



St. Modwen Developments Limited

Coed Darcy

Crymlyn Tip - Environmental Monitoring Annual Report

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I Introduction

I.1 Overview

This report has been prepared to satisfy Condition 4.2.2 (a) of Crymlyn Tip Environmental Permit EPR/AP3990LR and subsequent variations (the Permit), which states:

'4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency [now Natural Resources Wales] by 31 January (or other date agreed in writing by [NRW] each year. The report(s) shall include as a minimum:

a) A review of the results of the monitoring and assessment carried out in accordance with this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this site and any agreed amendments thereto.'

This report covers the monitoring period January 1st 2021 to December 31st 2021.

I.2 Background

St. Modwen Developments Limited (St. Modwen) acquired responsibility for Crymlyn Tip (the Tip) in 2008, when they purchased the former Llandarcy Oil Refinery from BP. For the Tip to enter 'definitive' closure NRW must be satisfied that a Closure and Aftercare Management Plan has been produced.

In January 2018 Atkins were appointed by St. Modwen to undertake an environmental monitoring programme in line with the requirements of the Permit and to assist in the production of the Closure and Aftercare Management Plan.

I.3 Summary of Works

The environmental monitoring programme was initially undertaken by Atkins up until March 2019. As of April 2019, PJA took over responsibilities for elements of the monitoring and reporting of the findings on behalf of St. Modwen.

GeoEnvironmental Applications Ltd (GAL) have been contracted by St. Modwen to manage the recovery of local free phase oil within the Tip and its peripheries. Alongside oil recovery, GAL carry out groundwater monitoring within boreholes/sumps and obtain monthly gas readings from available boreholes within/surrounding the Tip as part of the monitoring programme. The oil recovery and monitoring works carried out by GAL are overseen by PJA, who also collect groundwater and surface water samples on a monthly basis as part of the monitoring programme.



I.4 Supporting Documents

The last annual monitoring report covering the year 2020 was produced by PJA and submitted to NRW in February 2021:

- Coed Darcy – Crymlyn Tip Environmental Monitoring Annual Report, February 2021 –Ref: 4020-PJA-20-XX-RP-R-0045

Additional information relating to the history, operation, previous assessments and risk assessments of the Tip are presented in the following reports:

- Atkins (2013) Coed Darcy – Hydrogeological Risk Assessment Crymlyn Tip;
- Atkins (2013) – Coed Darcy – Landfill Gas Risk Assessment and Gas Management Plan;
- Atkins (2017) – Coed Darcy Crymlyn Tip- Partial Surrender of Coed Darcy Wetlands. EPR/AP3990LR/S003 Site Condition Report. Ref 5041216-RAP-RPT-0001788;
- Atkins (2019) – Coed Darcy Crymlyn Tip – Environmental Permit Monitoring. Ref: 5041216. Dated: 31/01/2019;
- Natural Resources Wales (2019) – Compliance Assessment Report. Ref: CAR_NRW0034811. Dated: 13/03/2019;
- PJA (2019) – Coed Darcy – Crymlyn Tip Factual Summary Report, April – September 2019: Ref: 4020-PJA-19-XX-TN-R-005. Dated 22/10/2019; and
- PJA (2020) – Crymlyn Tip – Environmental Monitoring Annual Report. Ref: 04020/OUT/0027. Dated April 2020.

It is assumed that the reader has access to the above documentation and is familiar with previous assessments undertaken. This report is not intended to repeat or reproduce findings of previous assessments in any great detail.

I.5 Limitations

This report has been prepared by PJA, on behalf of St. Modwen, for submission to NRW. This report shall not be relied upon or transferred to any other parties. If an unauthorised third party comes into possession of this report, they rely on its contents at their own risk.

The findings within this report are based upon information gained from a variety of sources and field measurements as detailed within this report which PJA believes are reliable. Nevertheless, PJA cannot guarantee the authenticity or reliability of third-party information.

The conclusions made within this report are based on the guidance available at the time of writing.



2 Site Setting

2.1 Site Location and Description

The Tip is located in the historical 'Containment Area' in the western section of the wider Coed Darcy development at the former Llandarcy Oil Refinery. The 'Containment Area' also includes a series of lagoons and wetlands. The containment area is shown in Appendix A on PJA drawing 04020-A-0110-P1: Notable Areas & NRW Discharge Consent Points.

The area covered by the Permit, and to which this report relates, is shown on drawing 04020-A-SK201-P2 and consists of the 'lower tip' in the west and the 'main tip' in the centre and east. To the north is Crymlyn Bog and to the south of the permitted area are the wetlands which were surrendered from the Permit in 2017.

2.2 Brief Site History

When the refinery opened in the early 1920s the 'Containment Area' comprised a series of lagoons and wetlands, congruent with Crymlyn Bog. The lagoons were initially constructed during the operational years of the refinery and were intended to intercept oil, preventing it from entering Crymlyn Bog. There are three lagoons within the Containment Area: Crymlyn Bog Lagoon (approx. 10,500m³), South Bay (approx. 4,450m³) and West Bay (approx. 1,500m³).

Prior to the Second World War an ash bund was constructed around the Containment Area to provide a containment area for oil, which may have otherwise flowed into Crymlyn Bog if the tank farm area had been struck by bombs during the war. The ash bund also contained drainage systems, serving the southern half of the former refinery.

In 1977 a waste disposal licence was granted for the Containment Area. The licence granted the deposition of refinery waste, including both inert and potentially hazardous materials. Waste was filled in the area north of the wetlands. No waste has been accepted since 1999 and the landfill has been non-operational since July 2001.

Remedial works have taken place within the wetlands (South Bay, West Bay and Crymlyn Bog Lagoon) between 2011 and 2015. These works were summarised as part of the submission for the partial surrender of the waterbodies from the permitted area. The partial surrender report (Atkins report reference- 5041216-RAP-RPT-0001788) was submitted to NRW and the Coed Darcy wetlands removed from the permitted area in 2017. The remaining permitted area is outlined in red on drawing 04020-A-SK201-P2.



3 Environmental Setting

3.1 Geology

Published British Geological Survey records indicate superficial deposits at the Tip to predominantly comprise Peat underlain by Devensian Till; however, Peat is absent from the eastern portion of the Tip. Bedrock of the Pennant Sandstone Formation underlies the superficial deposits.

Based on historical borehole logs Made Ground/waste thicknesses are variable but extend to depths in excess of 17mbgl locally. Made Ground generally comprises grey, brown, and black, sandy, gravelly clay, with sand, gravels and cobbles. Gravels and cobbles consist of bricks, concrete, timber, metal, and ash. Much of the infill material is consistent with waste derived from refinery operations. There are areas where asbestos waste is reported to have been deposited as well as tank sludges, other industrial waste by-products, oil, and tar residues.

Available borehole logs are presented in Appendix B.

3.2 Hydrogeology

Peat is classified as Unproductive Strata and Till is classified as a Secondary (Undifferentiated) Aquifer. The underlying bedrock is classified as a Secondary A Aquifer.

Following an investigation across the wider Llandarcy Oil Refinery, including the Tip, URS produced groundwater contour plots for the bedrock and superficial aquifers (URS Report: 39991-044-785: Final Factual Report Whole Site Investigation BP LLANDARCY REFINERY 12th August 2005). These plots indicate groundwater in the bedrock beneath the Tip flows from south to north across the permitted area. Artesian and sub-artesian conditions may be present in the bedrock around the boundary between the Tip and Crymlyn Bog. Monitoring of shallow groundwater beneath the Tip indicates possible local radial flow although this may be distorted by the presence of residual oil and by the heterogeneous nature of the waste material.

For reference the groundwater contour plots taken from the original URS report are presented in Appendix C.

3.3 Hydrology

A 'peripheral trench' separating the Tip from Crymlyn Bog to the north is a narrow channel that intercepts groundwater flowing to the north from the Tip. A plywood wall in the trench traps free phase oil, whilst allowing groundwater to flow underneath the plywood into the bog. Oil is periodically collected from the trench (and from sumps and boreholes within the Tip) and sent for offsite processing.



Three water bodies located in the south of the wider Containment Area, namely South Bay, West Bay and Crymlyn Bog Lagoon, were surrendered from the Permit in 2017.

3.3.1 South Bay

South Bay has a capacity of approximately 4,450m³ and is located to the south of the Tip. The waterbody was originally created to intercept uncontrolled discharge of free product from the refinery and prevent it from entering Crymlyn Bog.

3.3.2 West Bay

West Bay is approximately 1,500m³ in capacity and lies to the south west of the Tip. Similar to South Bay, West Bay was installed to intercept uncontrolled discharge of free product from the western section of southern tank farm and prevent it from entering Crymlyn Bog.

3.3.3 Crymlyn Bog Lagoon

Located to the south of the Tip, Crymlyn Bog Lagoon receives inputs from both South Bay and West Bay, prior to discharging into Crymlyn Bog. Discharge to the bog from Crymlyn Bog Lagoon is via a siphon valve and a historical oil-water interceptor located within the ash bund. The outfall from the siphon valve is a NRW consented discharge point, W3, under Environmental Permit EPR/ LB3293HN which is held by St. Modwen.



4 Surface Water and Groundwater Monitoring and Sampling

4.1 Monitoring and Sampling Locations

Current sampling locations are shown on PJA drawing 04020-A-SK201-P2 in Appendix A and are summarised in Table 1.

Table 1: Summary of Monitoring and Sampling Locations

Location ID	Monitoring Type	Response Zone
SW1 –SW6	Surface water	Surface water
Sumps 14 – 21 & 24-28	Groundwater monitoring & oil recovery	Made Ground
CBH2	Groundwater monitoring	Made Ground
CBH13	Groundwater monitoring	Made Ground
CBH16	Groundwater monitoring	Made Ground
CBH19	Groundwater monitoring	Made Ground
CBH20	Gas, groundwater monitoring & sampling	Made Ground
CBH23	Gas, groundwater monitoring & sampling	Made Ground
CBH25	Groundwater monitoring	Made Ground & Peat
CBH32	Groundwater monitoring	Made Ground
CBH39	Groundwater monitoring	Made Ground
CBH46	Groundwater monitoring & sampling	No borehole log
CBH47	Groundwater monitoring	Made Ground
CBH48	Groundwater monitoring	Made Ground
CBH49	Groundwater monitoring	Made Ground
CBH51	Gas & groundwater monitoring	Made Ground
CBH52	Gas, groundwater monitoring & sampling	Made Ground
CBH57	Gas, groundwater monitoring & sampling	Made Ground
CBH64	Groundwater sampling	Made Ground
CARW008	Gas, groundwater monitoring & sampling	Made Ground
CARW009	Gas, groundwater monitoring & sampling	Made Ground & Silt
CARW034	Groundwater sampling	Made Ground & Silt
MSMW034D	Groundwater monitoring & sampling	Mudstone (Coal Measures)
MSMW034S	Groundwater monitoring & sampling	Gravel (Glacial Deposits)
MSMW91	Gas & groundwater monitoring	Gravel (Glacial Deposits)
MSMW155D	Gas, groundwater monitoring & sampling	No borehole log (presumed bedrock)
MSMW155S	Gas, groundwater monitoring and sampling	No borehole log (presumed superficial deposits)
MSMW231	Gas & groundwater monitoring	Made Ground
MSMW238	Groundwater monitoring	Made Ground

GAL carry out field measurements, monitoring of the groundwater levels and taking gas readings from locations installed with a gas bung and tap using a GA5000 gas analyser. PJA carry out monthly groundwater and surface water sampling. Sampling is carried out using a peristaltic pump where



possible or bailer where excessive groundwater depth or the presence of free phase prevent the use of the pump.

4.2 Laboratory Analysis

A total of 150 groundwater samples and 71 surface water samples were scheduled for the following suite of laboratory analysis during 2021:

- pH
- Ammoniacal Nitrogen as N;
- Chloride;
- Dissolved and total metals (arsenic, boron, cadmium, chromium, copper, lead, nickel, selenium, vanadium, zinc) (excluding SW6 in May 2021);
- Hardness (total as CaCO₃ unfiltered);
- Total Petroleum Hydrocarbons Criteria Working Group (TPHCWG);
- BTEX compounds (Benzene, Toluene, Ethylbenzene and Xylenes);
- MTBE (methyl tertiary butyl ether); and
- Polycyclic Aromatic Hydrocarbons (PAH) (aqueous).

4.3 Surface Water Sampling Regime

The six surface water locations, SW1 to SW6, were all sampled on a monthly basis throughout 2021.

Groundwater Sampling Regime

Table 2 shows when each of the groundwater locations has been sampled over the course of 2021. During each sampling visit, collection of groundwater samples is attempted from a number of locations within and surrounding the Tip to provide good spatial distribution. During some sampling rounds it may not have been possible to obtain a sample because of any one or a combination of the following factors:

- difficulty in obtaining a sample due to the presence of free phase hydrocarbons;
- sampling equipment error; or
- time constraints.

**Table 2: Groundwater Sampling Regime**

Sampling location	27/01	23/02	23/03	30/04	04/06	07/07	11/08	25/08	07/10	04/11	26/11	16/12
CBH20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CBH23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CBH46	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CBH52	×	×	✓	✓	✓	✓	✓	✓	×	×	×	×
CBH57	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CBH64	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×
CARW008	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CARW009	✓	✓	✓	×	✓	✓	×	✓	✓	✓	✓	✓
CARW034	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MSMW091	✓	✓	✓	✓	✓	×	×	×	×	×	×	×
MSMW155S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MSMW155D	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓
CBH30	✓	×	×	×	×	×	×	×	×	×	×	×
MSMW034S	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓
MSMW034D	✓	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	✓

✓ groundwater sample taken

× groundwater sample not taken



5 Groundwater and Non-aqueous Phase Liquid Monitoring Results

5.1 Introduction

Groundwater level and non-aqueous phase liquid (NAPL) monitoring was undertaken in boreholes and sumps at the Tip during 2021. PJA Drawing 04020-A-SK201-P2 showing all monitoring locations is presented in Appendix A.

Available borehole logs, presented in Appendix B, have been reviewed to identify response zones for each of the monitoring locations. Response zones are constructed within either waste material, superficial deposits, or bedrock.

5.2 Groundwater Level Monitoring

Groundwater level monitoring was carried out in a total of 25 boreholes locations during 2021. A summary of the groundwater levels recorded during 2021 are provided in Table 3.

5.3 Non-Aqueous Phase Liquid Levels (NAPL)

Light non-aqueous phase liquids (LNAPL) have been recorded in boreholes and/or sumps during 2021. A summary of LNAPL recorded in boreholes is presented in Table 4. LNAPL thicknesses recorded in sumps are presented in Table 5.

Plans visually displaying 'snapshots' of recorded LNAPL thicknesses throughout 2021 are presented in Appendix D.

No suspected dense non-aqueous phase liquids (DNAPL) were detected in any monitoring locations during 2021.



Table 3: Summary of Recorded Groundwater Levels in Boreholes

Monitoring Locations	Response Zone	Maximum		Minimum		Average	Variability
		Depth	Month	Depth	Month		
CBH2	Waste/Made Ground	2.28m bgl 11.38m aod	December	3.94m bgl 9.72m aod	July	3.27m bgl	1.66m
CBH13	Waste/Made Ground	7.08m bgl 8.20m aod	January	8.46m bgl 6.82m aod	May	7.78m bgl	1.38m
CBH16	Waste/Made Ground	4.03m bgl 10.52m aod	November	7.10m bgl 7.45m aod	September	6.09m bgl	3.07m
CBH19	Waste/Made Ground	5.83m bgl 9.98m aod	June	8.12m bgl 7.69m aod	August	7.08m bgl	2.29m
CBH20	Waste/Made Ground	5.20m bgl 10.42m aod	November	7.71m bgl 7.91m aod	August	6.45m bgl	2.51m
CBH23	Waste/Made Ground	4.81m bgl 9.80m aod	January	6.97m bgl 7.63m aod	August	5.51m bgl	2.17m
CBH25	Waste/Made Ground & Peat	6.32m bgl 6.07m aod	January	7.90m bgl 4.49m aod	November	7.20m bgl	1.58m
CBH32	Waste/Made Ground	6.72m bgl 9.96m aod	January	10.22m bgl 6.46m aod	November	8.98m bgl	3.50m
CBH39	Made Ground	8.42m bgl	May	11.22m bgl	January	10.15m bgl	2.80m
CBH46	No borehole log	1.85m bgl 11.51m aod	January	4.73m bgl 8.63m aod	November	3.04m bgl	2.88m
CBH47	Waste/Made Ground	3.28m bgl 11.29m aod	February	6.74m bgl 7.84m aod	September	5.29m bgl	3.45m
CBH48	Waste/Made Ground	0.95m bgl 11.95m aod	October	7.42m bgl 5.48m aod	July	4.18m bgl	6.47m
CBH49	Waste/Made Ground	1.23m bgl 12.60m aod	March	3.25m bgl 10.58m aod	September	2.50m bgl	2.02m
CBH51	Waste/Made Ground	5.88m bgl 8.97m aod	January	7.02m bgl 7.82m aod	September & November	6.55m bgl	1.15m
CBH52	Waste/Made Ground	0.29m bgl	February	5.82m bgl	September	3.16m bgl	5.53m



Monitoring Locations	Response Zone	Maximum		Minimum		Average	Variability
		Depth	Month	Depth	Month		
		14.67m aod		9.14m aod			
CBH57	Waste/Made Ground	6.24m bgl 9.81m aod	December	8.17m bgl 7.88m aod	March	7.12m bgl	1.93m
CARW008	Waste/Made Ground	0.61m bgl 10.69m aod	December	1.32m bgl 9.98m aod	November	0.76m bgl	0.71m
CARW009	Waste/Made Ground	0.70m bgl 10.63m aod	September	1.71m bgl 9.62m aod	November	0.87m bgl	1.01m
MSMW91	Gravel (Glacial Deposits)	1.46m bgl 8.63m aod	October	2.60m bgl 7.49m aod	September	2.17m bgl	1.14m
MSMW155S	Presumed Superficial Deposits	0.36m bgl 8.86m aod	May	0.93m bgl 8.29m aod	November	0.71m bgl	0.57m
MSMW155D	Presumed Bedrock	0.31m bgl 9.07m aod	December	0.91m bgl 8.47m aod	September	0.58m bgl	0.60m
MSMW231	Waste/Made Ground	2.20m bgl 13.09m aod	October	7.94m bgl 7.35m aod	June	6.44m bgl	5.74m
MSMW238	Waste/Made Ground	3.94m bgl 10.91m aod	December	8.90m bgl 5.95m aod	January	6.67m bgl	4.96m
MSMW034S	Gravel (Glacial Deposits)	Groundwater constantly at ground level – 9.00m water column.					
MSMW034D	Mudstone (Coal Measures)	Groundwater constantly at ground level – 13.50m water column.					

Table 4: Summary of Recorded LNAPL in Boreholes

Borehole ID	Response Zone	Number of occurrences	LNAPL thickness		Average thickness
			Minimum (date)	Maximum (date)	
CBH2	Waste/Made Ground	8/12	0.06m (January 2021)	0.91m (July 2021)	0.38m
CBH13	Waste/Made Ground	12/12	0.30m (June & October 2021)	1.02m (March 2021)	0.63m
CBH16	Waste/Made Ground	12/12	0.01m (December 2021)	1.81m (November 2021)	0.74m
CBH19	Waste/Made Ground	6/6 (Borehole obstructed January – June 2021)	0.18m (September 2021)	0.44m (July 2021)	0.29m



Borehole ID	Response Zone	Number of occurrences	LNAPL thickness		Average thickness
			Minimum (date)	Maximum (date)	
CBH20	Waste/Made Ground	1/12	0.29m thickness of LNAPL detected in August 2021		
CBH25	Made Ground & Peat	12/12	0.10m (April 2021)	1.35m (November 2021)	0.40m
CBH32	Waste/Made Ground	11/12	0.12m (January 2021)	2.46m (May 2021)	0.70m
CBH39	Made Ground	12/12	0.07m (May 2021)	2.36m (January 2021)	1.26m
CBH46	Waste/Made Ground	12/12	0.03m (April 2021)	0.48m (November 2021)	0.26m
CBH47	Waste/Made Ground	10/12	0.01m (January & February 2021)	0.66m (September 2021)	0.21m
CBH48	Waste/Made Ground	4/12	0.12m (June 2021)	0.61m (July 2021)	0.33m
CBH49	Made Ground	10/12	0.05m (January 2021)	0.77m (March 2021)	0.41m
CBH51	Waste/Made Ground	12/12	0.07m (April 2021)	0.59m (November 2021)	0.24m
CBH52	Waste/Made Ground	12/12	0.02m (February 2021)	1.01m (March 2021)	0.29m
CARW009	Made Ground	2/12	0.02m (March 2021)	0.19m (July 2021)	0.11m
MSMW231	Waste/Made Ground	10/12	0.11m (February 2021)	3.19m (March 2021)	0.65m
MSMW238	Waste/Made Ground	11/12	0.11m (August 2021)	1.74m (March 2021)	0.79m

Table 5: Summary of Recorded LNAPL in Sumps

Sump ID	Response Zone	Number of occurrences	NAPL thickness		Average thickness
			Minimum	Maximum (date)	
18	Waste/Made Ground	12/12	0.05m (April 2021)	0.60m (December 2021)	0.17m
19	Waste/Made Ground	11/12	0.05m (June & July 2021)	0.60m (November 2021)	0.17m
20	Waste/Made Ground	4/12	0.01m (May 2021)	0.20m (December 2021)	0.07m
21	Waste/Made Ground	10/12	0.02m (March 2021)	0.50m (December 2021)	0.15m
25	Waste/Made Ground	11/12	0.06m (March 2021)	0.58m (November 2021)	0.16m
27	Waste/Made Ground	12	0.001m (March 2021)	0.65m (November 2021)	0.12m

N.B. Only sumps where NAPL was detected are shown in Table 5.

5.4 Groundwater and NAPL Levels Discussion

5.4.1 Groundwater Levels

A review of groundwater level monitoring data collected over the last 12 months shows that generally the lowest levels were recorded in September and November 2021, and the highest levels in January and December 2021.

There is an average variability of 2.57m between the lowest and highest recorded groundwater level in any location which is similar to the degree of variability in groundwater levels reported in 2020 and 2019.

Boreholes MSMW238 (4.96m) and CBH52 (5.53m) have the greatest variability in groundwater levels. Both boreholes are located in the central area of the Tip where a high degree of local heterogeneity would be expected in the waste material. Furthermore, these wells are used periodically for oil recovery, which will exert influence over groundwater levels.

Boreholes MSMW155S, MSMW155D CARW008 and CARW009 recorded the smallest variability in groundwater levels of 0.57m, 0.60m, 0.71m and 1.01m respectively. These boreholes are all located beyond the landfilled area to the south and west and in an area where saturated ash deposits are prevalent.

5.4.2 Non-Aqueous Phase Liquid (NAPL) Levels and Distribution

LNAPL has been detected in all but eight borehole locations during 2021: MSMW91, MSMW155S, MSMW155D, CARW008, CBH57 and CBH23. With the exception of CBH57 and CBH23, these boreholes are installed outside the main landfilled area in Made Ground, superficial deposits and bedrock.

The greatest LNAPL thickness of 3.19m was recorded in MSMW231 in March 2021. In locations CBH32 and CBH52 LNAPL was recorded most consistently, where it was present during all monitoring rounds. The least LNAPL was recorded in boreholes CBH16 and CBH47, where 0.01m of oil was recorded in December 2021 in CBH16 and in January and February 2021 in CBH47. CBH16 and CBH47 are located adjacent to each other in the south central area of the landfilled area. CBH20 is located centrally in the Tip and the relatively small amount of free product in this location may be a result of the heterogenous nature of the waste materials and oil distribution. It should also be noted that CBH20 is topographically higher than other monitoring locations. The elevation may also play a role in the limited amount of free product accumulating in this location.

