZ08/08	26/05/2021									Locked
PZ08/08R	13/07/2021									Waterra fitted - No gas data - Schedule 6 sent 22/10/22
PZ08/08R	27/10/2021	0	0.2	20.6	1008	-0.16	1	0	0.9	No padlock or gas bung/tap, sample is light cream
Max		0	1.3	21.2	1011	0.56	1	0	0.9	
Min		0	0.1	18.3	1002	-0.35	0	0	-0.1	
Compliance		1	1.5							

In-waste

Sample Point	Date	Methane (%Vol)	Carbon Dioxide (%Vol)	Oxygen (%Vol)	Atmospheric pressure (mb)	Relative Pressure (mb)	Carbon Monoxide (PPM)	Hydrogen Sulphide (PPM)	Balance (%)	Flow l/hr	Data Comments
BH02	27/01/2021	0	0.4	20.4	1004	-0.23	0	0	79.2		63mm pipe with bung & valve
BH02	26/05/2021	0	0.1	20.6	1011	-0.72	0	0	79.3	0.1	
BH02	13/07/2021										No gas data - Schedule 6 sent 22/10/21
BH02	27/10/2021	0	0.1	20.9	1012	-0.19	1	0	79	0.9	
BH05	27/01/2021	0	0.2	21.1	1004	-2.58	0	0	78.7		
BH05	26/05/2021	0	0.8	18.4	1011	0.35	0	0	80.8	0	
BH05	13/07/2021										No gas data - Schedule 6 sent 22/10/21
BH05	27/10/2021	0	0.1	20.8	1011	-0.28	0	0	79.1	0.5	
BH07	27/01/2021	0	0.3	20.9	1003	-3.36	0	0	78.8		
BH07	26/05/2021										Unsafe, borehole in deep overgrown hole
BH07	13/07/2021										No gas data - Schedule 6 sent 22/10/21
BH07	27/10/2021	0.1	0.2	20.9	1011	-1.78	1	0	78.8	0.9	
BH08	27/01/2021										unsafe access
BH08	26/05/2021	0	0.1	20.7	1010	0	0	1	79.2	0	
BH08	13/07/2021										No gas data - Schedule 6 sent 22/10/21
BH08	27/10/2021										unsafe access
BH09	27/01/2021										unsafe access
BH09	26/05/2021	0	0.1	20.6	1011	-0.35	0	0	79.3	0	
BH09	13/07/2021										No gas data - Schedule 6 sent 22/10/21
BH09	27/10/2021										Cannot be located
	Max	0.1	0.8	21.1	1012	0.35	1	1	80.8	0.9	
	Min	0	0.1	18.4	1003	-3.36	0	0	78.7	0	