LNAPL has been detected in six sumps during 2021, generally on between ten and twelve of the monthly monitoring rounds. The greatest thicknesses of LNAPL in sumps were recorded in November 2021 and December 2021, ranging from 0.20m to 0.65m thickness. The lowest thicknesses of LNAPL were recorded in sumps between March 2021 and July 2021, ranging from 0.001m to 0.06m.

Suspected DNAPL has been detected in previous years within Sump 18, Sump 19 in 2020 and in CARW008, CARW009, CARW034, CBH20 (formerly BH20) and CBH57 (formerly BH57) in 2019. However, no DNAPL was detected within any boreholes or sumps during 2021.

NAPL monitoring records for 2021 are presented on drawings in Appendix D. These drawings show the spatial distribution and thickness of the LNAPL across the Tip. The central and eastern areas of the Tip are most impacted by LNAPL. The sumps and boreholes in the western half, (the 'lower Tip') record lesser thicknesses, and the presence of LNAPL is less frequent.

6 Groundwater and Surface Water Quality Assessment

6.1 Assessment Criteria

Results from laboratory analysis of groundwater and surface water samples obtained during 2021 have been screened against relevant Water Quality Standards, with copper, nickel and zinc screened against predicted no effect concentrations (PNEC) values derived from the metal bioavailability assessment tool (M-BAT). The measured dissolved organic carbon (DOC) concentration recorded within the receiving water body (Crymlyn Bog) exceeded the upper limit of the validated range for copper, nickel, and zinc. As a result, the site-specific PNEC for copper was calculated using a DOC concentration of 15mg/l and the site-specific PNEC for nickel and zinc was calculated using a DOC concentration of 20mg/l. PNEC have been calculated using the average of pH and calcium values and the median DOC value recorded in Crymlyn Bog during 2021, in accordance with the WFD UKTAG M-BAT Method Statement (July 2014).

Groundwater data have been screened against threshold concentrations in The Water Supply (Water Quality) Regulations 2018, and against Environmental Quality Standards (EQS) in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. The threshold concentrations in The Water Supply (Water Quality) Regulations 2018 (referred to as DWS) have been used to give a broad indication of overall groundwater quality, however they are overly conservative in this instance, because groundwater is not abstracted from the Tip for water supply purposes. EQS have been used because groundwater recharges Crymlyn Bog.

Surface water data have been screened against EQS in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015, and the specified emission limits in EPR/LB3293HN for the site drainage from Coed Darcy. Whilst the emission limits are not strictly applicable to the SW1-SW6 surface water monitoring locations, they have been used to identify the presence of elevated concentrations of contaminants in surface waters in proximity to Crymlyn Bog. The Environmental Permit EPR/ LB3293HN emission limit for 'visible oil and grease' of 5,000 µg/l in surface water has been used to assess total petroleum hydrocarbon concentrations.

Laboratory analytical data screening is presented in Appendix E.

6.2 Groundwater

During 2021, 62 annual average EQS exceedances for metals and 97 exceedances of ammoniacal nitrogen were recorded in 150 groundwater samples. Where maximum allowable concentration (MAC) EQS are available, these were exceeded in one sample for lead.

Three exceedances of PNEC screening values, derived using the M-BAT, were recorded in January, and February. Two exceedances were recorded in January and relate to boreholes CBH57 (copper) and CBH64 (zinc). A copper concentration of 53.6µg/l was recorded in CBH57 compared to a PNEC value of 49.12µg/l and a zinc concentration of 99.9µg/l was recorded in CBH64 compared to an

PNEC value of 79.03µg/l. In February a zinc concentration of 132µg/l was recorded within CBH64 compared to the zinc PNEC value of 79.03µg/l.

The DWS for arsenic was exceeded in 13 samples and the DWS for lead was exceeded in two samples.

The annual average EQS MAC-EQS for benzene was exceeded on ten occasions and the DWS for benzene was exceeded in 16 samples.

A total of 185 annual average EQS exceedances were recorded in groundwater samples for PAH compounds and DWS for benzo(a)pyrene was exceeded in 59 groundwater samples.

The Environmental Permit threshold of 5,000µg/l used for 'visible oil and grease' in surface water which has been used to make an indicative assessment of TPH concentrations was exceeded in 37 groundwater samples. The majority of exceedances were recorded in boreholes located centrally in the Tip, with occasional exceedances recorded in isolated boreholes located to the south, east and west of the landfilled area.

Graphs 1 and 2 in Appendix E show TPH concentrations recorded in groundwater samples taken from boreholes, plotted against average rainfall and average temperature respectively.

Generally monitoring locations located outside the landfill area recorded lower TPH concentrations than monitoring points located within the landfill area. TPH concentrations were generally less than 20,000 µg/l throughout 2021, however, 10% of total TPH concentrations exceeded 20,000µg/l. Borehole location CBH46, located within the central area of the Tip, recorded the greatest number of total TPH concentrations exceeding 20,000µg/l.

Based on the dataset from 2021, there appears to be no clear relationship between TPH concentration in groundwater and either average rainfall or temperature data.

6.3 Surface Waters

Over the twelve-month monitoring period three individual metal annual average EQS exceedances were recorded (two for lead in SW1 and SW3 and one for chromium in SW5), and 30 individual annual average / maximum allowable concentration EQS PAH exceedances were recorded (for benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, anthracene and fluoranthene) in the surface water samples. In addition, 18 ammoniacal nitrogen exceedances of the EQS 90th percentile were recorded.

No recorded exceedances for copper, nickel or zinc were recorded when concentrations were compared to PNEC values derived from the M-BAT.

Sampling point W5 (West Bay) in the west of the Tip, was recorded as having the highest number of exceedances (16) and sampling location W2 (Crymlyn Bog), located along the northern boundary of the Tip, recorded the lowest number of exceedances (3).

During 2021 a single concentration of TPH was recorded marginally above the wider Coed Darcy Environmental Permit emission limit of 5,000µg/l for 'visible oil and grease'. This occurred at SW1 in August and the TPH concentration was recorded as 5,600µg/l. Recorded TPH concentrations at SW1 during the other 2021 monitoring rounds were below 5,000µg/l. TPH was generally below the laboratory detection limit of 10µg/l at all other surface water monitoring locations during 2021.

Graphs 3 and 4 in Appendix E show TPH concentrations recorded in surface water samples against average monthly rainfall and average monthly temperature data respectively. The elevated TPH concentration at sampling location SW1 occurred in August 2021 in warmer temperatures. This may indicate that rising temperatures may have increased mobility of the free phase hydrocarbons. However, a similar trend was not seen in other surface water sampling locations during summer months. It should be noted that TPH results from SW1 in August (5,600µg/l) has been omitted from the graph to improve visual representation of the other data.

7 Landfill Gas

7.1 Landfill Gas Monitoring

Landfill gas monitoring was undertaken at 13 boreholes across the Tip and its surroundings, using a GA5000 gas analyser. Due to the age of the boreholes, a number of headworks are damaged, and the boreholes therefore cannot be monitored for gas. Of the 13 boreholes that were monitored during 2021, ten are located within the Permit boundary, and three are located outside of the Permit boundary to the south and south west, as summarised in Table 6.

Table 6: Landfill Gas Monitoring Location Information

Monitoring locations in the Tip	Monitoring locations outside the Tip
CBH20	MSMW155S (located to the south west)
CBH23	MSMW155D (located to the south west)
CBH32	MSMW091 (located to the south west)
CBH49	
CBH51	
CBH52	
CBH57	
CARW008 (located outside fill area)	
CARW009 (located outside fill area)	
MSMW231	

7.2 Landfill Gas Concentrations

Landfill gas monitoring was undertaken by GAL throughout 2021. The minimum atmospheric pressure reading was recorded as 999 millibars (mbar) in December 2021, whilst the highest atmospheric pressure was recorded as 1035 mbar in May 2021. Monitoring rounds carried out in March, June, July, September, and November were carried out during falling atmospheric pressure events, which represent conditions when positive flow of landfill gas is most likely to be recorded. Landfill gas monitoring data is presented in Appendix F.

Methane (CH₄)

Based on the graphs for boreholes outside of the Tip and boreholes in the Tip presented as Figure 1 and Figure 2 respectively, methane concentrations during 2021 appear to show some variability. Generally, methane concentrations within the Tip were below 10% with the exception of CBH20 which recorded concentrations ranging from 0.30% (December) to 83.90% (July), CBH49 with recorded concentrations between 79.9% (January) and <0.1% (May), and MSMW231 where concentrations ranged from 2.70% (May) to 60.40% (December). The lowest methane concentration of <0.1% was recorded across several monitoring locations in the Tip throughout the year.

Outside the Permit Area, a maximum methane concentration of 3.20% was detected in MSMW155S (assumed to be screened with a response zone in superficial deposits) in January 2021. The minimum methane concentration of <0.1% was recorded outside the former landfill area in all three monitoring locations on multiple monitoring rounds.

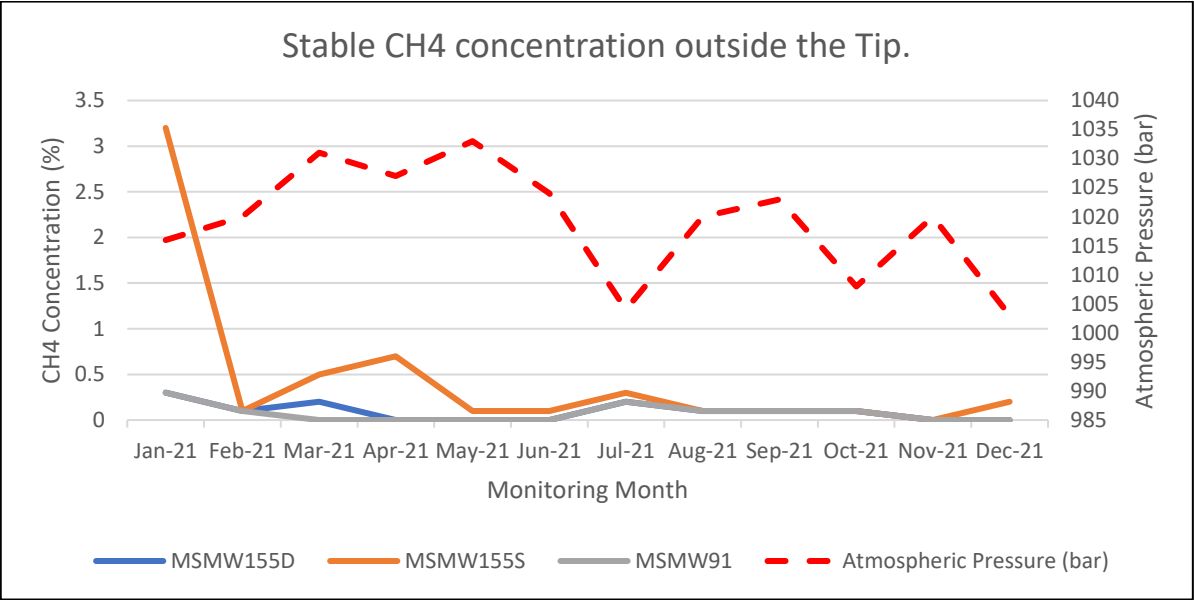


Figure 1: Methane concentrations in boreholes outside the Tip.

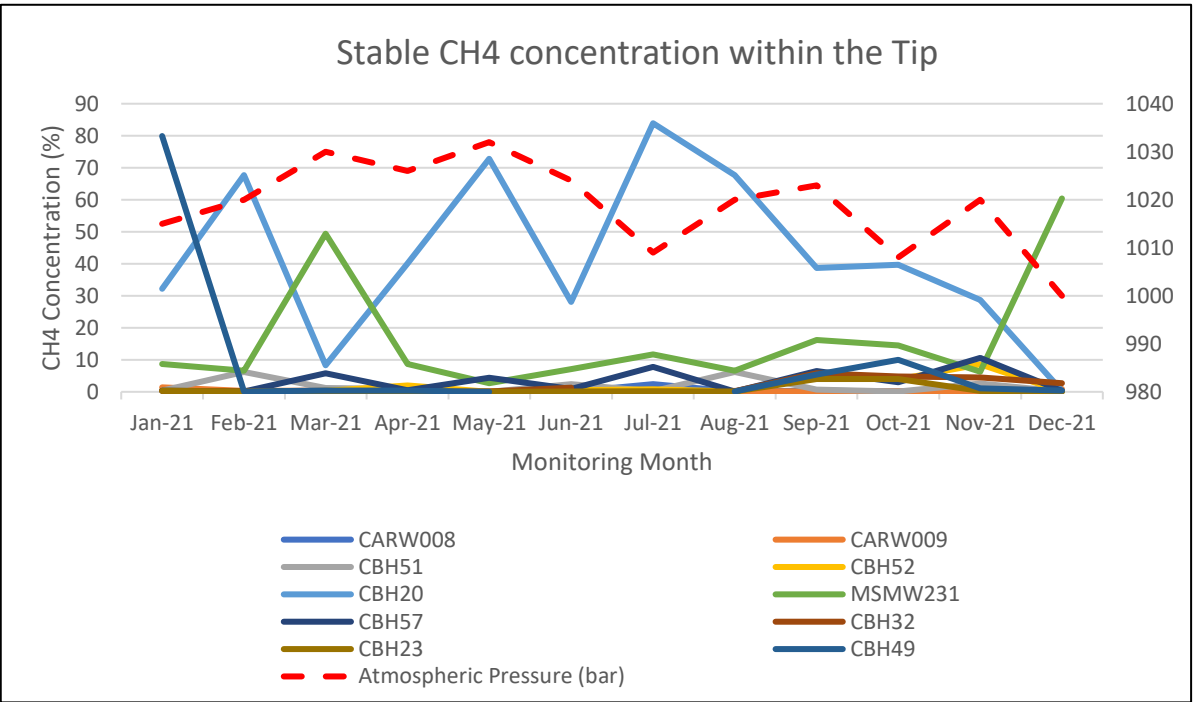


Figure 2: Methane Concentrations in Boreholes within the Tip.

Carbon Dioxide (CO₂)

Based on monitoring data presented in the graphs below (Figure 3 and Figure 4) stable carbon dioxide concentrations in the Tip ranged from 0.10% to 13.20%. The maximum carbon dioxide concentration of 13.20% was detected in BH32 in September and the lowest concentration (0.10%) detected in several monitoring locations across the Tip.

The maximum carbon dioxide concentration of 13.50% recorded outside of the Tip was in MSMW91 (screened in superficial deposits) in February and August and the lowest concentration of <0.1% was recorded in MSMW91 in March (screened in superficial deposits) and in MSMW155S (screened in superficial deposits) in May.

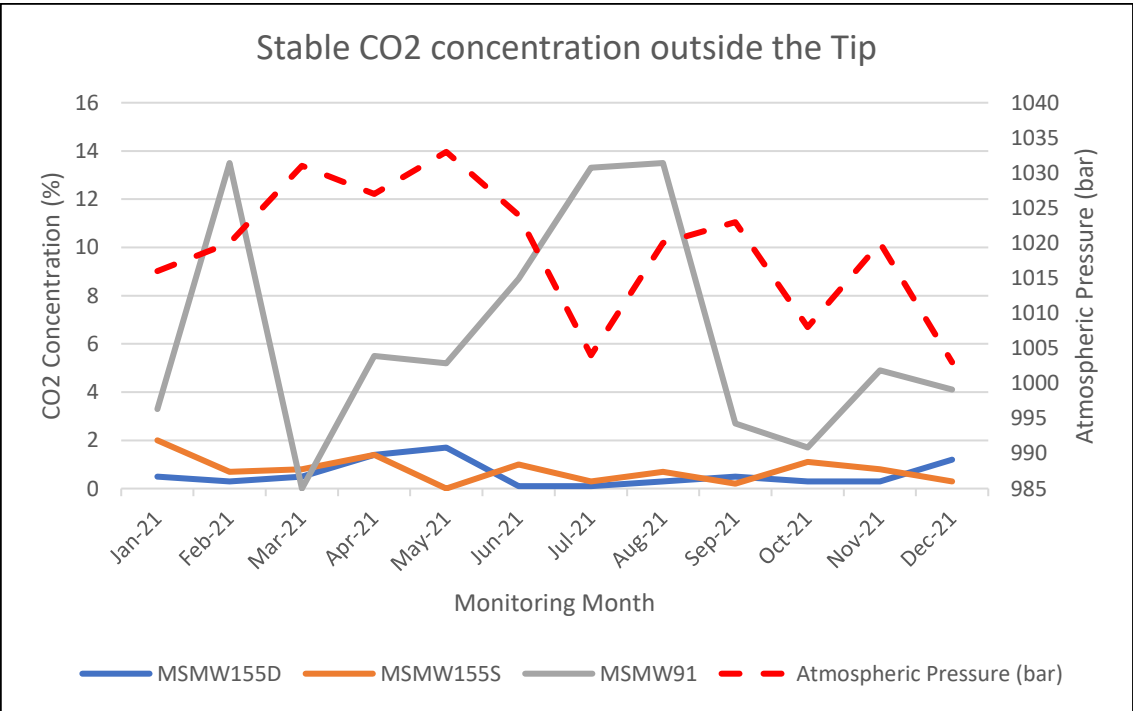


Figure 3: Carbon Dioxide Concentrations in Boreholes Outside the Tip.

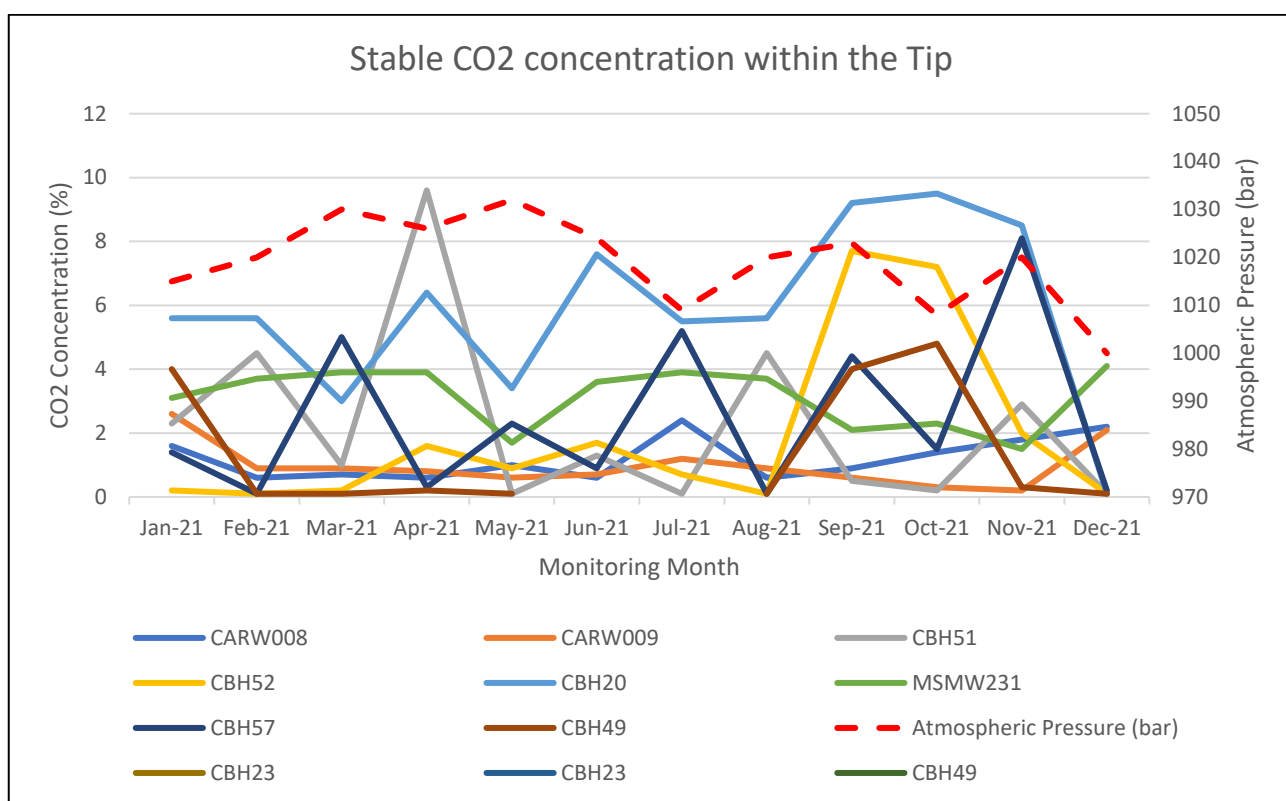


Figure 4: Carbon Dioxide Concentrations in Boreholes in the Tip.

Oxygen (O₂)

Oxygen concentrations shown on the graphs presented as Figure 5 and Figure 6 in the Tip range from 0.10% to 21.90%, with the lowest concentration recorded in BH20 in January and November as well as in CBH57 in November. The maximum concentration of 21.90% was detected in CBH20 during December.

Outside of the Tip oxygen concentrations ranged from 2.70% to 21.90%. The minimum concentration of 2.70% was recorded in MSMW91 in July and the maximum concentration of 21.90% was recorded in MSMW155D in June.

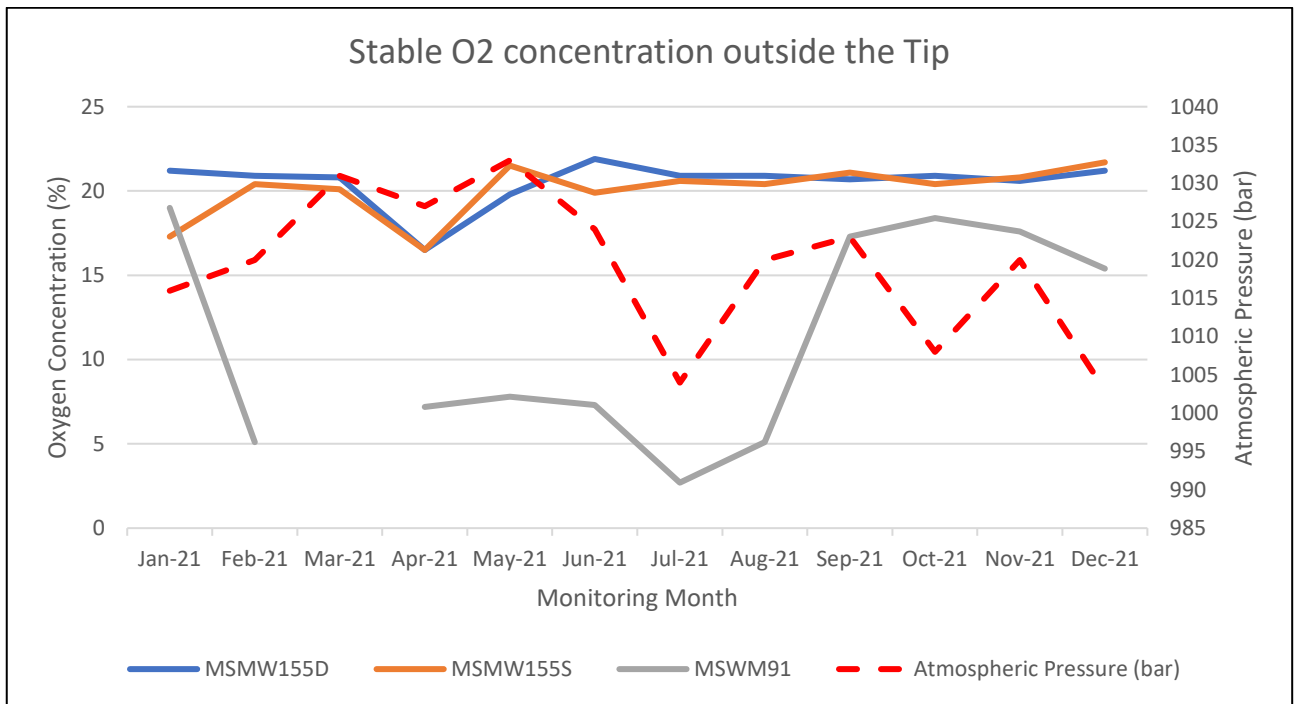


Figure 5: Oxygen Concentrations in Boreholes Outside the Tip.

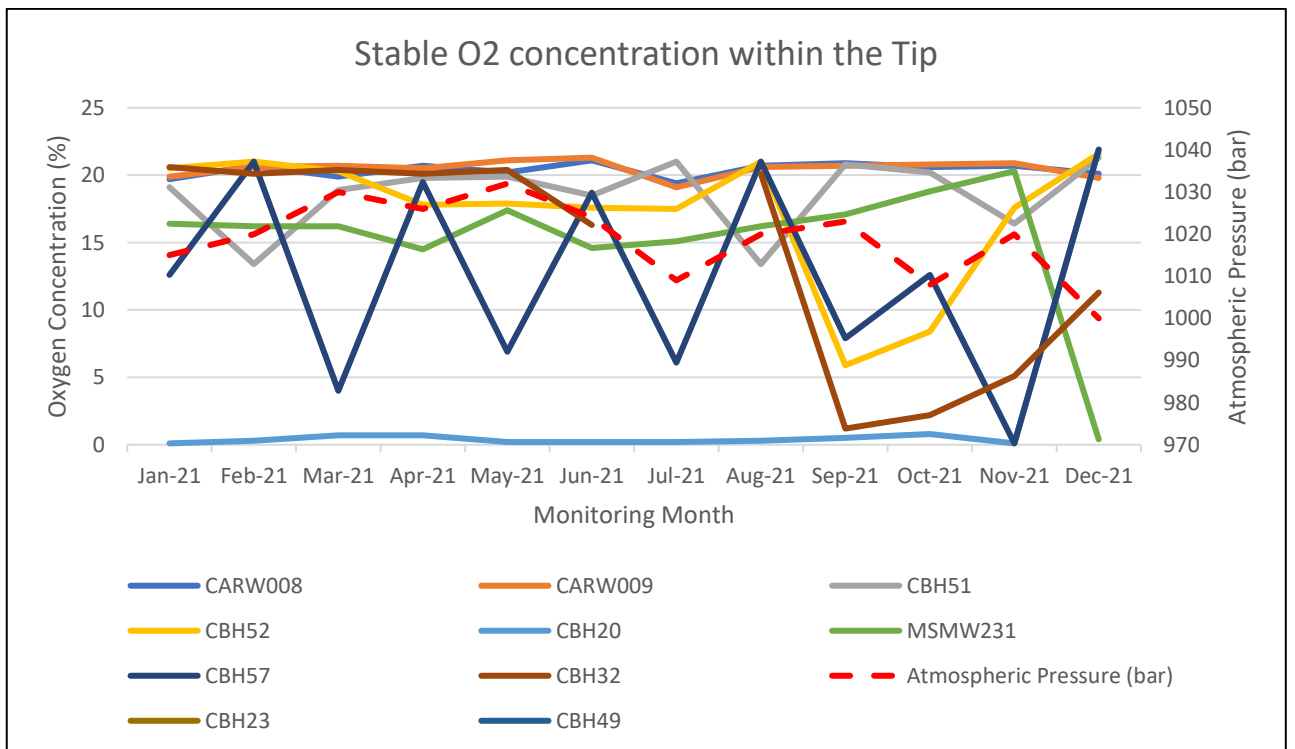


Figure 6: Oxygen Concentrations in Boreholes within the Tip.

Based on the gas monitoring dataset for 2021, there does not appear to be an obvious link between boreholes with greater thicknesses of free phase hydrocarbons and elevated gas concentrations. Landfill gas monitoring results recorded during 2021 are summarised in Table 7.

7.3 Gas Flow Rates

Recorded gas flow rates were variable during 2021, the lowest reading (-10.5l/hr) was recorded in July in borehole CARW008, the lowest recorded gas flow rate in 2020 was also recorded at monitoring location CARW008. CARW008 is located on the southern margin of the Tip, with the response zone in Made Ground. The highest gas flow rate (4.99l/hr) was recorded in January in borehole CBH32. CBH32 is located in the north east of the Tip, with the response zone located within the landfill material of the Tip.



Table 7: Landfill Gas Concentration Summary

Monitoring location	Location	Methane (%)		Carbon dioxide (%)		Oxygen (%)	
		Min	Max	Min	Max	Min	Max
CARW008	In waste on SE boundary	<0.1	2.4	0.6	2.4	19.4	21.1
CARW009	In waste on SE boundary	<0.1	1.4	0.2	2.6	19.1	21.3
CBH20	In waste within central section	<0.1	8.6	0.1	9.5	0.1	21.9
CBH32	In waste within central section	<0.1	5.8	0.1	13.2	1.2	20.6
CBH49	In waste within central section	<0.1	79.9	0.1	4.8	6.9	21.7
CBH51	In waste within central section	<0.1	6.2	0.1	9.6	13.4	21.3
CBH52	In waste within central section	<0.1	8.6	0.1	7.7	5.9	21.6
CBH57	In waste within central section	0.1	10.6	0.1	8.1	0.1	21.9
CBH23	In waste within central section	<0.1	4	0.1	1.7	17.8	21.1
MSMW231	In waste within central section	2.7	60.4	1.5	4.1	0.4	20.3
MSMW155s	Beyond W boundary of landfill area	<0.1	3.2	<0.1	2	16.5	21.7
MSMW91	Beyond W boundary of landfill area	<0.1	0.3	<0.1	13.5	2.7	19
MSMW155d	Beyond W boundary of landfill area	<0.1	0.3	0.1	1.7	16.5	21.9

8 Commentary

Groundwater levels, NAPL, groundwater quality, surface water quality and landfill gas continued to be monitored in and around the Tip during 2021.

Groundwater levels were most variable in boreholes located in the central area of the Tip during 2021, and least variable on the southern and western margin of the Tip beyond the extent of the landfilled area.

Generally, more consistent occurrences and greater thicknesses of LNAPL were recorded in the central and eastern areas of the Tip. The area in the west (the 'lower tip') which has previously undergone removal of bulk sources of free phase hydrocarbons has fewer recorded instances of LNAPL in boreholes and sumps.

DNAPL was not detected during monitoring rounds undertaken in 2021. Suspected DNAPL was previously measured only once in Sumps 18 and 19, in May 2020. These sumps are located on the northern boundary near the north east corner of the 'lower Tip', and are believed to be installed in waste material and/or ash. The suspected DNAPL recorded in 2020 is presumed to have originated from the main tip which is at a higher elevation, located to the south east of these sumps. During 2019, DNAPL was detected in five locations between January and March 2019. Two of these locations are upgradient of the sumps, CBH20 and CBH57, potentially suggesting a limited and localised DNAPL source within the central area of the Tip.

Elevated concentrations of metals, ammoniacal nitrogen, benzene and PAH in relation to the available Water Quality Standards were identified in groundwater samples recovered from boreholes located in the Tip. Three exceedances of calculated PNEC were recorded in groundwater during January and February, two for copper and one for zinc. TPH concentrations in groundwater were generally less than 20,000µg/l throughout 2021, although concentrations above 100,000µg/l were recorded on two occasions in CBH46 (180,000µg/l) in June and in CBH20 (213,000µg/l) in February.

Limited exceedances of the relevant Water Quality Standards for metals, ammoniacal nitrogen and PAH compounds were recorded in surface water during 2021. Concentrations of TPH in surface water samples were generally low, with the exception of a concentration of 5,600µg/l recorded at SW1 in August. This concentration marginally exceeds the wider Coed Darcy Environmental Permit emission limit of 5,000µg/l for oil and grease.

Consistent with the heterogeneous nature of the waste material and presence of free phase hydrocarbons in the Tip, methane and carbon dioxide have been recorded at variable concentrations during 2021.

Following vegetation clearance works in early 2022, several additional wells have been located. These wells will be audited to assess their condition and serviceability to determine if they can be monitored and sampled. If these additional wells can be monitored and sampled, they will be added to the monitoring round from February 2022 onwards.

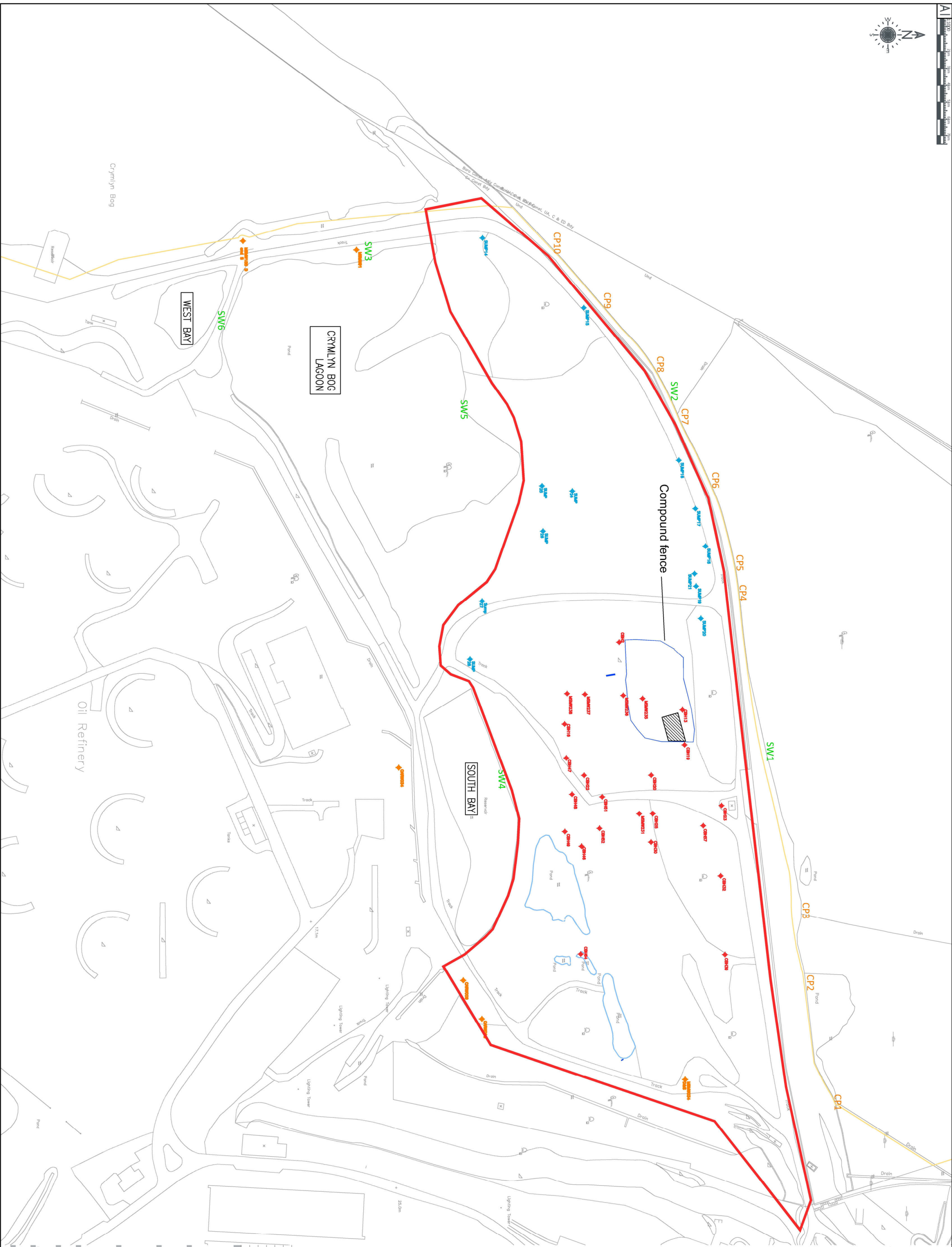
Oil recovery will continue from the peripheral trench, sumps and wells in 2022, where LNAPL is consistently measured at recoverable thicknesses. Continued monitoring will show the impact this has on the NAPL distribution and thickness.

The groundwater level, NAPL, groundwater quality, surface water quality and landfill gas monitoring will continue throughout 2022 to increase the dataset which will in time inform suitable compliance and control limits to be used in the preparation of a closure and aftercare management plan. The monitoring results will also continue to be reviewed on a monthly basis to determine the efficacy of the current approach to oil recovery at the Tip and to identify if improvements can be made.

At the time of writing, a specification is being produced for the remediation of the Tip. The specification is due to be issued for tender late February / early March, with works proposed to begin in Summer 2022. Remedial works associated with the specification will be documented in future annual summary reports.



Appendix A Site Plans



NOTES

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with regulations.

KEY

- Perimeter
- Surface water sampling locations
- Groundwater monitoring/sampling locations
- Sump locations
- Collection point

CLIENT
St Modwen Development Ltd

PROJECT
Coed Darcy

DRAWING TITLE
Crymllyn Tip
Monitoring Location Plan

INFORMATION
Drawing No: 04020 - A - SK201 - P2
Revision: 1.0
Scale: A1 @ 1:1000

REVISIONS

REV	DATE	DESCRIPTION	BY	APP
1	13/02/20	Added more boreholes to location plan	JP	

PJA
St Modwen Development Ltd
B31 2JQ, Telford, Shropshire, UK
Tel: 01927 475024
Email: info@pja.co.uk



Appendix B Borehole Logs

Design and Construct Remediation

Date: 27 Jan 2009

Easting: 270302.000

Project No: C1296

Engineer: MS

Northing: 195534.000

Site Location: BP Former Llandarcy

Method: ODEX

Datum: -

Client: St. Modwen

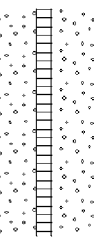
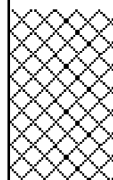
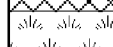
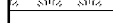
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Screen Position: 1.50 - 10.50m

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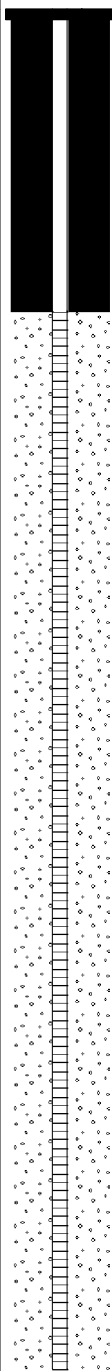
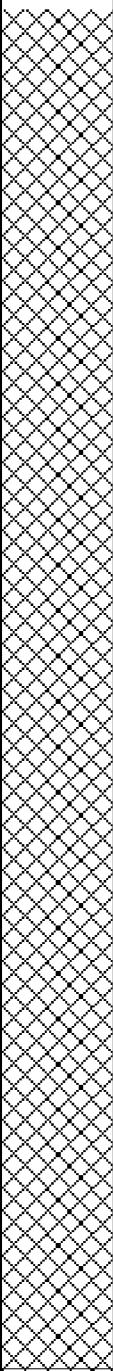
Comments:

Project No: C1296	Date: 27 Jan 2009	Easting: 270302.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195534.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.50 - 10.50m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9 10 11 12 13 14 15 16 17 18					MADE GROUND: Waste Tip Fill.			
					PEAT:	10.20		
					End of Borehole	10.50		

Comments:

Project No: C1296	Date: 29 Jan 2009	Easting: 270343.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195572.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 2.00 - 12.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste Tip Fill.			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet								

Comments:

Design and Construct Remediation

Date: 29 Jan 2009

Easting: 270343.000

Project No: C1296

Engineer: MS

Northing: 195572.000

Site Location: BP Former Llandarcy

Method: ODEX

Datum: -

Client: St. Modwen

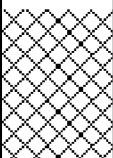
Hole Diameter: 200mm

Screen Position: 2.00 - 12.00m

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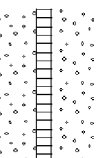
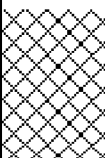
Comments:

Project No: C1296	Date: 9 Feb 2009	Easting: 270351.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195502.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 10.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste Tip Fill. Black oil			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet								

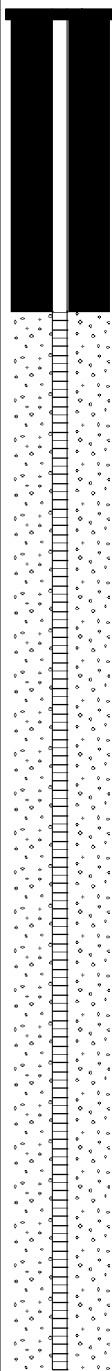
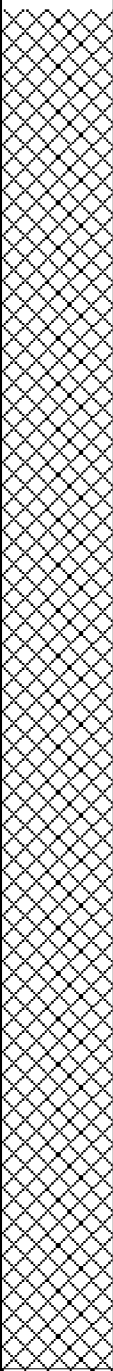
Comments:

Project No: C1296	Date: 9 Feb 2009	Easting: 270351.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195502.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 10.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					MADE GROUND: Waste Tip Fill.			
10					End of Borehole	10.00		
11								
12								
13								
14								
15								
16								
17								
18								

Comments:

Project No: C1296	Date: 29 Jan 2009	Easting: 270362.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195572.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 2.00 - 12.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste tip Fill.			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet								

Comments:

Design and Construct Remediation

Date: 29 Jan 2009

Easting: 270362.000

Project No: C1296

Engineer: MS

Northing: 195572.000

Site Location: BP Former Llandarcy

Method: ODEX

Datum: -

Client: St. Modwen

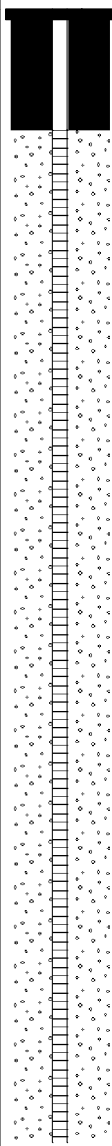
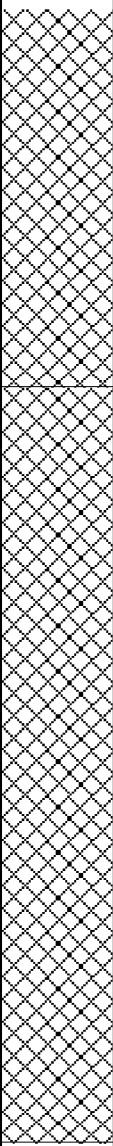
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Screen Position: 2.00 - 12.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
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9.00m Strike					MADE GROUND: Waste tip Fill.			
					End of Borehole	12.00		

Comments:

Project No: C1296	Date: 27 Jan 2009	Easting: 270832.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195553.000
Client: St. Modwen	Method: CP	Datum: -
	Hole Diameter: 200mm	Screen Position: 0.80 - 7.50m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: mixture of compacted grey to black clay, gravels and cobbles (up to 10 cm)	2.50		
					MADE GROUND: Mixture of black ash, brick fragments, gravel and brown clay.			
					End of Borehole	7.50		

Comments:

Design and Construct Remediation

Date: 4 Feb 0009

Easting: 270401.000

Project No: C1296

Engineer: MS

Northing: 195595.000

Site Location: BP Former Llandarcy

Method: ODEX

Datum: -

Client: St. Modwen

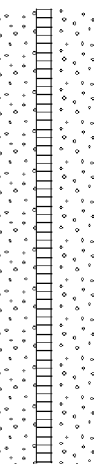
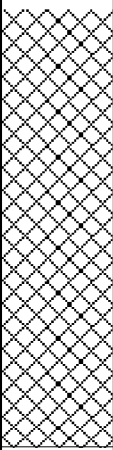
Hole Diameter: 200mm

Screen Position: 2.00 - 12.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE				
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)	
					MADE GROUND: Waste tip Fill.				

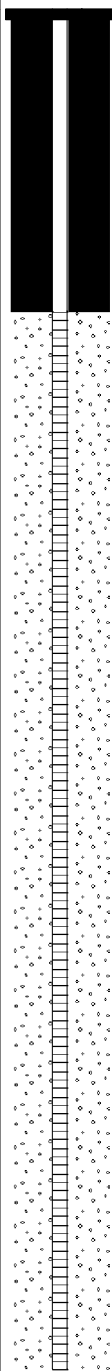
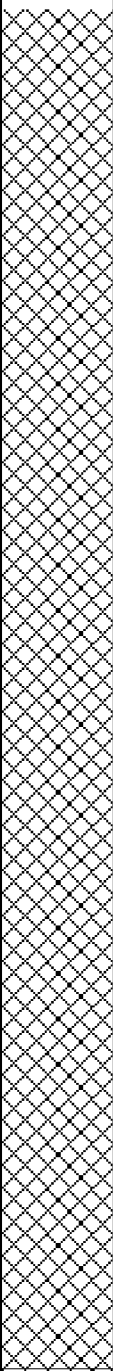
Comments:

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Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195595.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 2.00 - 12.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					MADE GROUND: Waste tip Fill.			
10								
11								
12					PEAT:	11.90		
					End of Borehole	12.00		
13								
14								
15								
16								
17								
18								

Comments:

Project No: C1296	Date: 30 Jan 2009	Easting: 270405.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195554.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 2.00 - 12.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste tip Fill.			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet								

Comments:

Design and Construct Remediation

Date: 30 Jan 2009

Easting: 270405.000

Project No: C1296

Engineer: MS

Northing: 195554.000

Site Location: BP Former Llandarcy

Method: ODEX

Datum: -

Client: St. Modwen

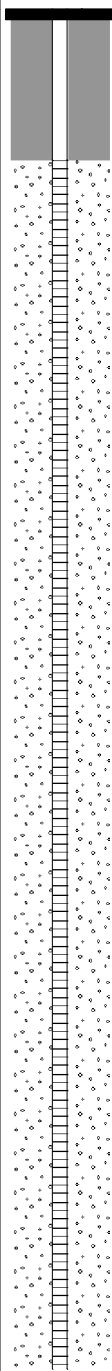
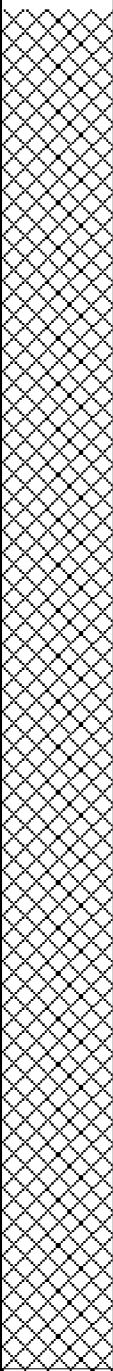
Hole Diameter: 200mm

Screen Position: 2.00 - 12.00m

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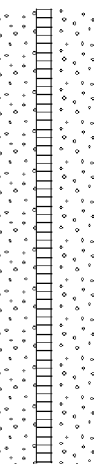
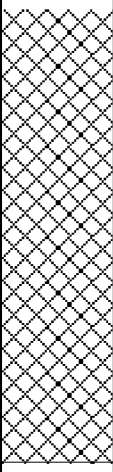
Comments:

Project No: C1296	Date: 4 Feb 0009	Easting: 270442.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195595.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 12.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste tip Fill.			
					Continued next sheet			

Comments:

Project No: C1296	Date: 4 Feb 0009	Easting: 270442.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195595.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 12.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					MADE GROUND: Waste tip Fill.			
10								
11								
12								
13								
14								
15								
16								
17								
18								
					End of Borehole	12.00		

Comments:

Design and Construct Remediation

Date: 5 Feb 2009

Easting: 270489.000

Project No: C1296

Engineer: MS

Northing: 195598.000

Site Location: BP Former Llandarcy

Method: ODEX

Datum: -

Client: St. Modwen

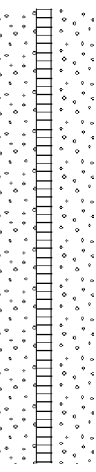
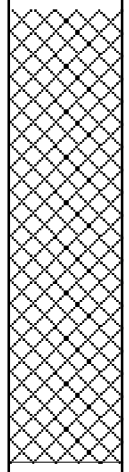
Hole Diameter: 200mm