Appendix C

Groundwater Data

Sample Point	Date	Chloride (mg/l)	Ammonical Nitrogen (mg/l)	Cadmium (mg/l)	Nickel (mg/l)	Sulphate (mg/l)	Naphthalene (UG/L)	Alkalinity (mg/l)	Calcium (mg/l)	Chromium (mg/l)	Copper (mg/l)	Dissolved Oxygen (mg/l)	Iron (mg/l)	Potassium (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Sodium (mg/l)	Lead (mg/l)	Total Organic Carbon (mg/l)	Total Oxidised Nitrogen (mg/l)	Zinc (mg/l)	Electrical conductivity (us/cm)	pH (liquid)	Total (USEPAH16) PAH's (UG/L)	Total TPH >C8-C40 (Aromatic) (mg/l)	Data Comments
HEN_PZ02/08	27/01/2021	19	0.01	<0.00002	<0.001	12	<0.01	145	56	<0.001	<0.001	9.5	0.04	<1	7	<0.002	10	<0.001	<0.20	0.6	<0.002	352	7.8	<0.16		
HEN_PZ02/08	27/05/2021	40	<0.01	0.00003	<0.001	7	<0.01	167	66	<0.001	<0.001	8.2	<0.01	<1	8	<0.002	20	<0.001	0.39	0.3	<0.002	470	7.9	<0.16	<0.01	
HEN_PZ02/08	13/07/2021	34	<0.01	<0.00002	<0.001	6	<0.01	166	65	<0.001	<0.001	8.8	<0.01	<1	8	<0.002	17	<0.001	0.35	<0.2	<0.002	433	7.8	<0.16	0.1	
HEN_PZ02/08	31/08/2021																									No access, padlock code changed, spoke to Owen
HEN_PZ02/08	30/09/2021	28	<0.01	0.00004	<0.001	6	<0.01	156	62	<0.001	<0.001	8.8	<0.01	<1	7	<0.002	14	<0.001	0.3	0.2	<0.002	405	7.9	<0.16	<0.01	
HEN_PZ02/08	27/10/2021	66	<0.01	<0.00002	0.001	12	<0.01	175	71	<0.001	<0.001	9.2	0.01	1	12	<0.002	36	<0.001	0.41	0.7	0.006	524	7.6	<0.16	<0.01	
HEN_PZ02/08	11/11/2021	79	0.01	<0.00002	<0.001	12	<0.01	210	75	<0.001	<0.001	12.2	<0.01	1	13	<0.002	44	<0.001	1.3	0.5	<0.002	572	7.8	<0.16	<0.01	
HEN_PZ02/08	07/12/2021	17	0.01	<0.00002	<0.001	6	<0.01	176	65	<0.001	<0.001	10.9	0.01	<1	8	<0.002	11	<0.001	0.42	<0.2	<0.002	403	7.4	<0.16	0.11	
HEN_PZ03/08	27/01/2021	47	<0.01	0.00045	<0.001	10	<0.01	315	92	<0.001	0.001	8.7	0.01	2	29	<0.002	31	0.005	0.42	1.3	0.106	744	7.7	<0.16		
HEN_PZ03/08	27/05/2021	58	<0.01	0.00033	<0.001	9	<0.01	284	92	<0.001	<0.001	7.5	<0.01	2	28	<0.002	32	0.006	0.49	0.7	0.065	791	8	<0.16	<0.01	
HEN_PZ03/08	13/07/2021																									
HEN_PZ03/08	31/08/2021																									No access, padlock code changed, spoke to Owen
HEN_PZ03/08	30/09/2021																									Unable to sample, waterra stuck
HEN_PZ03/08	27/10/2021	58	0.02	0.00032	0.002	10	<0.01	320	100	<0.001	<0.001	9.8	<0.01	2	30	<0.002	33	0.004	0.54	0.9	0.103	681	7.7	<0.16	<0.01	
HEN_PZ03/08	11/11/2021	56	<0.01	0.00005	<0.001	9	<0.01	316	97	<0.001	<0.001	11.6	<0.01	2	29	<0.002	32	<0.001	0.62	2.2	0.061	609	7.8	<0.16	0.02	
HEN_PZ03/08	07/12/2021	62	0.1	0.00045	0.002	10	<0.01	284	96	<0.001	0.001	11.5	<0.01	2	29	<0.002	37	0.001	0.73	1	0.103	816	7.5	<0.16	0.02	
HEN_PZ07/08	27/01/2021																									insufficient to sample
HEN_PZ07/08R	26/05/2021																									Locked
HEN_PZ07/08R	10/06/2021	20	<0.01	0.00003	<0.001	20	<0.01	588	94	<0.001	<0.001	5.2	<0.01	2	24	0.005	12	<0.001	1.3	0.5	<0.002	595	7.9	<0.16	<0.01	