Screen Position: 2.00 - 12.00m

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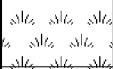
Comments:

Project No: C1296	Date: 5 Feb 2009	Easting: 270489.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195598.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 2.00 - 12.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					MADE GROUND: Waste tip Fill.			
10								
11								
12								
13								
14								
15								
16								
17								
18								
					End of Borehole	12.00		

Comments:

Project No: C1296	Date: 23 Jul 2009	Easting: 270372.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195500.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste Tip Fill.			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
					Continued next sheet	8.60		

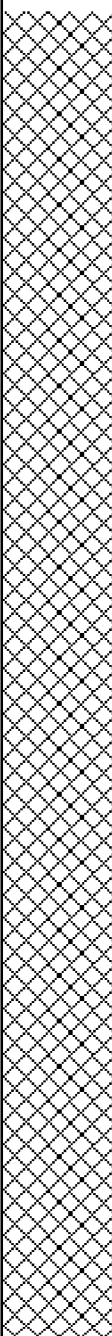
Comments:

Project No: C1296	Date: 23 Jul 2009	Easting: 270372.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195500.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					PEAT: End of Borehole	9.00		
10								
11								
12								
13								
14								
15								
16								
17								
18								

Comments:

Project No: C1296	Date: 23 Jul 2009	Easting: 270394.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195502.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE				
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)	
0					MADE GROUND: Waste Tip fill.				
1									
2									
3									
4									
5									
6									
7									
8									
9									Continued next sheet

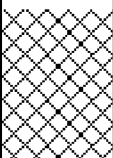
Comments:

Project No: C1296	Date: 23 Jul 2009	Easting: 270394.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195502.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					PEAT: End of Borehole	9.00		
10								
11								
12								
13								
14								
15								
16								
17								
18								

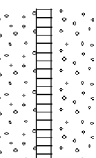
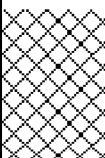
Comments:

Project No: C1296	Date: 22 Jul 2009	Easting: 270393.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195523.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 10.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste Tip fill.			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet								

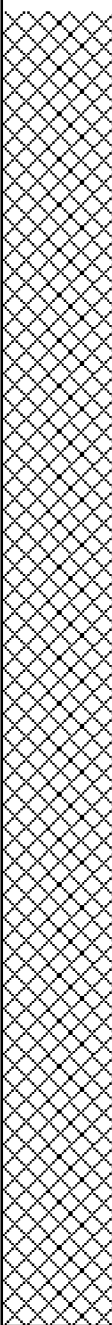
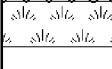
Comments:

Project No: C1296	Date: 22 Jul 2009	Easting: 270393.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195523.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 10.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					MADE GROUND: Waste Tip fill.			
10					End of Borehole	10.00		
11								
12								
13								
14								
15								
16								
17								
18								

Comments:

Project No: C1296	Date: 22 Jul 2009	Easting: 270415.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195525.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0					MADE GROUND: Waste Tip fill.			
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet						8.70		

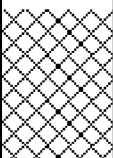
Comments:

Project No: C1296	Date: 22 Jul 2009	Easting: 270415.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195525.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					PEAT: End of Borehole	9.00		
10								
11								
12								
13								
14								
15								
16								
17								
18								

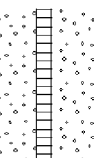
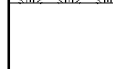
Comments:

Project No: C1296	Date: 24 Jul 2009	Easting: 270410.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195585.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 10.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND: Waste Tip fill.			
0								
1								
2								
3								
4								
5								
6								
7								
8								
9								
Continued next sheet								

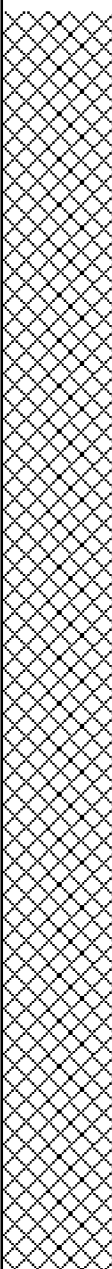
Comments:

Project No: C1296	Date: 24 Jul 2009	Easting: 270410.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195585.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 10.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
9					MADE GROUND: Waste Tip fill.			
					PEAT:	9.60		
					End of Borehole	10.00		
10								
11								
12								
13								
14								
15								
16								
17								
18								

Comments:

Project No: C1296	Date: 29 Jul 2009	Easting: 270483.000
Site Location: BP Former Llandarcy	Engineer: MS	Northing: 195513.000
Client: St. Modwen	Method: ODEX	Datum: -
	Hole Diameter: 200mm	Screen Position: 1.00 - 9.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE				
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)	
0					MADE GROUND: Waste Tip fill.				
1									
2									
3									
4									
5									
6									
7									
8									
9									
					PEAT:	8.40			
					End of Borehole				

Comments:

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: CARW008		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 17/01/01		DRILLING METHODS : Percussive	
							DRILLER : Geotechnical		BOREHOLE DIAMETER : ~100mm	
							LOGGED BY : URS		SCREEN TYPE & DIAM: UPVC 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
					0.0		DESCRIPTION	COMMENTS	0.0	
					0.5		Loose, black, sandy, fine GRAVEL comprising Ash. MADE GROUND	Dry, NVO		
			*47.6		0.5		Sticky, black sandy GRAVEL, some grease. (MADE GROUND)	Sticky product. Mod odour	0.5	
			*37.4		1.0		As above but fine-medium GRAVEL. (MADE GROUND)	Damp from 0.85m, wet from 1.0m. Mod odour	1.0	
					1.5				1.5	
			*237		2.0				2.0	
					2.5		Soft, brown, silty CLAY	Dry, NVC, slight odour	2.5	
			*3.5		3.0		Soft, very light brown CLAY. Drilled to 3.0m, collapsed to 2.0m	Dry-moist. NVO	3.0	
					3.5		End of Borehole		3.5	
					4.0				4.0	
						4.5			4.5	
						5.0			5.0	

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: Containment Area Investigation Location: Llandarcy Refinery Client: BP Llandarcy Refinery URS App'd: _____ Date: 05/09/2002 Drawn : SS Ref: _____ Scale: As scale Job No: 39991-016 Drg. Size: A4 BOREHOLE LOG	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: CARW009		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 09/01/01 - 10/01/01		DRILLING METHODS :	
							DRILLER : Geotechnical		BOREHOLE DIAMETER :	
							LOGGED BY : SC		SCREEN TYPE & DIAM:	
							CHECKED BY :		SCREEN SLOT SIZE:	
					0.0		DESCRIPTION	COMMENTS	0.0	
					0.5		Soft-loose, black, fine-coarse GRAVEL with patches of sandy silt. Grades into gravelly, silty SAND from 0.6m. Lump of sticky grease at 0.65m MADE GROUND	Wet, slight odour	0.5	
			*4.2		1.0		Soft, med brown, slightly clayey, slightly sandy SILT with occasional gravels and cobbles. (MADE GROUND)	Wet. Manure-like odour	1.0	
			*3.4		1.5		Med-soft grey/black clayey SILT.	Damp. Manure odour, some staining	1.5	
			*3.5		2.0		Very soft, brown/grey/black, slightly gravelly, clayey, sandy SILT.	Very damp, slight odour, some staining. Odour decreases with depth	2.0	
			*14.5		2.5		More clayey at 2.0m, but remains soft.		2.5	
			*2.2		3.0		Becomes sandier and firmer (compressed) from 2.3m		3.0	
			*1.5		3.5		Firm, grey (with some orange streaks), clayey, very sandy SILT.	Moist. NVO. Some chicken wire	3.5	
			*1.3		4.0		Becoming more clayey from 3.2m		4.0	
			*0.5		4.5		Loose, med brown, gravelly SAND. Very gravelly from 3.5m		4.5	
				5.0		Med-dense, med brown, gravelly, very sandy SILT		5.0		
						End of Borehole				

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence		Job Title: Containment Area Investigation Location: Llandarcy Refinery Client: BP Llandarcy Refinery	
		App'd: _____ Drawn: SS Scale: As scale Drg. Size: A4	Date: 05/09/2002 Ref: _____ Job No: 39991-016 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: CARW034		PAGE 1 of 1	
	NUMBER	TYPE					DRILLING DATES: 20/06/01		DRILLING METHODS : Percussive	
							DRILLER : Geotechnical		BOREHOLE DIAMETER : ~100mm	
							LOGGED BY : NL		SCREEN TYPE & DIAM: UPVC 50mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
					0.0		DESCRIPTION		COMMENTS	0.0
					0.5		Soft, brown, silty PEAT		Strong odour	0.5
					1.0	SAMPLE LOST DUE TO HIGH WATER CONTENT		1.0		
					1.5		Mottled orange/grey sandy SILT with some clay and occasional gravel.		Sheen and odour. Some free phase product. Heavy staining throughout.	1.5
					2.0	Gravel concentration increasing with depth, resulting in harder drilling.		2.0		
				2.5		End of Borehole			2.5	
					3.0					3.0
					3.5					3.5
					4.0					4.0
					4.5					4.5
					5.0					5.0
					5.5					5.5
					6.0					6.0

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: Containment Area Investigation Location: Llandarcy Refinery Client: BP Llandarcy Refinery 	
		App'd:	Date: 04/09/2002
		Drawn : SS	Ref:
		Scale: As scale	Job No: 39991-016
		Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION		SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW034D1/D2		PAGE 1 of 2	
								NUMBER	TYPE	START DATE: 21/4/99	
		FINISH DATE: 21/4/99								BOREHOLE DIAMETER: 165 mm	
		DRILLER: R1						SCREEN TYPE & DIAMETER: 50/19 mm ID UPVC			
LOGGED BY: MC		APPR'D BY:		SCREEN SLOT SIZE: 0.5/1 mm							
D2	D1							DESCRIPTION	COMMENTS		
						0		Grey-dark grey sandy gravelly CLAY with sandstone and brick fragments (MADE GROUND)	Strong hydrocarbon odour	0	
						1.0			Moist	1.0	
						2.0				2.0	
						3.0		Dark brown-black peaty, gravelly CLAY with wood fragments (MADE GROUND)	Strong hydrocarbon odour	3.0	
								Grey clayey GRAVEL	Damp - wet		
						4.0			No odour	4.0	
						5.0		Dense brown gravelly, silty CLAY (BOULDER CLAY)	Dry	5.0	
						6.0			No hydrocarbon odour	6.0	
						7.0		Dense brown clayey GRAVEL	Productive at 8.2 m but cased out at 9.6 m	7.0	
						8.0				8.0	
						9.0				9.0	
						10			Moist	10	

LOCATION / NOTES:

1. All measurements in m below ground level

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title **SOIL & GROUNDWATER INVESTIGATION**

Location **LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

App'd **DRAFT**

Ref. **CR/MC/BRS**

Date **MAY 99**

Job No. **39991-004-401**

DAMES & MOORE

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW034D1/D2		PAGE 2 of 2	
	NUMBER	TYPE					START DATE: 21/4/99		DRILLING METHOD: ROTARY AIR FLUSH	
							FINISH DATE: 21/4/99		BOREHOLE DIAMETER: 165 mm	
							DRILLER: R1		SCREEN TYPE & DIAMETER: 50/19 mm ID UPVC	
							LOGGED BY: MC APPR'D BY:		SCREEN SLOT SIZE: 0.5/1 mm	
						DESCRIPTION		COMMENTS		
						10 Gravelly CLAY (BOULDER CLAY)		Moist		
						11 Dense coarse grey silty, sandy GRAVEL becoming more clayey at 11 m		No water in hole		
						12 ROCKHEAD - Dark grey MUDSTONE with occasional silty and sandy layers.				
						13				
						14				
						15				
						16				
						17				
						18				
						19				
						20				
LOCATION / NOTES: 1. All measurements in m below ground level						LEGEND ☒ Disturbed Sample ☐ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis Groundwater Table Perched Water Table		BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRs Date MAY 99 Job No. 39991-004-401		
								DAMES & MOORE GROUP		

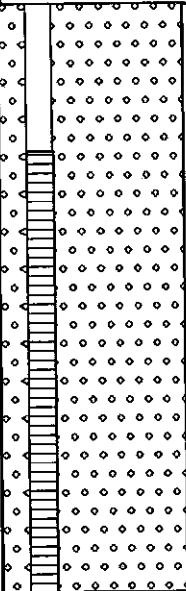
BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW091		PAGE 1 of 1		
	NUMBER	TYPE					START DATE: 5/3/99		DRILLING METHOD: Hydraulic Percussive		
							FINISH DATE: 5/3/99		BOREHOLE DIAMETER: 100 mm		
			DRILLER: GEOTECHNICAL		SCREEN TYPE & DIAMETER: 50 mm UPVC						
			LOGGED BY: SG APPR'D BY:		SCREEN SLOT SIZE: 1 mm						
						DESCRIPTION	COMMENTS				
						0	Soft, brown sandy SILT with some clay.	Slight hydrocarbon odour.	0		
						1.0	Soft to very soft, orange-brown sandy SILT with occasional gravel.		1.0		
						2.0	Soft, grey slightly gravelly sandy SILT with frequent cobbles.	Strong hydrocarbon odour.	2.0		
						2.0	Gravel at 1.9m	Heavy black staining at 1.9m	2.0		
						3.0			3.0		
						3.0		Very strong hydrocarbon odour.	3.0		
						4.0	Gravel at 3.5m		4.0		
						4.0			4.0		
						5.0			5.0		
						6.0			6.0		
7.0			7.0								
8.0			8.0								
9.0			9.0								
10			10								
						Borehole terminated at 4m.					

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)		Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		Job Title SOIL & GROUNDWATER INVESTIGATION	
2. DUP GG = MSMW091-1.5m.				Location LLANDARCY REFINERY	
				Client BP LLANDARCY LTD	
				App'd DRAFT	
				Ref. CR/MC/BRS	
				Date MAY 99	
				Job No. 39991-004-401	
				DAMES & MOORE	

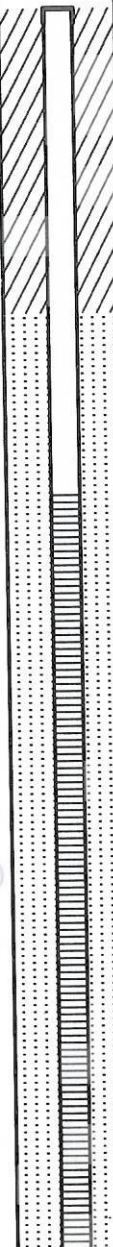
BOREHOLE CONSTRUCTION		SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW156D, S1, S2		PAGE 1 of 2	
		NUMBER	TYPE					START DATE: 9/4/99	DRILLING METHOD: Cable Percussion/Rotary		
								FINISH DATE: 9/4/99	BOREHOLE DIAMETER: 200/165 mm		
								DRILLER: CP2/R1	SCREEN TYPE & DIAMETER: 50 mm ID UPVC		
								LOGGED BY: JC/DB APPR'D BY:	SCREEN SLOT SIZE: 0.5 mm		

		D		S2		S1				DESCRIPTION		COMMENTS	
										0	Loose mottled brown and grey sandy clayey SILT with frequent medium to coarse slag gravel, sandstone and brick fragments (MADE GROUND)	Dry	0
										1.0		Slight hydrocarbon odour	1.0
										2.0	Soft dark brown and yellow PEAT	Very strong hydrocarbon odour and staining from 1.6-3.0m	2.0
										3.0		Damp	3.0
										4.0		No odour in peat from 3.0m	4.0
										5.0			5.0
										6.0	becoming lighter in colour and red-brown at 5.5m		6.0
										7.0	Soft grey-brown CLAY	No hydrocarbon odour	7.0
										8.0		Dry beneath bentonite seal	8.0
										9.0	clay becoming gravelly at 9.0m	No odour	9.0
										10	Loose grey-brown gravel	No odour	10
												Water strike at 10m - productive	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl) 2. Cable Percussion to 7.5 m, Rotary with ODEX from 7.5m to 14.0 m 3. Temporary 200 mm casing installed to 7.5 m during Rotary drilling and well installation		LEGEND Disturbed Sample Undisturbed Sample * Headspace Analysis + Down Borehole Analysis ▼ Groundwater Table ▽ Perched Water Table	BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRs Date MAY 99 Job No. 39991-004-401 DAMES & MOORE GROUP
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW156D, S1, S2		PAGE 2 of 2	
	NUMBER	TYPE					START DATE: 9/4/99		DRILLING METHOD: Cable Percussion/Rotary	
							FINISH DATE: 9/4/99		BOREHOLE DIAMETER: 200 mm	
							DRILLER: RD1		SCREEN TYPE & DIAMETER: 50 mm ID UPVC	
							LOGGED BY: JC/DB APPR'D BY:		SCREEN SLOT SIZE: 1 mm	
D	S1	S2					DESCRIPTION	COMMENTS		
							Loose grey-brown gravel		10	
							gravel becoming more dense	No odour	11	
									12	
									13	
							ROCKHEAD - Soft grey MUDSTONE (BEDROCK)	No odour	14	
							Borehole terminated at 14.0 mbgl		15	
									16	
									17	
									18	
									19	
									20	

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)		☒ Disturbed Sample		Job Title SOIL & GROUNDWATER INVESTIGATION	
2. Cable Percussion to 7.5 m, Rotary with		☐ Undisturbed Sample		Location LLANDARCY REFINERY	
		* Headspace Analysis		Client BP LLANDARCY LTD	
		† Down Borehole Analysis		App'd DRAFT	
		 Groundwater Table		Ref. CR/MC/BRS	
		 Perched Water Table		Date MAY 99	
				Job No. 39991-004-401	
				 DAMES & MOORE	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW231		PAGE 1 of 2	
	NUMBER	TYPE					DRILLING DATES: 03/04/01 - 05/04/01		DRILLING METHODS: Rotary Air Flush	
							DRILLER: Tectonics		BOREHOLE DIAMETER: 250mm	
							LOGGED BY: PW		SCREEN TYPE & DIAM: HDPE 100mm	
							CHECKED BY:		SCREEN SLOT SIZE: 1mm	
DESCRIPTION							COMMENTS			
							Dark brown sandy/clayey fine-coarse GRAVEL. MADE GROUND Intermittent hard bands of concrete/rubble.	Oil/Free Product from 4.0m Wet/Oily	0.0	
									0.5	
									1.0	
									1.5	
Fine-medium GRAVEL with silt and clay. MADE GROUND.							Wet/Oily	2.0		
Medium, subangular GRAVEL fill with peat/fibrous plant remains. MADE GROUND								2.5		
Decreasing fibrous material from 8.0m Increasing amounts of ash and clinker.								3.0		
Saturated with H/C								3.5		
Very poor returns								4.0		
								4.5		
								5.0		
								5.5		
								6.0		
								6.5		
								7.0		
								7.5		
								8.0		
								8.5		
								9.0		
								9.5		
								10.0		

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample ■ Undisturbed Sample * Headspace Analysis + Down Borehole Analysis ▼ Groundwater Table ▲ Perched Water Table	Job Title: Containment Area Investigation Location: Llandarcy Refinery Client: BP Llandarcy Refinery	
		App'd:	Date: 04/09/2002
		Drawn: SS	Ref:
		Scale: As scale	Job No: 39991-016
		Drg. Size: A4	BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW231		PAGE 2 of 2	
	NUMBER	TYPE					DRILLING DATES: 03/04/01 - 05/04/01		DRILLING METHODS : Rotary Air Flush	
							DRILLER : Tectonics		BOREHOLE DIAMETER : 250mm	
							LOGGED BY : PW		SCREEN TYPE & DIAM: HDPE 100mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
							Small amounts of fibrous material, abundant ash and clinker. MADE GROUND		COMMENTS	
							Gravelly CLAY. Borehole terminated and backfilled to 11m			
							End of Borehole			

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title: Containment Area Investigation Location: Llandarcy Refinery Client: BP Llandarcy Refinery	
			App'd: _____ Date: 04/09/2002 Drawn : SS Ref: _____ Scale: As scale Job No: 39991-016 Drg. Size: A4 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW238		PAGE 1 of 3	
	NUMBER	TYPE					DRILLING DATES: 05/04/01		DRILLING METHODS : Rotary Air Flush	
							DRILLER : Tectonics		BOREHOLE DIAMETER : 250mm	
							LOGGED BY : PW		SCREEN TYPE & DIAM: HDPE 100mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
						DESCRIPTION	COMMENTS			
						0.0 Light-dark brown, silty/clayey/sandy med-coarse GRAVEL fill with brick fragments, wood, plastic liner and clinker. MADE GROUND		0.0		
						0.5 Dark grey, gravelly/sandy CLAY with brick fragments and pipe lagging. MADE GROUND		0.5		
						1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0		1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0		
						As above plus abundant lagging foam between 4.0 and 5.0m. MADE GROUND	Saturated with dark, black H/C Abundant free product from 4.5m			

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
NVO = No visual or olfactory evidence	Disturbed Sample ■ Undisturbed Sample * Headspace Analysis + Down Borehole Analysis ~ Groundwater Table ~ Perched Water Table	Job Title: Containment Area Investigation Location: Llandarcy Refinery Client: BP Llandarcy Refinery	
			App'd: _____ Date: 04/09/2002 Drawn : SS Ref: _____ Scale: As scale Job No: 39991-016 Drg. Size: A4 BOREHOLE LOG

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW238		PAGE 2 of 3	
	NUMBER	TYPE					DRILLING DATES: 05/04/01		DRILLING METHODS : Rotary Air Flush	
							DRILLER : Tectonics		BOREHOLE DIAMETER : 250mm	
							LOGGED BY : PW		SCREEN TYPE & DIAM: HDPE 100mm	
CHECKED BY :		SCREEN SLOT SIZE: 1mm								
					5.5					
					6.0					
					6.5					
					7.0					
					7.5					
					8.0					
					8.5					
					9.0					
					9.5					
					10.0					

Gravelly CLAY with abundant fibrous plant material (possibly peat). MADE GROUND

As above with decreasing gravel to fine-medium/coarse SAND with increasing clay. MADE GROUND

Decreasing clay and increasing fine-coarse, subrounded, reworked GRAVEL with clinker/rubble. MADE GROUND

COMMENTS

LOCATION / NOTES:

NVO = No visual or olfactory evidence

LEGEND

Disturbed Sample

Undisturbed Sample

Headspace Analysis

Down Borehole Analysis

Groundwater Table

Perched Water Table

BOREHOLE LOG

Job Title: Containment Area Investigation

Location: Llandarcy Refinery

Client: BP Llandarcy Refinery

App'd:

Date: 04/09/2002

Drawn : SS

Ref:

Scale: As scale

Job No: 39991-016

Drg. Size: A4

BOREHOLE LOG

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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW238		PAGE 3 of 3	
	NUMBER	TYPE					DRILLING DATES: 05/04/01		DRILLING METHODS : Rotary Air Flush	
							DRILLER : Tectonics		BOREHOLE DIAMETER : 250mm	
							LOGGED BY : PW		SCREEN TYPE & DIAM: HDPE 100mm	
							CHECKED BY :		SCREEN SLOT SIZE: 1mm	
					10.5	End of Borehole	COMMENTS			10.5
					11.0				11.0	
					11.5				11.5	
					12.0				12.0	
					12.5				12.5	
					13.0				13.0	
					13.5				13.5	
					14.0				14.0	
					14.5				14.5	
					15.0				15.0	

LOCATION / NOTES:

NVO = No visual or olfactory evidence

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title: Containment Area Investigation

Location: Llandarcy Refinery

Client: BP Llandarcy Refinery

App'd:	Date: 04/09/2002
Drawn : SS	Ref:
Scale: As scale	Job No: 39991-016
Drg. Size: A4	BOREHOLE LOG



Appendix C URS groundwater drawings



LEGEND

- Shaded Areas
(Typical Groundwater Contours)
- Open Areas
(Typical Groundwater Contours)
- Interpolated Groundwater Contours
- on Contour Interval
- on Contour Interval
- on Contour Interval
- on Contour Interval

Contours based on groundwater elevation C data collected in September 2003

REVISE	DATE	CHK	APPD
1 - INITIAL DRAFT	MAY 04	SS	

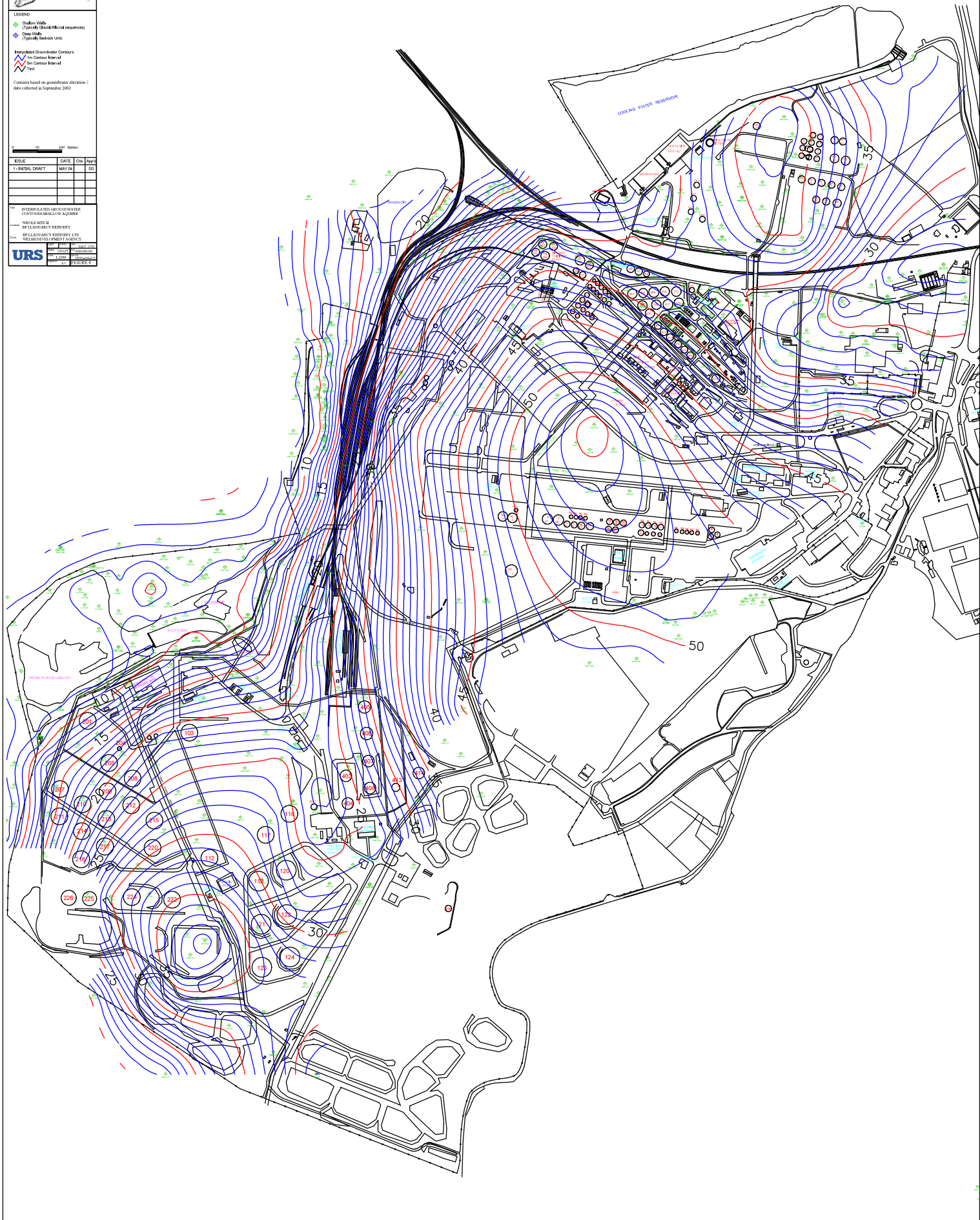
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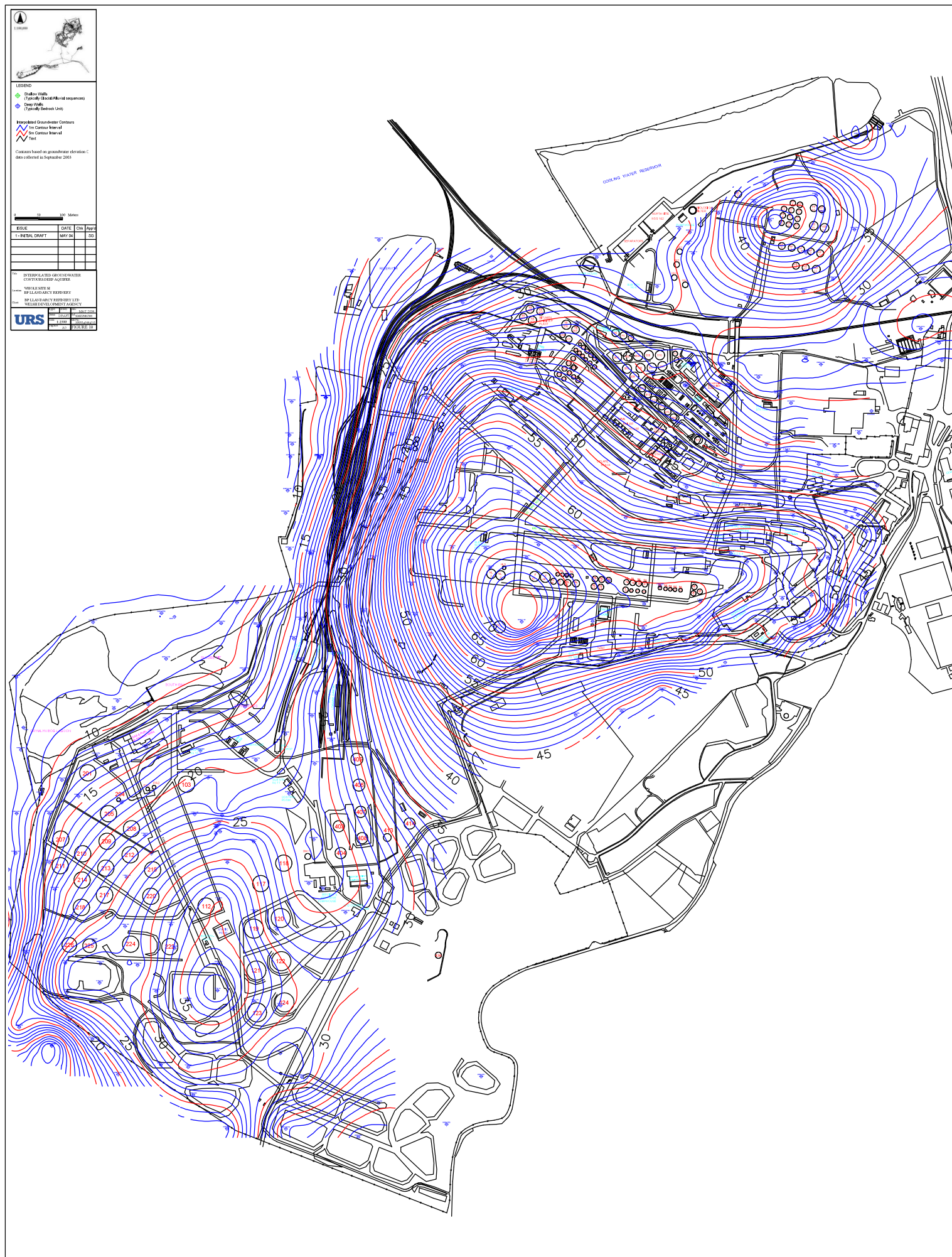
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OF LANDSCAPE RECOVERY LTD

WATER SITE IS

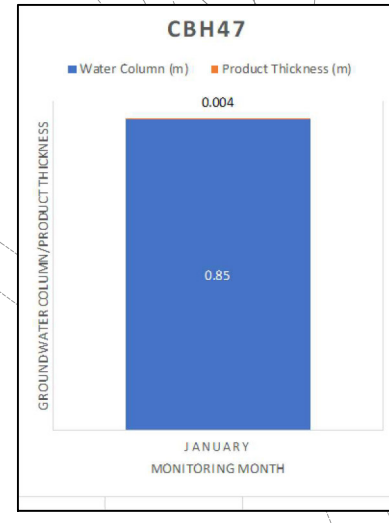
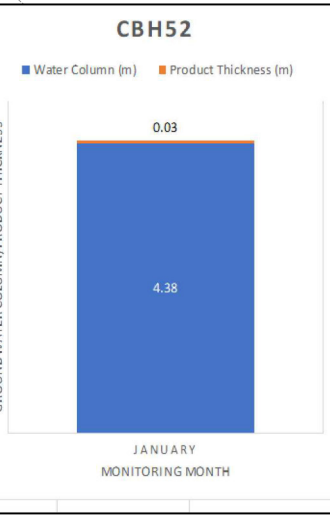
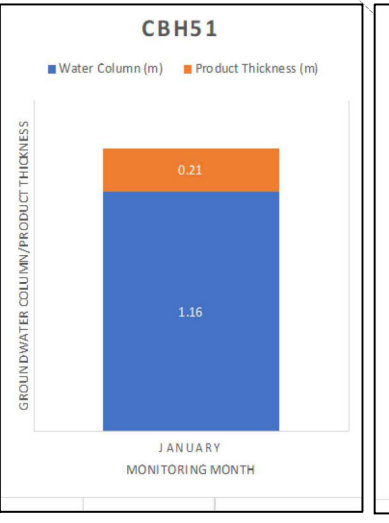
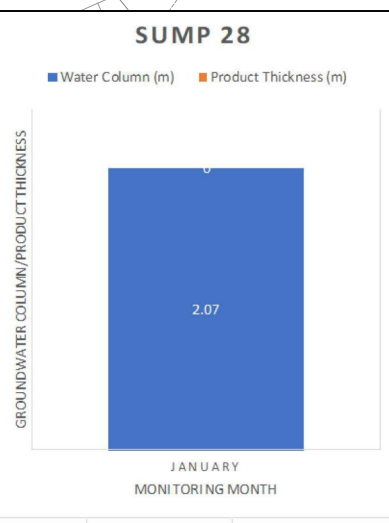
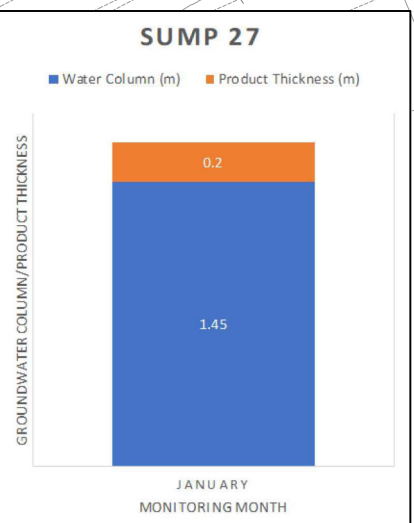
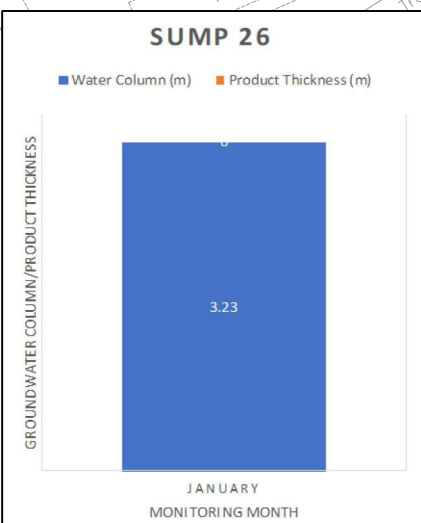
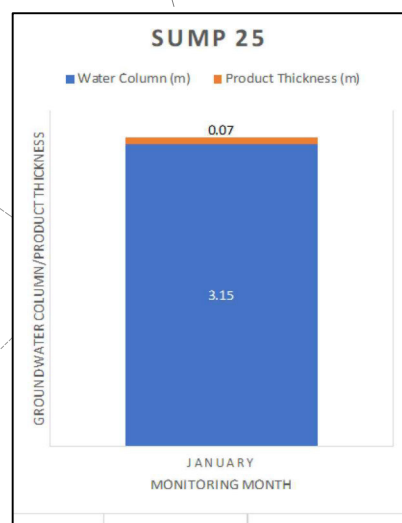
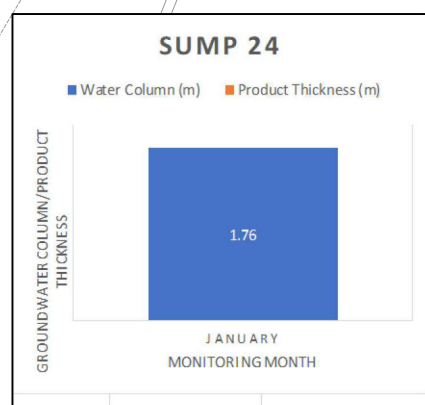
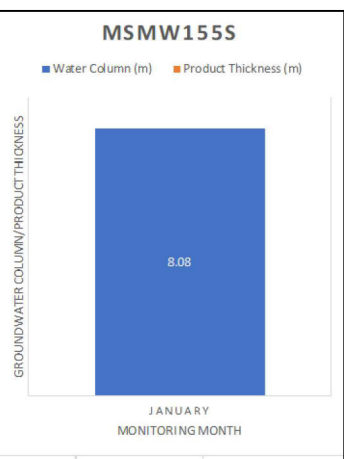
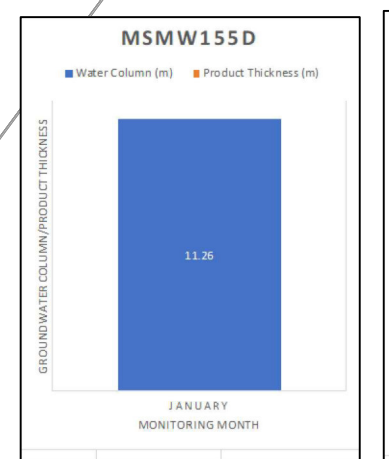
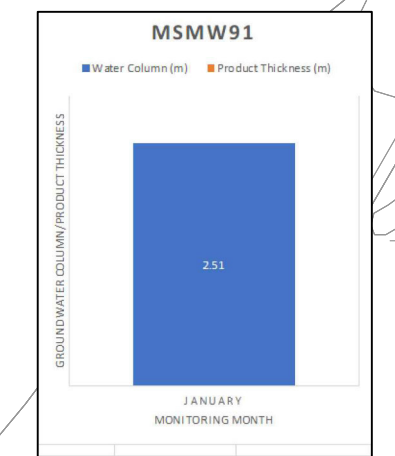
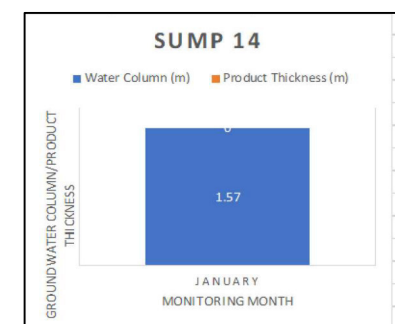
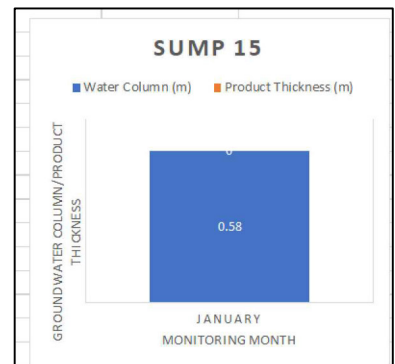
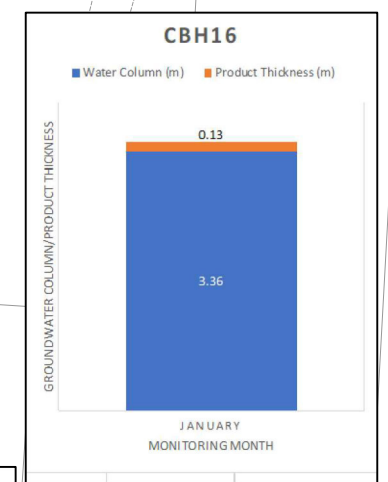
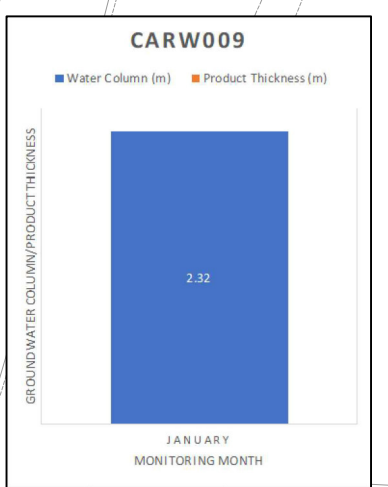
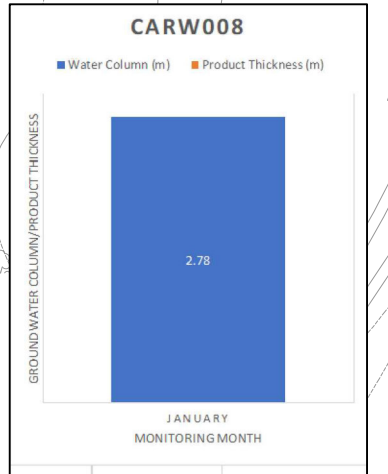
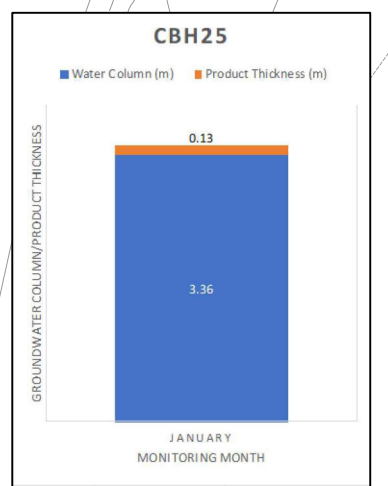
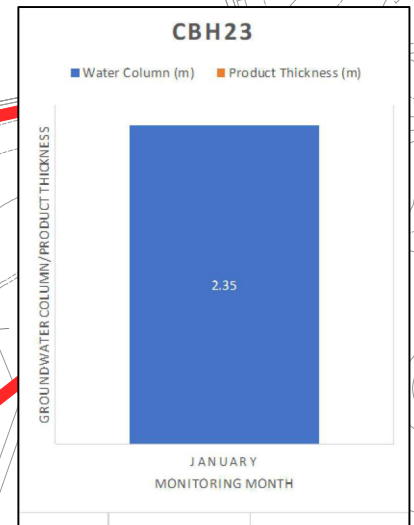
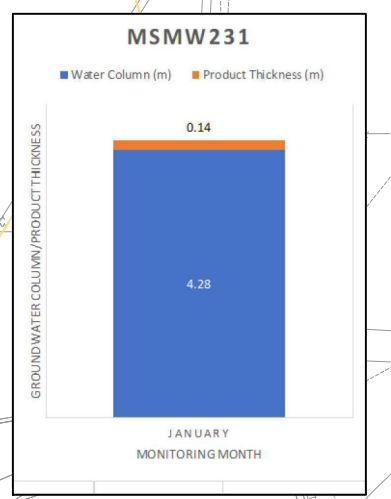
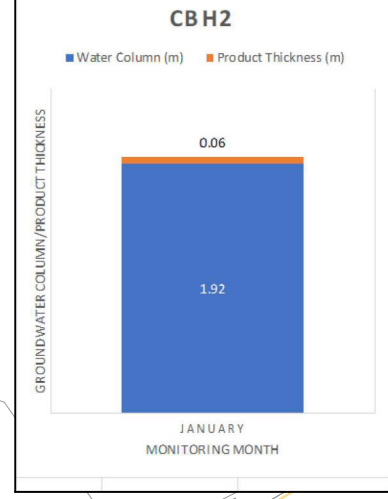
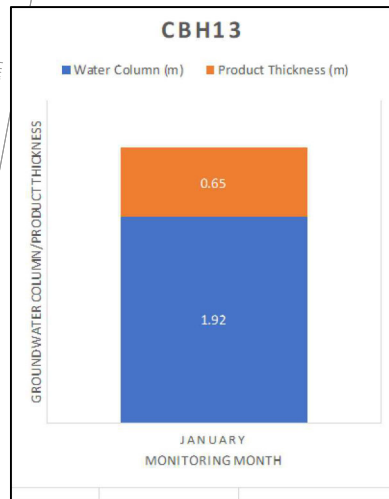
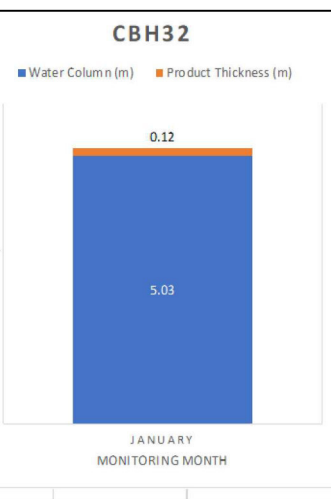
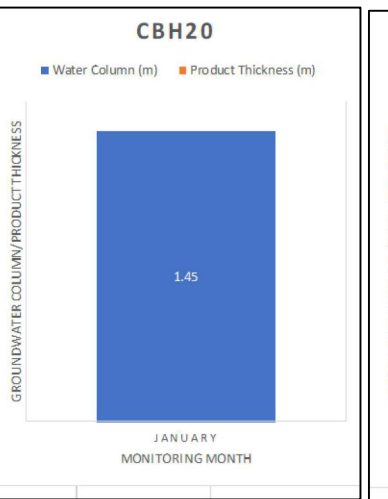
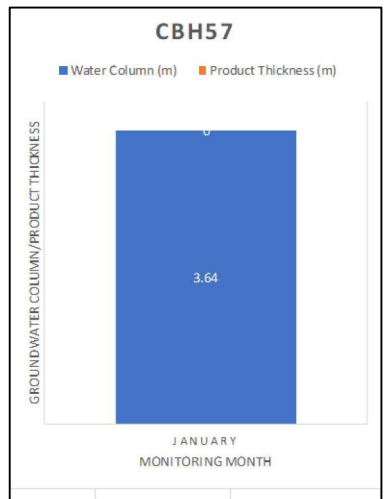
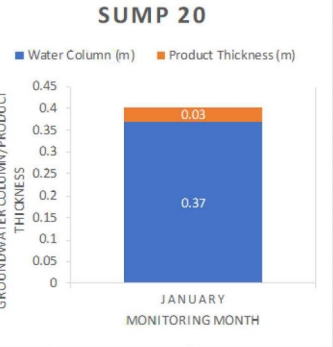
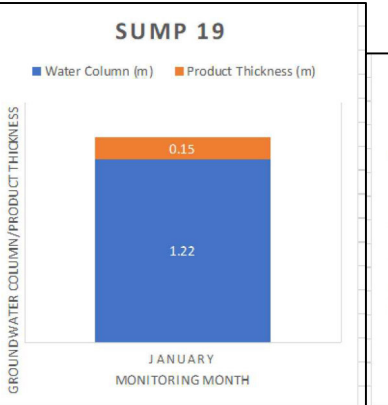
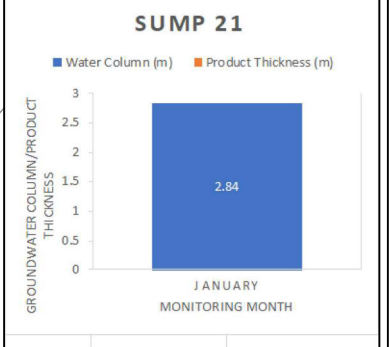
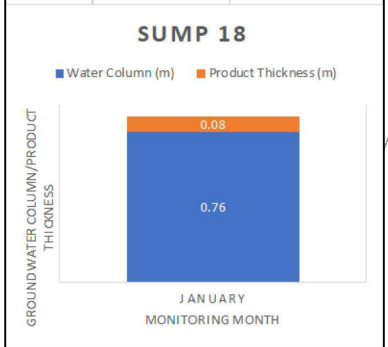
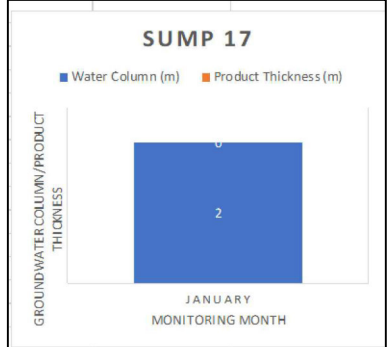
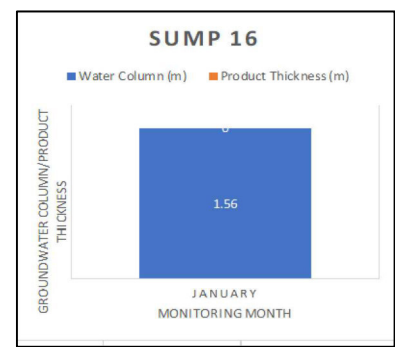
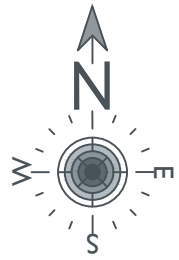
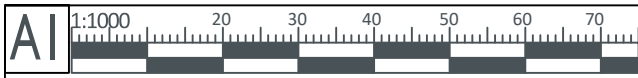
URS