HEN_PZ07/08R	10/06/2021	20	<0.01	0.00003	<0.001	20	<0.01	588	94	<0.001	<0.001	5.2	<0.01	2	24	0.005	12	<0.001	1.3	0.5	<0.002	595	7.9	<0.16	<0.01	
HEN_PZ07/08R	13/07/2021	20	<0.01	<0.00002	0.001	36	<0.01	343	84	<0.001	<0.001	5	<0.01	2	27	0.312	17	<0.001	0.89	0.3	0.131	647	7.6	<0.16	0.06	
HEN_PZ07/08R	31/08/2021	19	0.02	0.00006	<0.001	30	<0.01	295	95	<0.001	0.003	8.7	<0.01	2	26	<0.002	13	<0.001	0.95	0.7	0.004	649	7.5	<0.16	<0.01	
HEN_PZ07/08R	31/08/2021	19	0.02	0.00006	<0.001	30	<0.01	295	95	<0.001	0.003	8.7	<0.01	2	26	<0.002	13	<0.001	0.95	0.7	0.004	649	7.5	<0.16	<0.01	
HEN_PZ07/08R	30/09/2021	24	<0.01	0.00006	<0.001	39	<0.01	309	102	<0.001	<0.001	5.4	<0.01	3	29	0.007	15	0.001	1.3	0.7	0.006	704	7.8	0.2	0.09	
HEN_PZ07/08R	27/10/2021	28	<0.01	<0.00002	0.002	45	<0.01	319	117	<0.001	<0.001	8.6	0.01	3	33	<0.002	18	<0.001	1.4	1	0.011	677	7.3	<0.16	0.01	
HEN_PZ07/08R	11/11/2021	28	<0.01	<0.00002	<0.001	46	<0.01	326	113	<0.001	<0.001	11.8	<0.01	3	32	<0.002	18	<0.001	1.5	0.7	0.006	651	7.6	0.19	0.05	
HEN_PZ07/08R	07/12/2021	27	<0.01	<0.00002	<0.001	45	<0.01	333	110	<0.001	<0.001	11.3	<0.01	4	33	<0.002	17	<0.001	1.8	0.4	0.004	768	7.4	0.2	0.02	
HEN_PZ08/08	27/01/2021																									bh distorted - unable to sample
HEN_PZ08/08R	26/05/2021																									Locked
HEN_PZ08/08R	10/06/2021	26	0.01	0.00002	<0.001	16	<0.01	466	107	<0.001	<0.001	3.7	<0.01	3	26	<0.002	19	<0.001	1.6	0.7	<0.002	685	7.9	<0.16	0.01	
HEN_PZ08/08R	10/06/2021	26	0.01	0.00002	<0.001	16	<0.01	466	107	<0.001	<0.001	3.7	<0.01	3	26	<0.002	19	<0.001	1.6	0.7	<0.002	685	7.9	<0.16	0.01	
HEN_PZ08/08R	13/07/2021	28	0.01	<0.00002	0.002	72	<0.01	293	115	<0.001	0.001	2.5	<0.01	3	33	0.051	27	<0.001	2.5	0.8	0.089	754	7.6	<0.16	<0.01	
HEN_PZ08/08R	31/08/2021	27	0.01	0.00004	<0.001	83	<0.01	350	121	<0.001	<0.001	8.9	<0.01	5	37	0.004	23	<0.001	2.6	1.5	0.004	869	7.5	<0.16	<0.01	
HEN_PZ08/08R	31/08/2021	27	0.01	0.00004	<0.001	83	<0.01	350	121	<0.001	<0.001	8.9	<0.01	5	37	0.004	23	<0.001	2.6	1.5	0.004	869	7.5	<0.16	<0.01	
HEN_PZ08/08R	30/09/2021																									
HEN_PZ08/08R	27/10/2021	28	<0.01	<0.00002	0.001	89	<0.01	364	130	<0.001	<0.001	8.4	<0.01	5	39	<0.002	23	<0.001	2.7	1.5	0.008	796	7.4	<0.16	<0.01	
HEN_PZ08/08R	11/11/2021	26	0.02	<0.00002	<0.001	70	<0.01	361	123	<0.001	0.001	11.5	0.01	4	37	<0.002	21	<0.001	2.5	1.1	0.006	717	7.7	<0.16	0.03	
HEN_PZ08/08R	07/12/2021	24	<0.01	<0.00002	<0.001	44	<0.01	330	114	<0.001	<0.001	11.3	<0.01	3	33	<0.002	18	<0.001	1.7	1.1	0.004	785	7.5	<0.16	0.02	
	Max	79	0.1	0.00045	0.002	89	<0.01	588	130	<0.001	0.003	12.2	0.04	5	39	0.312	44	0.006	2.7	2.2	0.131	869	8	0.2	0.11	
	Min	17	<0.01	<0.00002	<0.001	6	<0.01	145	56	<0.001	<0.001	2.5	<0.01	1	7	<0.002	10	<0.001	0.3	0.2	0.004	352	7.3	<0.01	<0.01	
Compliance limit (PZ07/08 & PZ08/08)		150	0.5	0.001	0.034	200	0.																			