Appendix D NAPL thickness and distribution

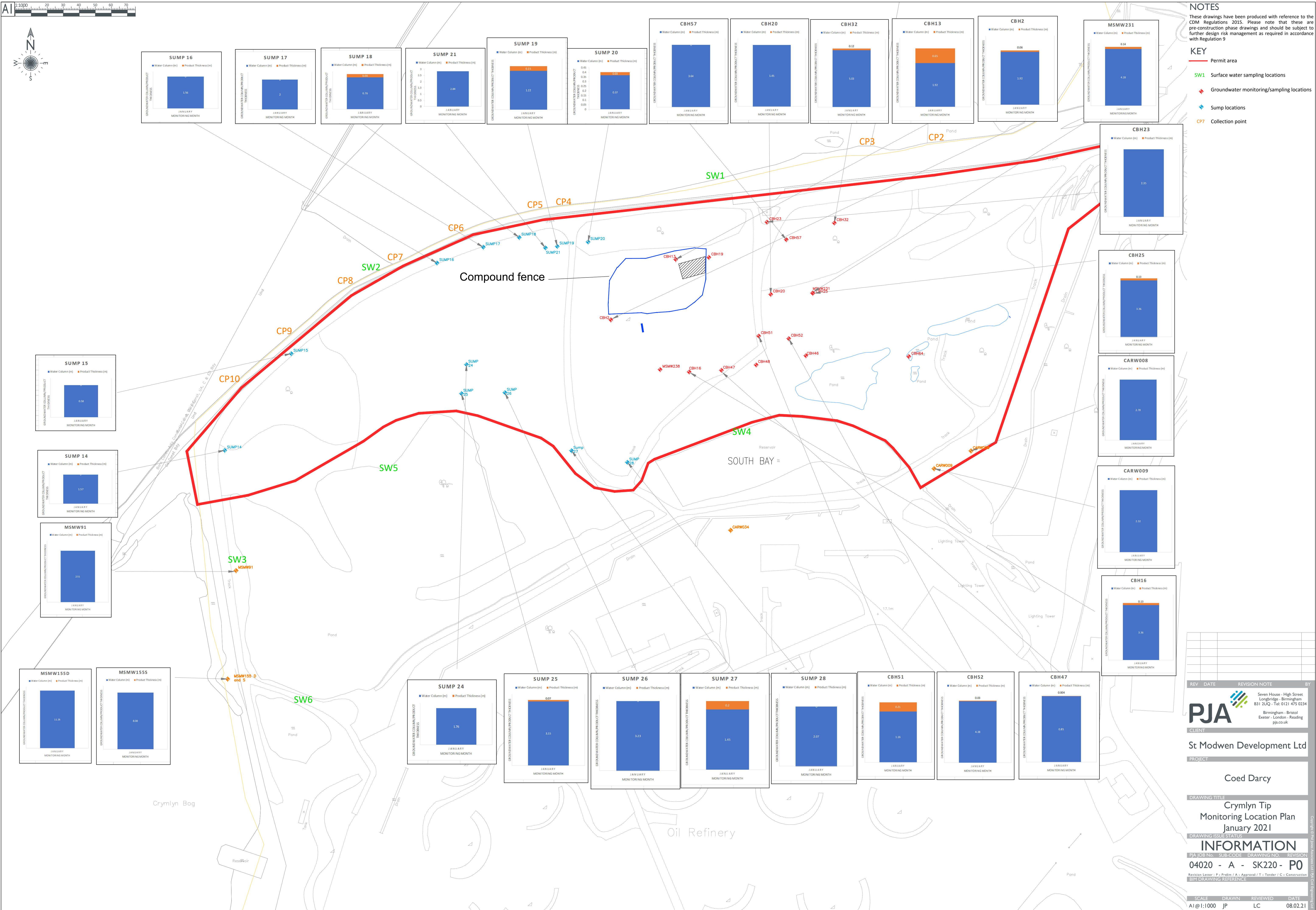


NOTES

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

KEY

- Permit area
- SW1 Surface water sampling locations
- Groundwater monitoring/sampling locations
- Sump locations
- CP7 Collection point



REV	DATE	REVISION NOTE	BY
1	2021-01-01	Issue for information	JPA

CLIENT
St Modwen Development Ltd

PROJECT
Coed Darcy

DRAWING TITLE
**Crymlyn Tip
Monitoring Location Plan
January 2021**

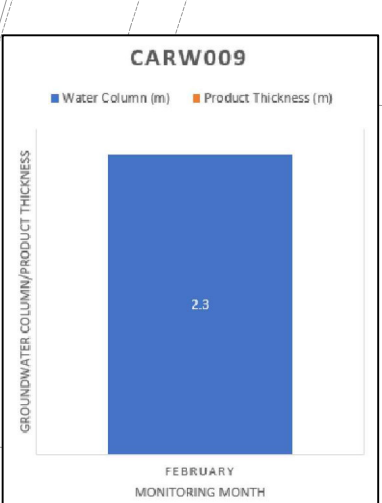
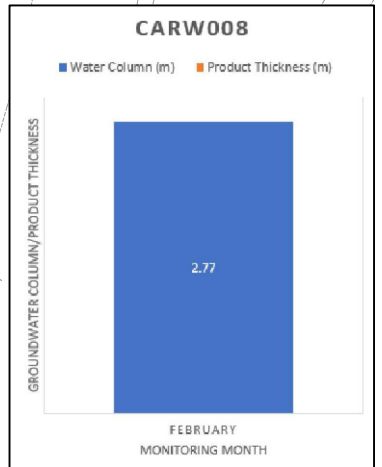
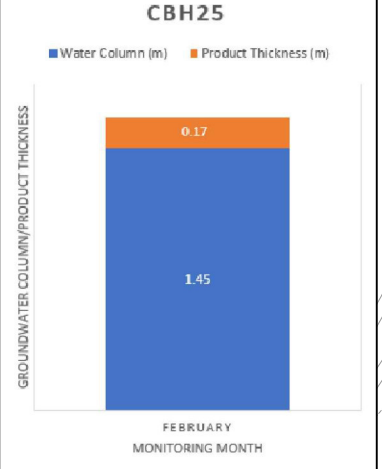
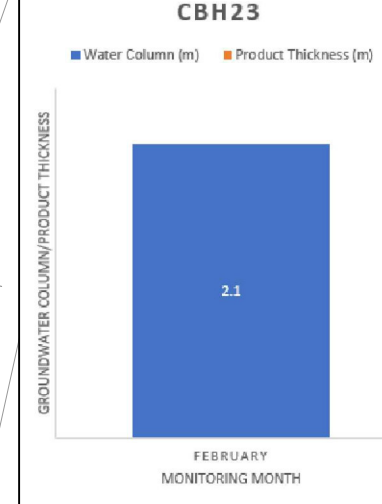
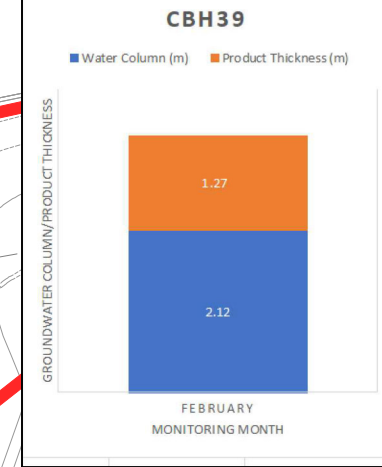
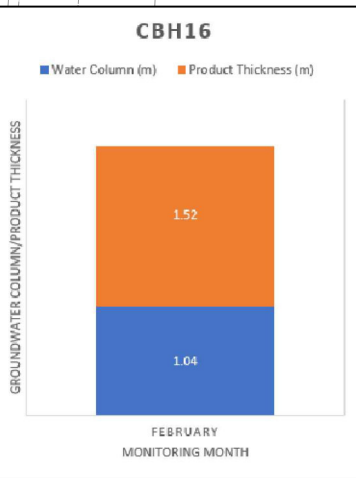
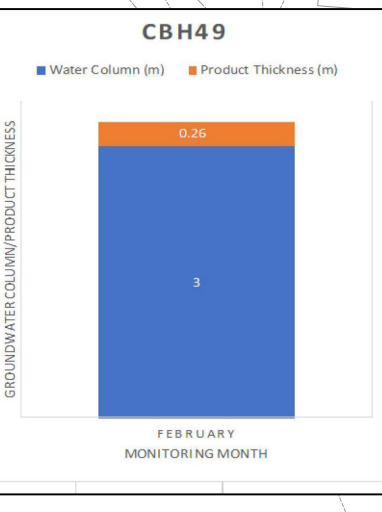
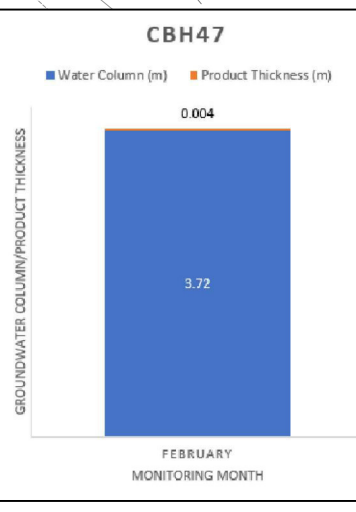
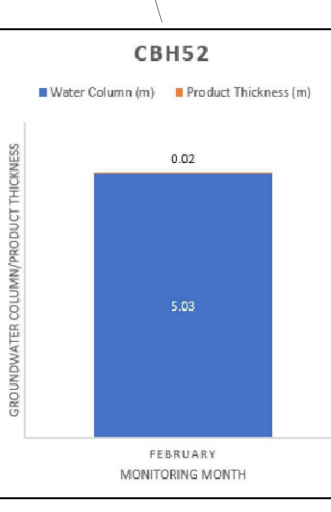
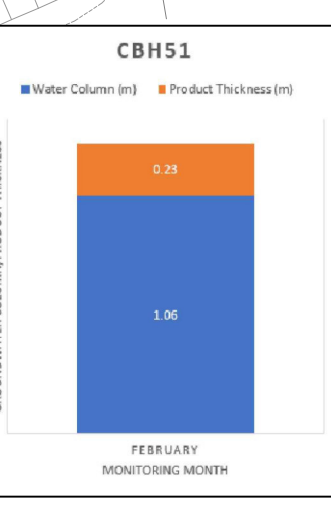
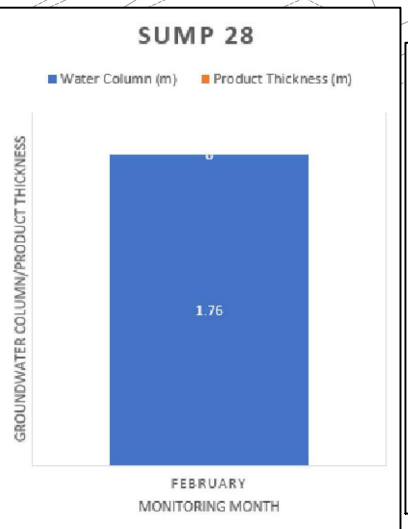
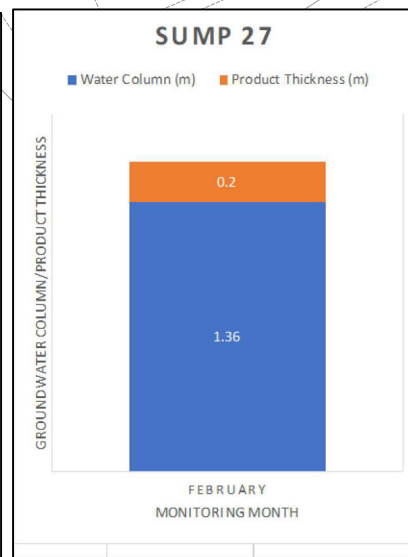
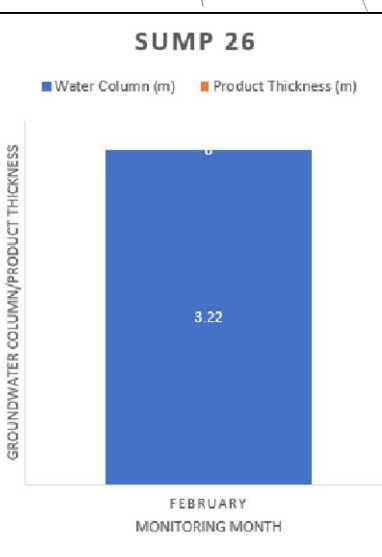
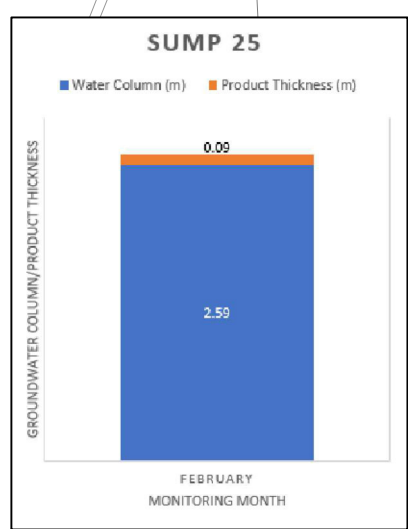
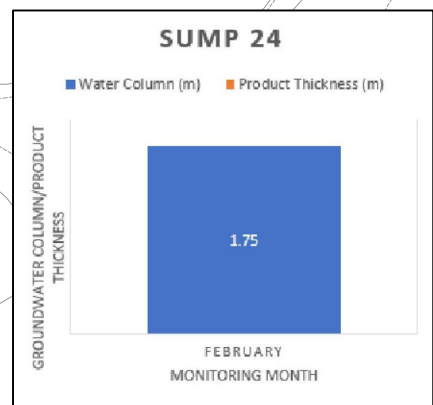
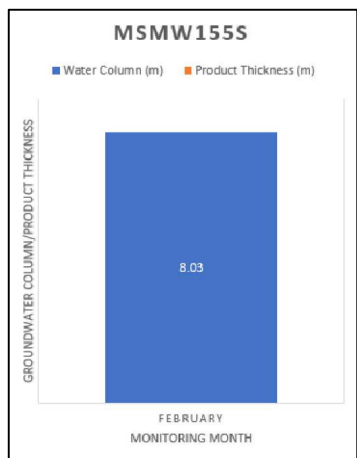
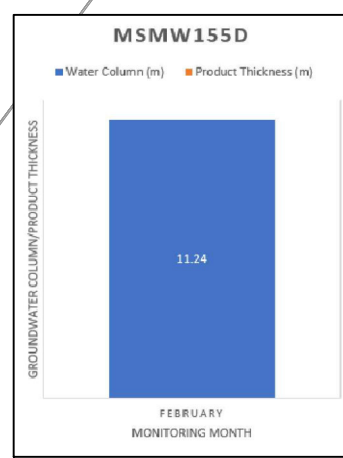
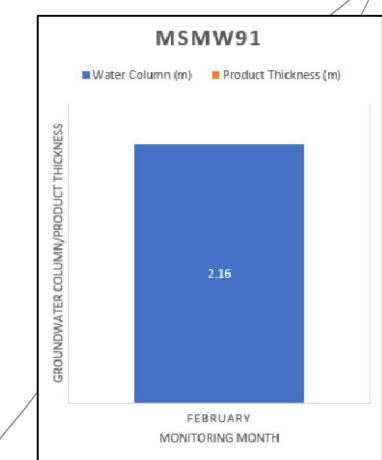
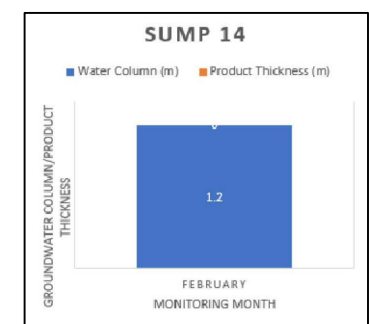
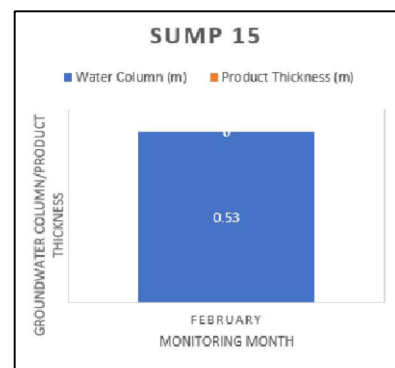
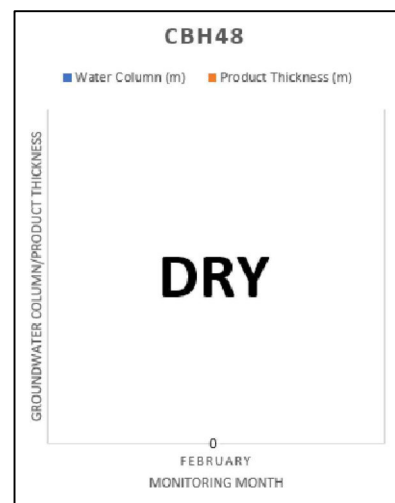
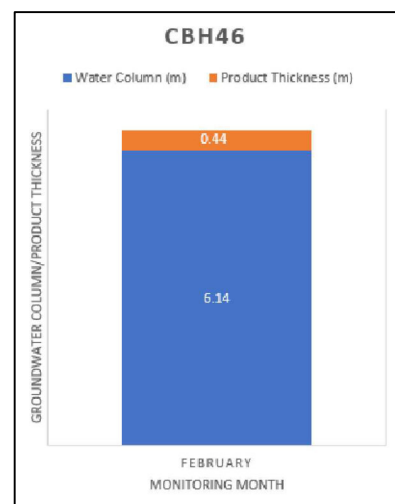
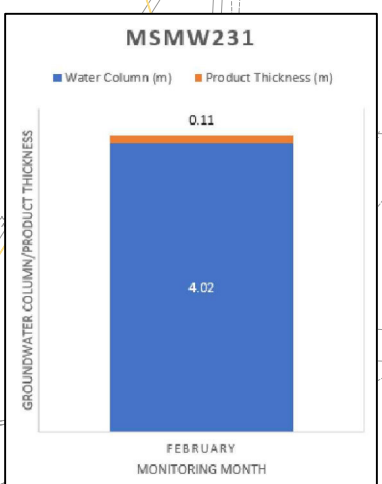
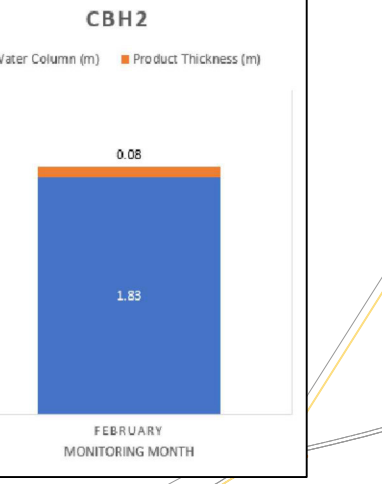
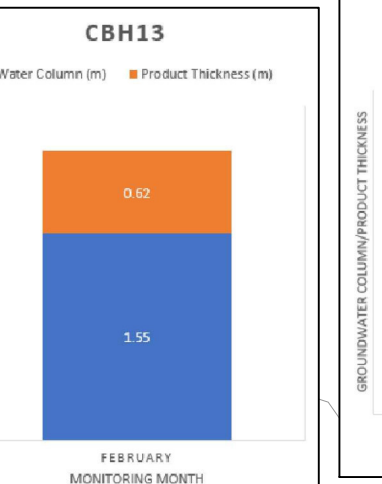
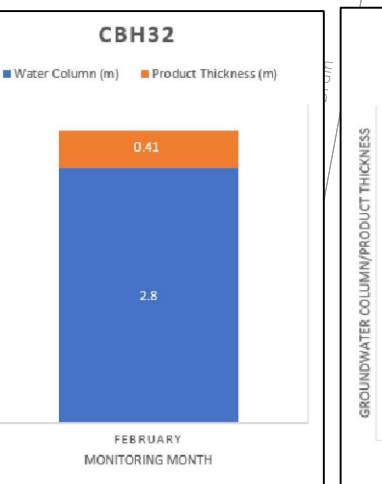
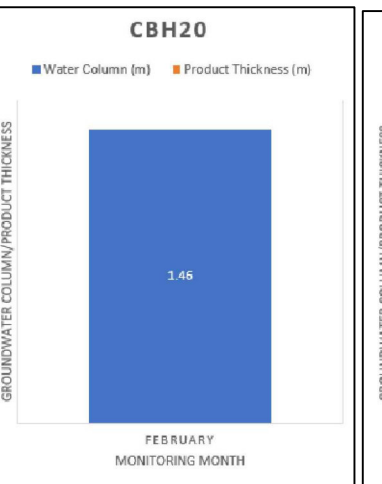
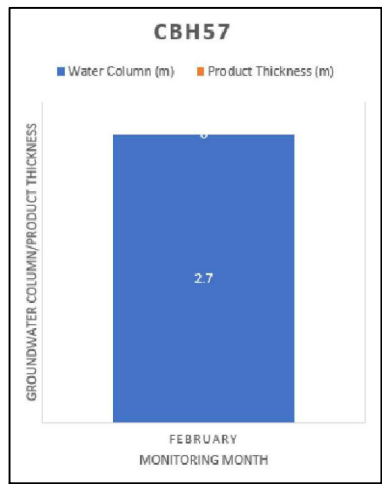
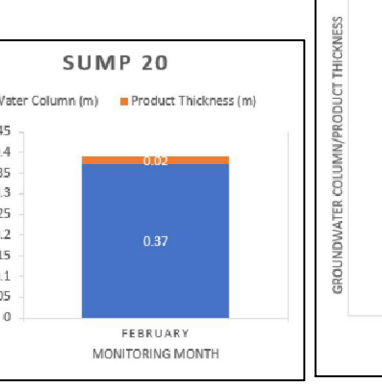
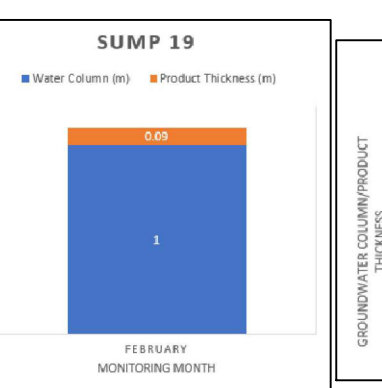
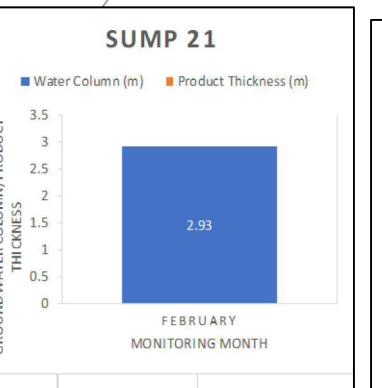
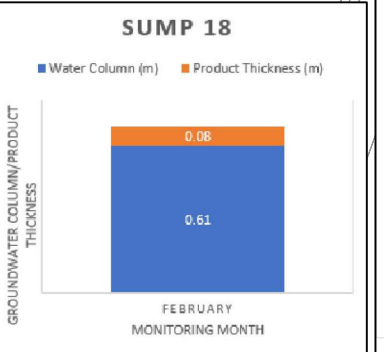
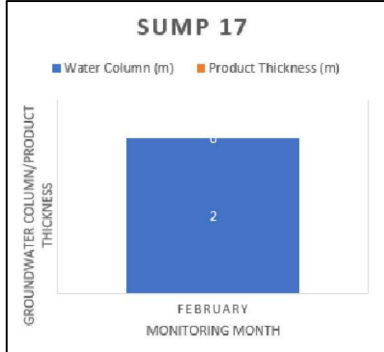
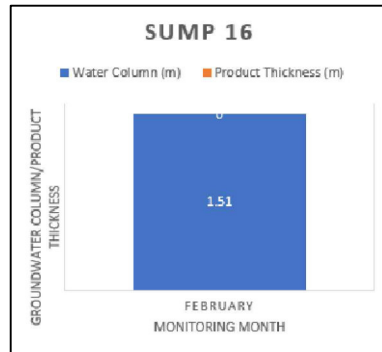
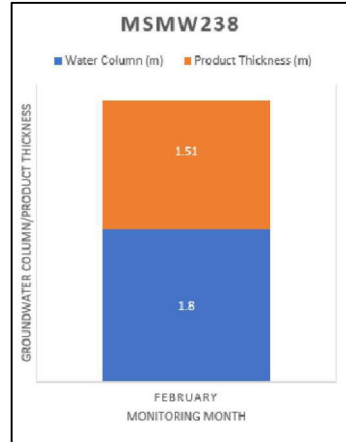
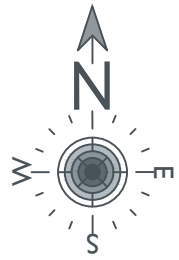
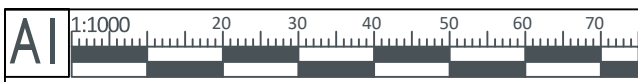
DRAWING ISSUE STATUS
04020 - A - SK220 - PO

SCALE
AI@1:1000

DRAWN
JP

REVIEWED
LC

DATE
08.02.21

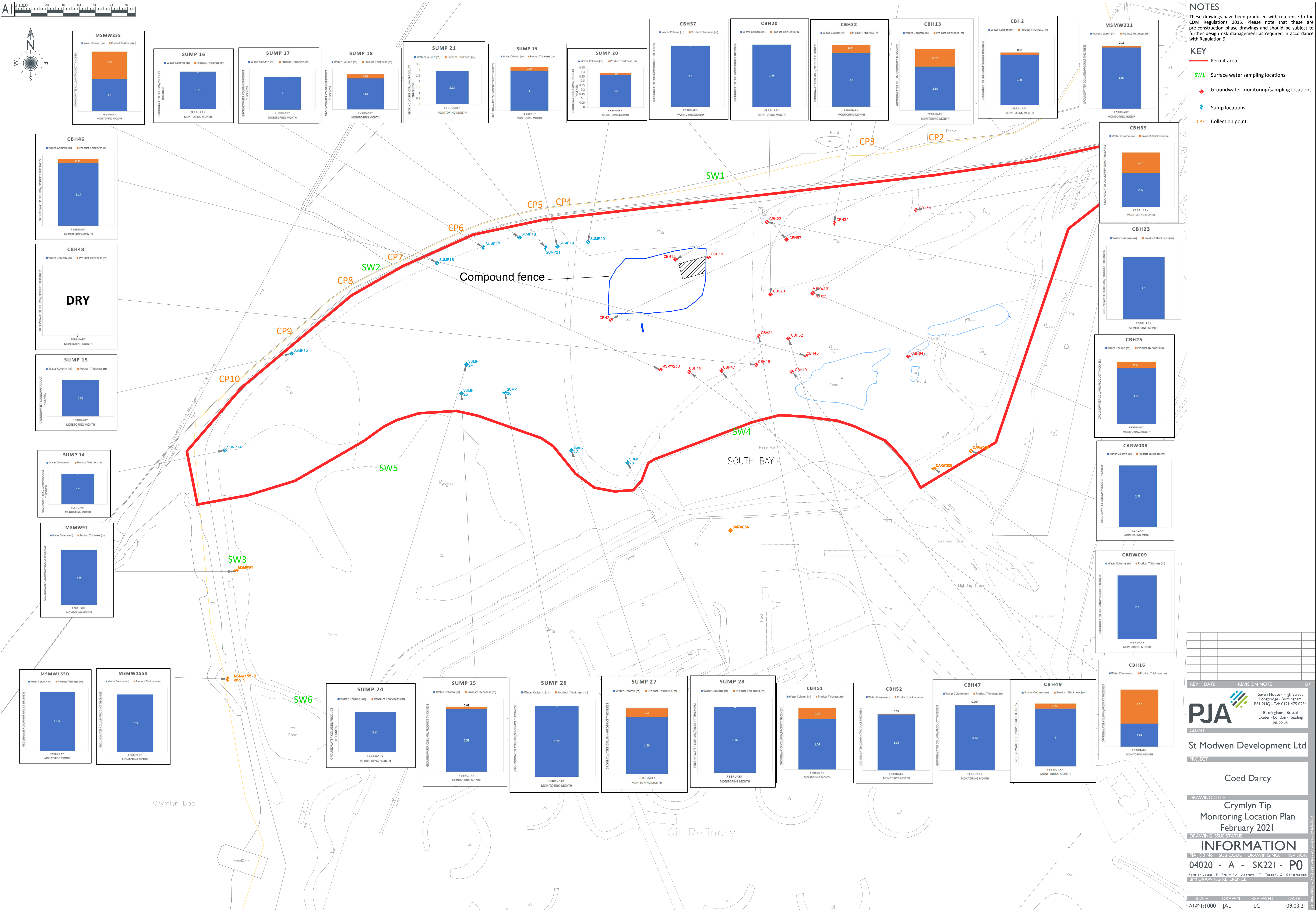


NOTES

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KEY

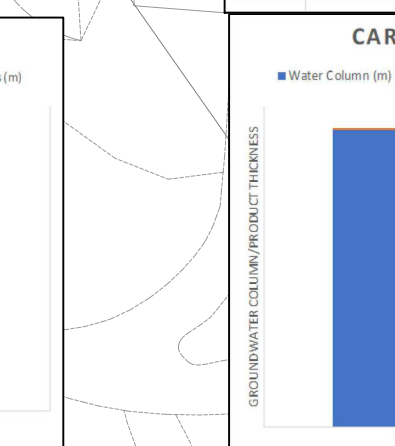
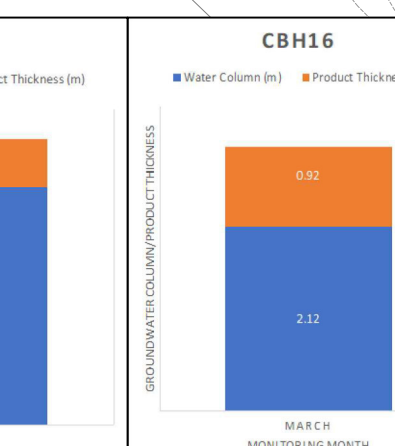
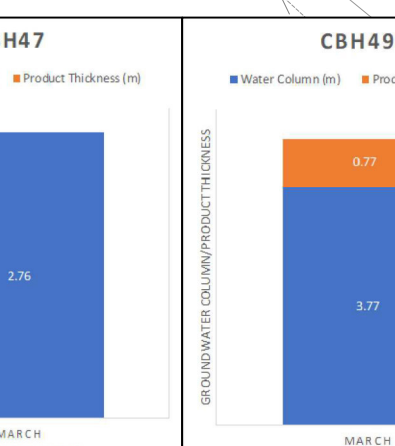
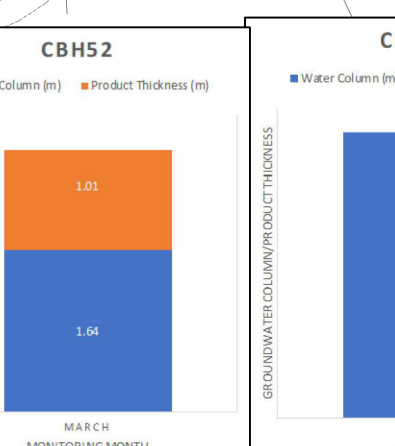
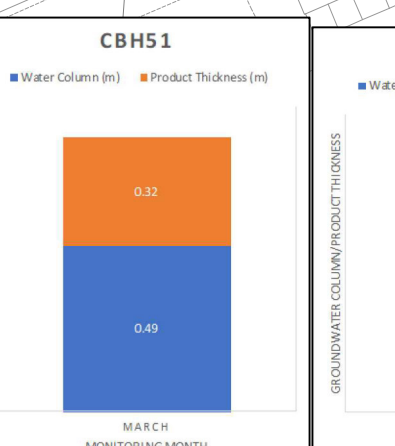
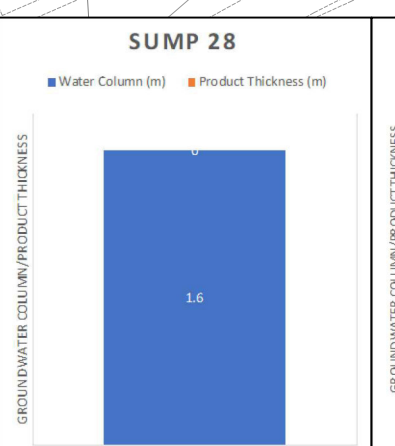
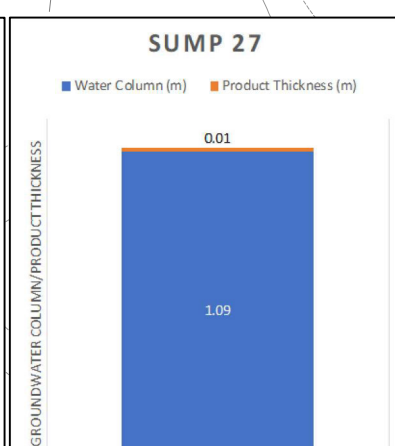
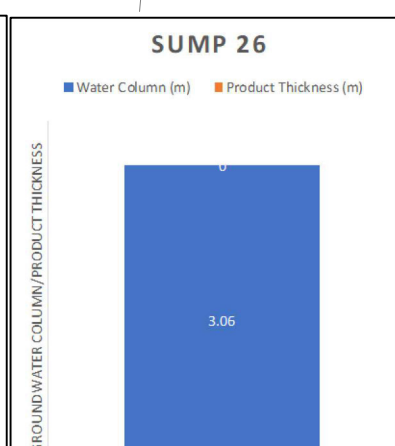
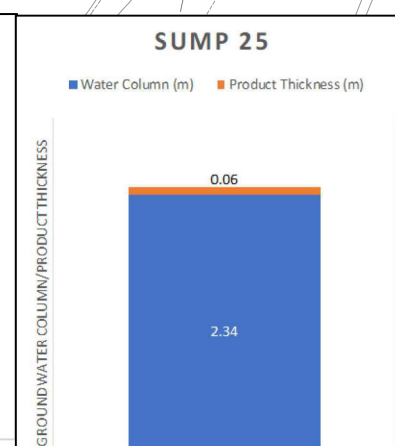
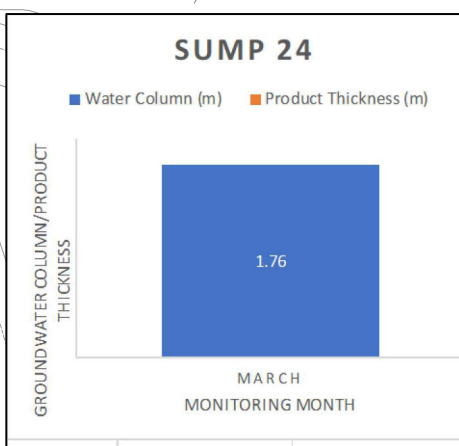
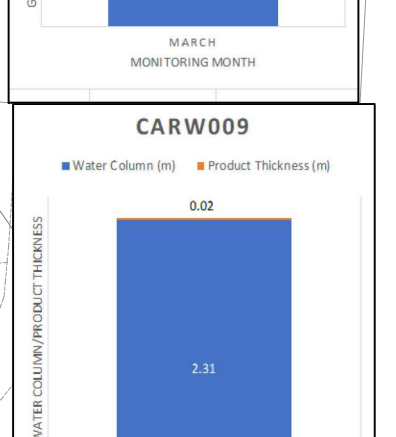
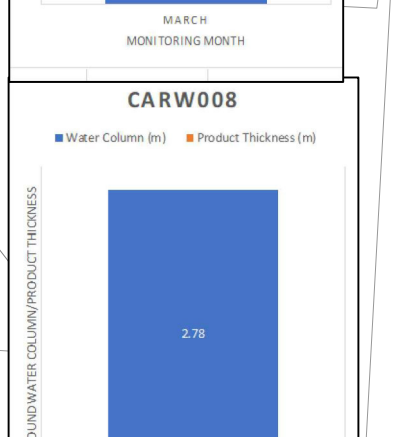
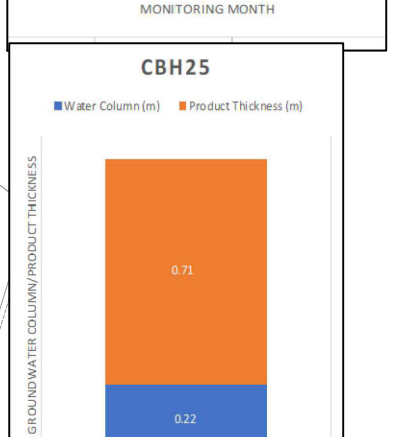
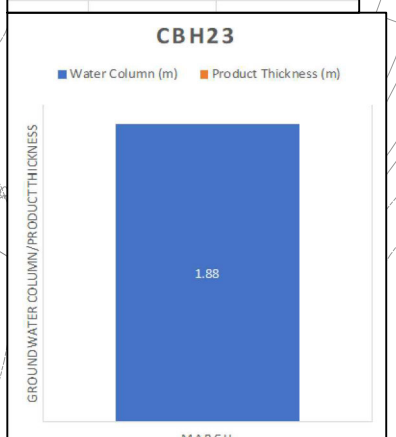
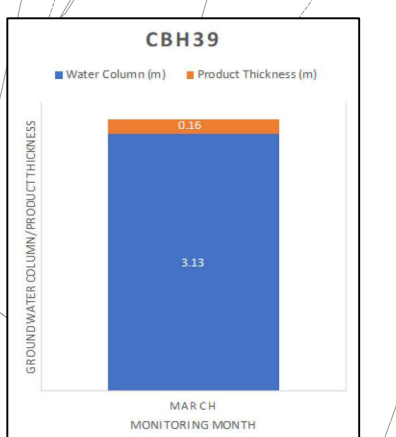
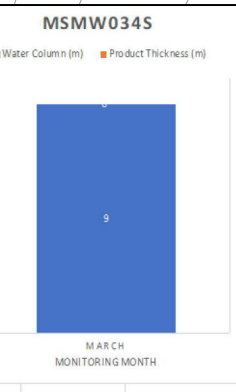
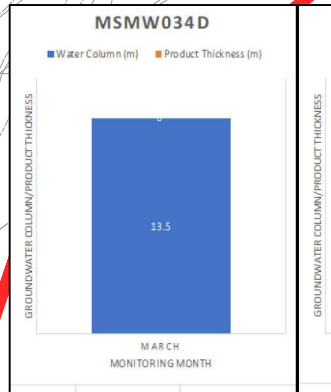
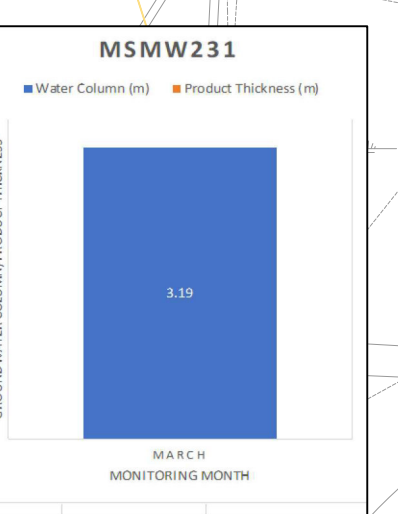
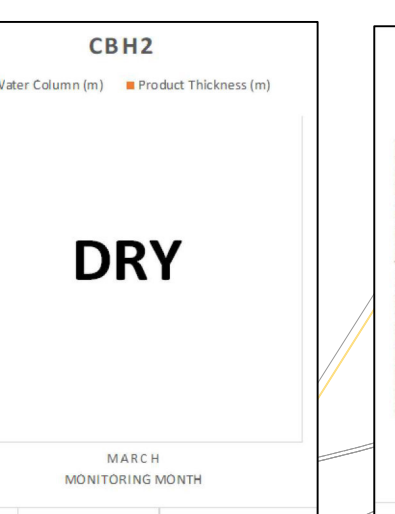
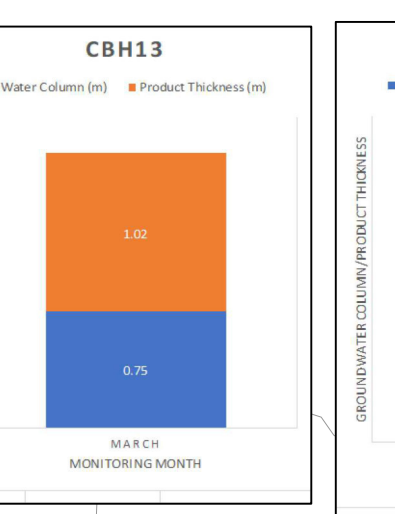
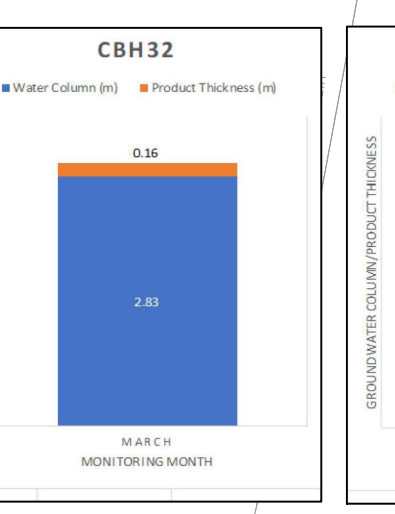
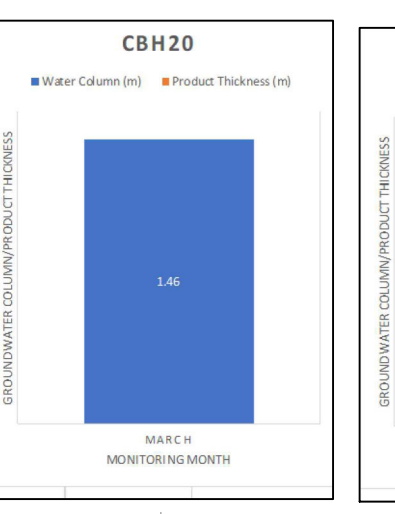
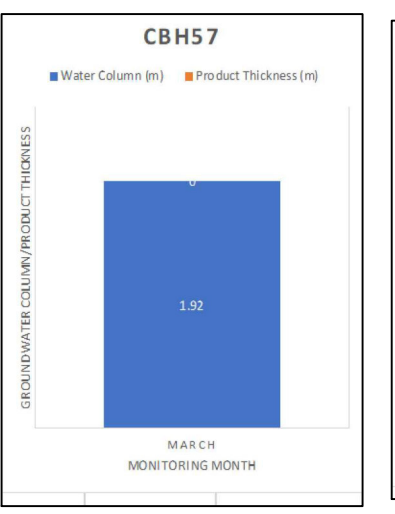
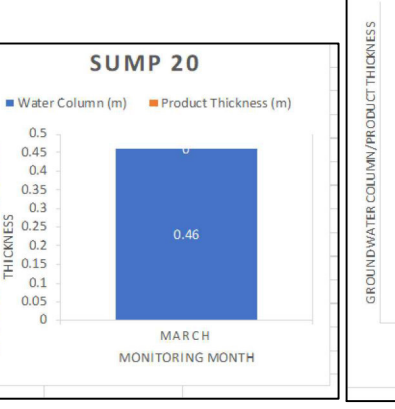
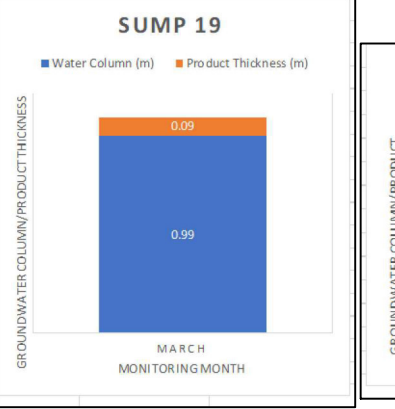
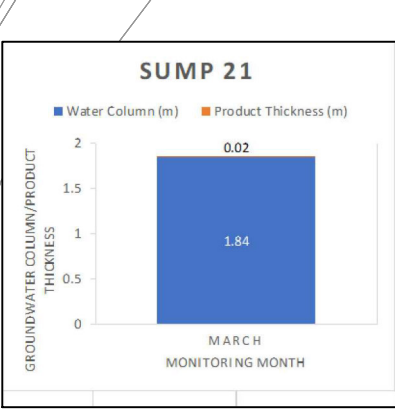
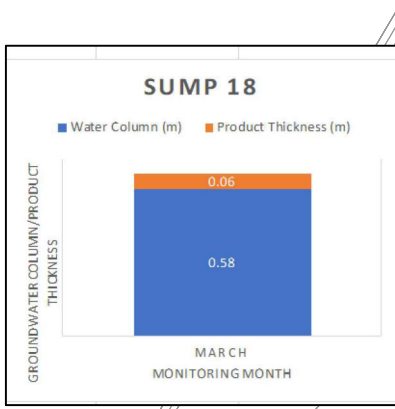
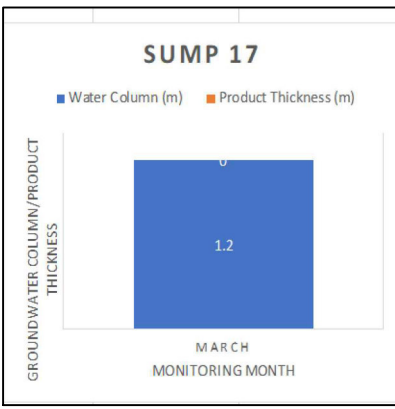
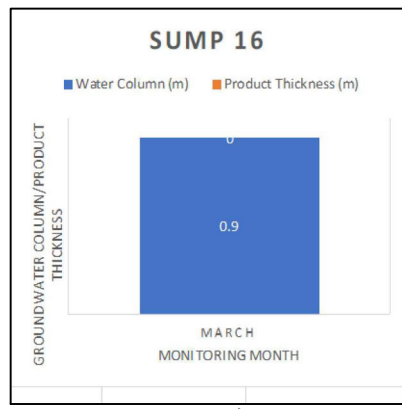
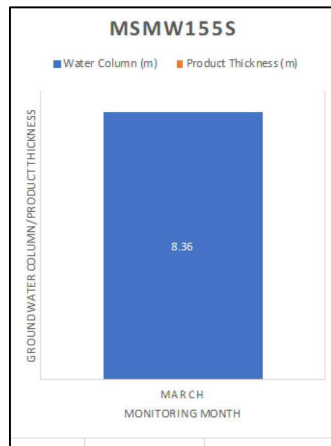
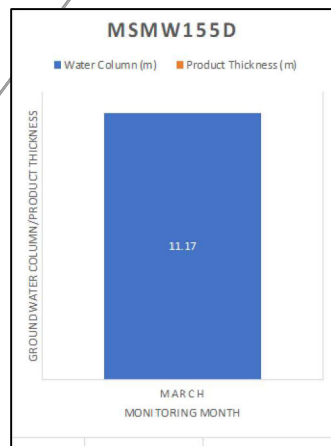
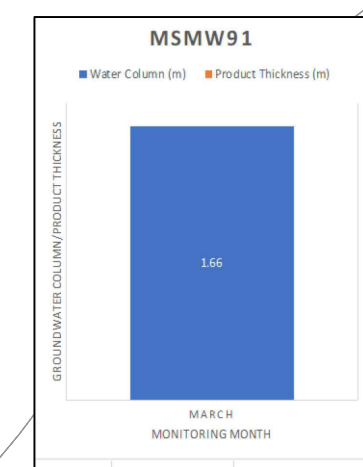
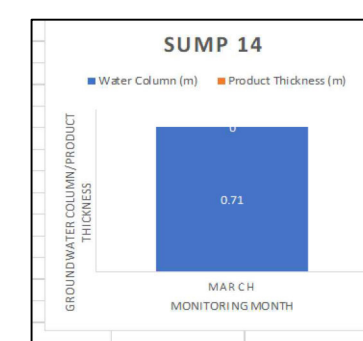
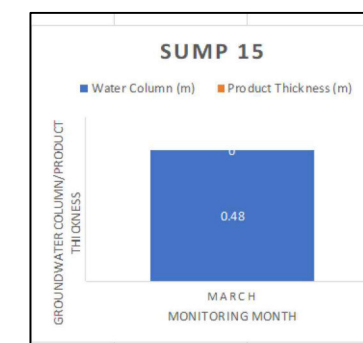
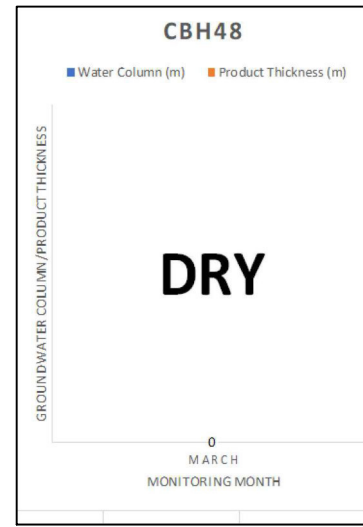
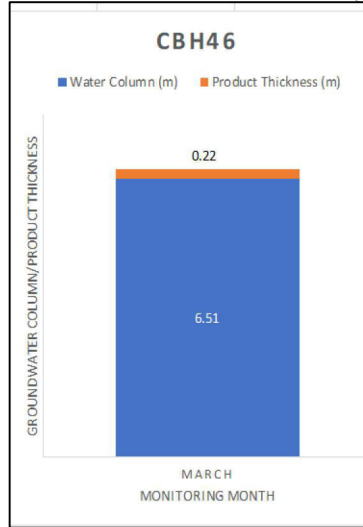
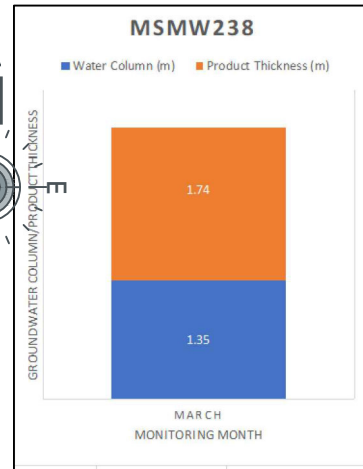
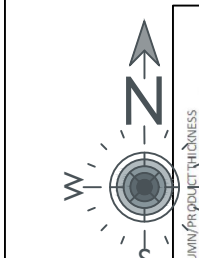
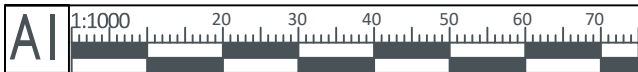
- Permit area
- SW1 Surface water sampling locations
- Groundwater monitoring/sampling locations
- Sump locations
- CP7 Collection point



REV	DATE	REVISION NOTE	BY
1	01/03/21	Issue for construction	JAL

CLIENT: St Modwen Development Ltd

PROJECT: Coed Darcy			
DRAWING TITLE: Crymlyn Tip Monitoring Location Plan February 2021			
DRAWING ISSUE STATUS: INFORMATION			
PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
04020	- A -	SK221 - PO	
Revision Letter: P - Prelim / A - Approval / T - Tender / C - Construction			
BIM DRAWING REFERENCE:			
SCALE	DRAWN	REVIEWED	DATE
AI @ 1:1000	JAL	LC	09.03.21

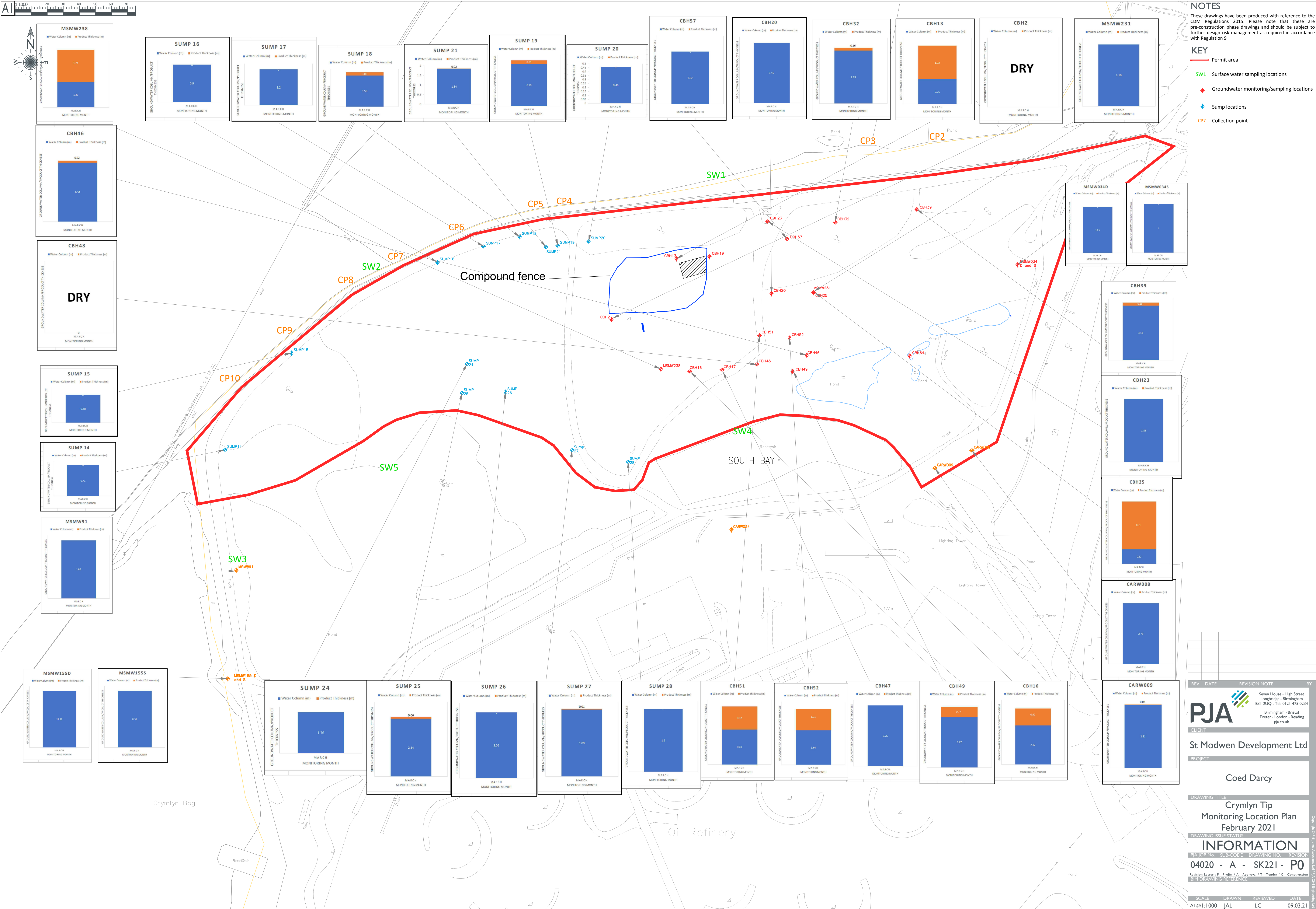


NOTES

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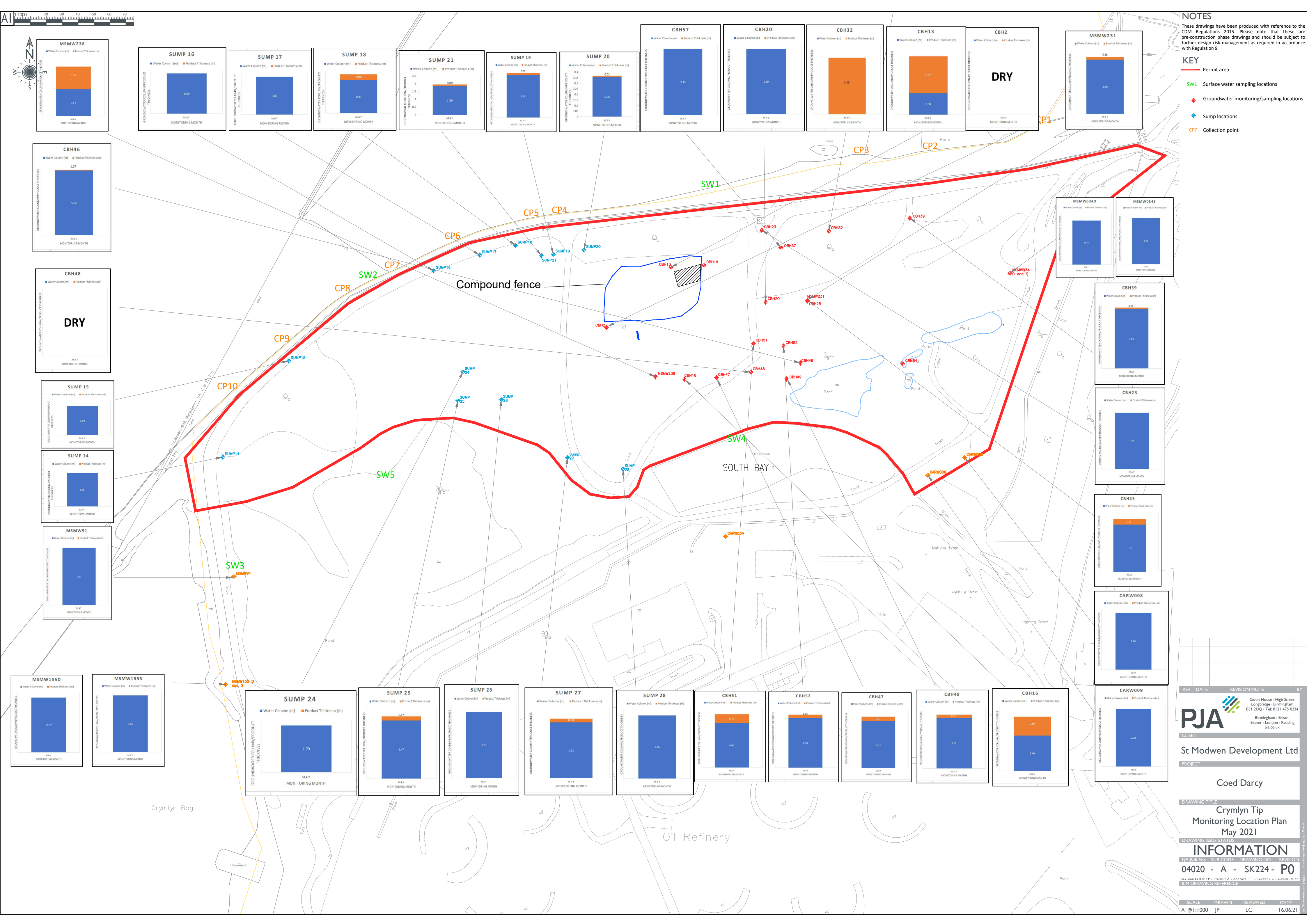
KEY

- Permit area
- SW1 Surface water sampling locations
- Groundwater monitoring/sampling locations
- Sump locations
- CP7 Collection point



REV	DATE	REVISION NOTE	BY
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3	02/02/21	Issue for approval	JAL
4	02/02/21	Issue for approval	JAL
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CLIENT	St Modwen Development Ltd
PROJECT	Coed Darcy
DRAWING TITLE	Crymlyn Tip Monitoring Location Plan February 2021
DRAWING ISSUE STATUS	INFORMATION
PJA JOB No.	04020
SUB-CODE	A
DRAWING NO.	SK221
REVISION	P0
Revision Letter	P - Prelim / A - Approval / T - Tender / C - Construction
SCALE	AI @ 1:1000
DRAWN	JAL
REVIEWED	LC
DATE	09.03.21



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- CP7 Collection point

REV	DATE	REVISION NOTE	BY
		 Seven House - High Street Longbridge - Birmingham B31 2UG - Tel: 0121 475 0234 Birmingham - Bristol Exeter - London - Reading pja.co.uk	

CLIENT

St Modwen Development Ltd

PROJECT

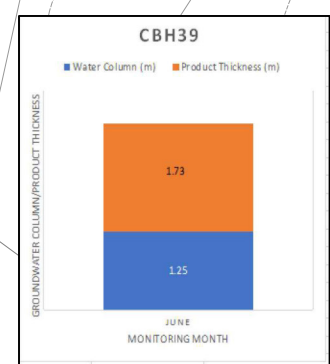
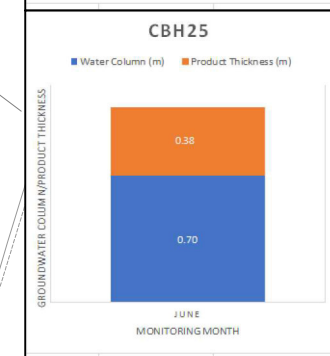
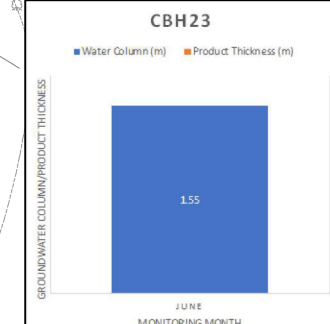
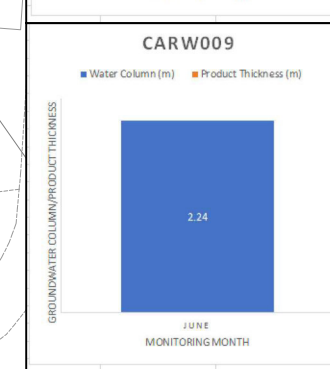
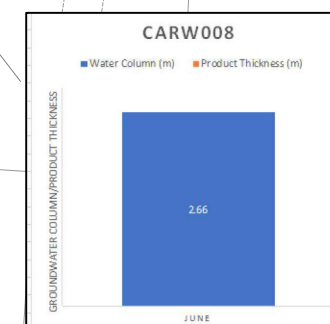
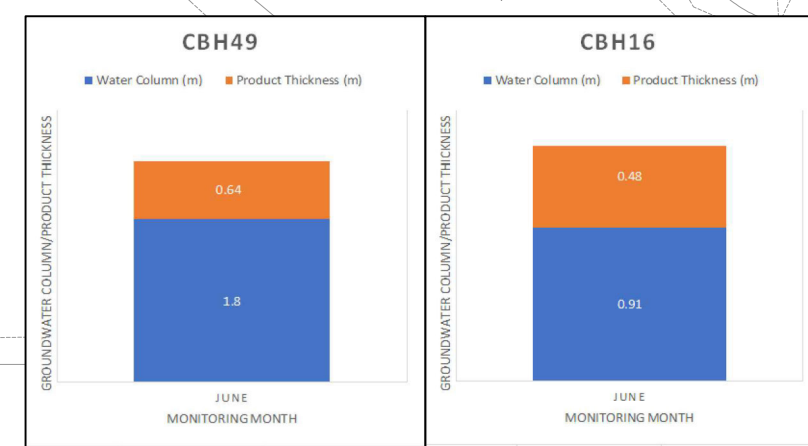
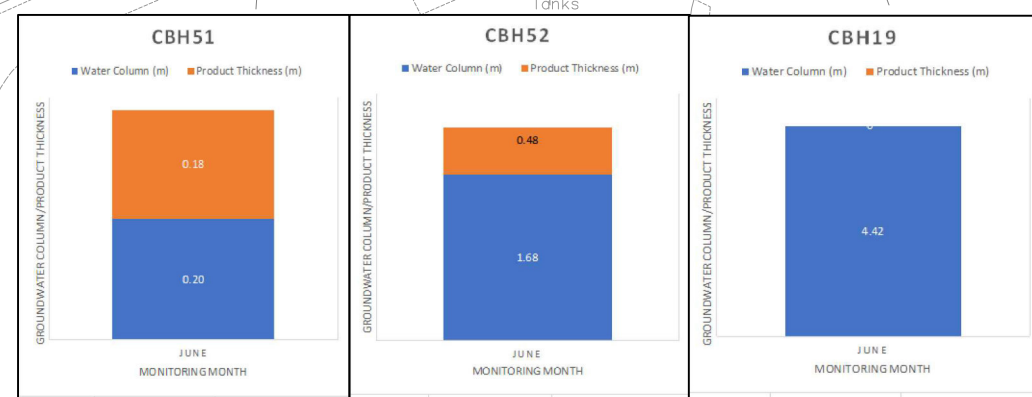
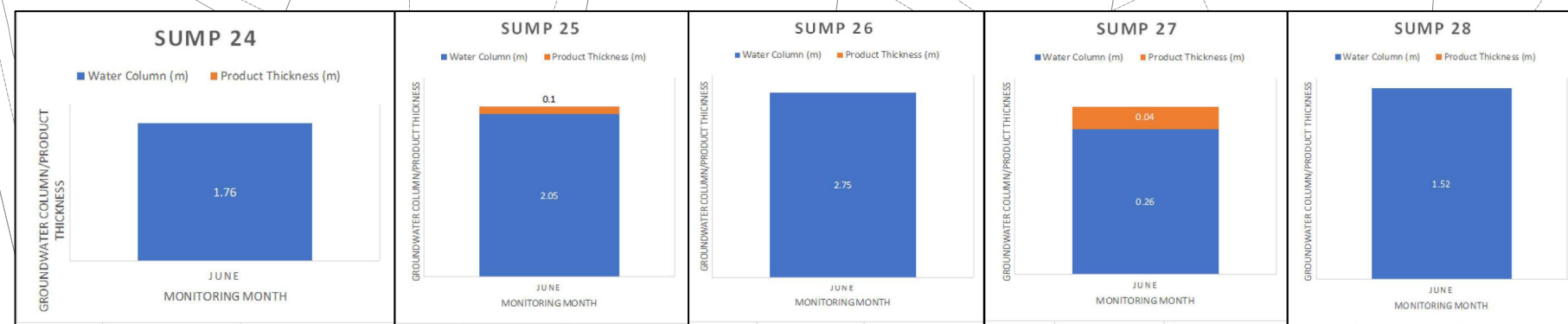
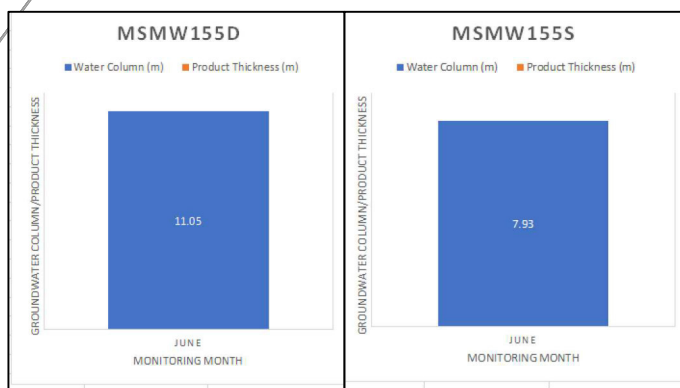
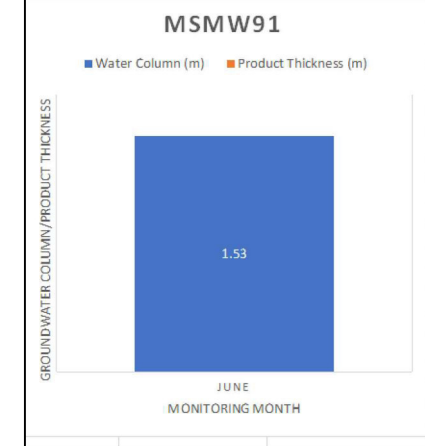
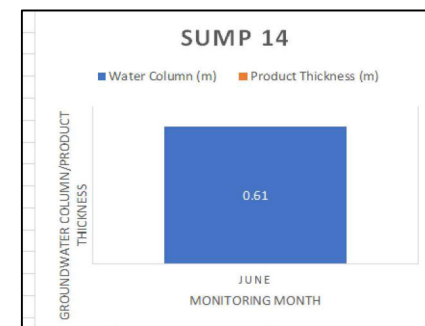
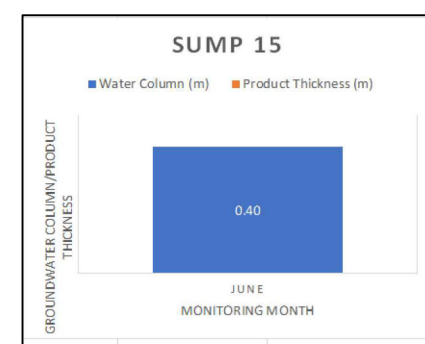
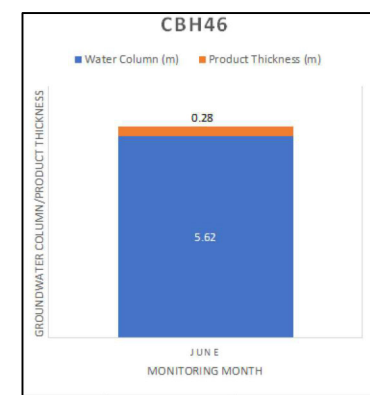
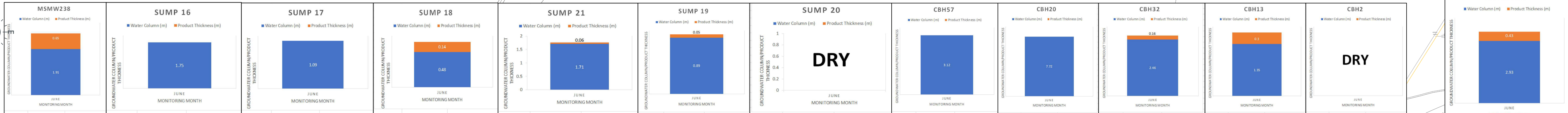
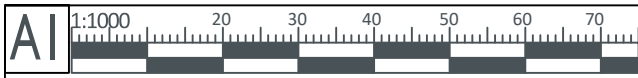
Coed Darcy

DRAWING TITLE

Crymlyn Tip
Monitoring Location Plan
May 2021

DRAWING ISSUE STATUS			
INFORMATION			
PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
04020	- A -	SK224 -	P0
Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction			
BIM DRAWING REFERENCE			

SCALE	DRAWN	REVIEWED	DATE
AI@1:1000	JP	LC	16.06.21

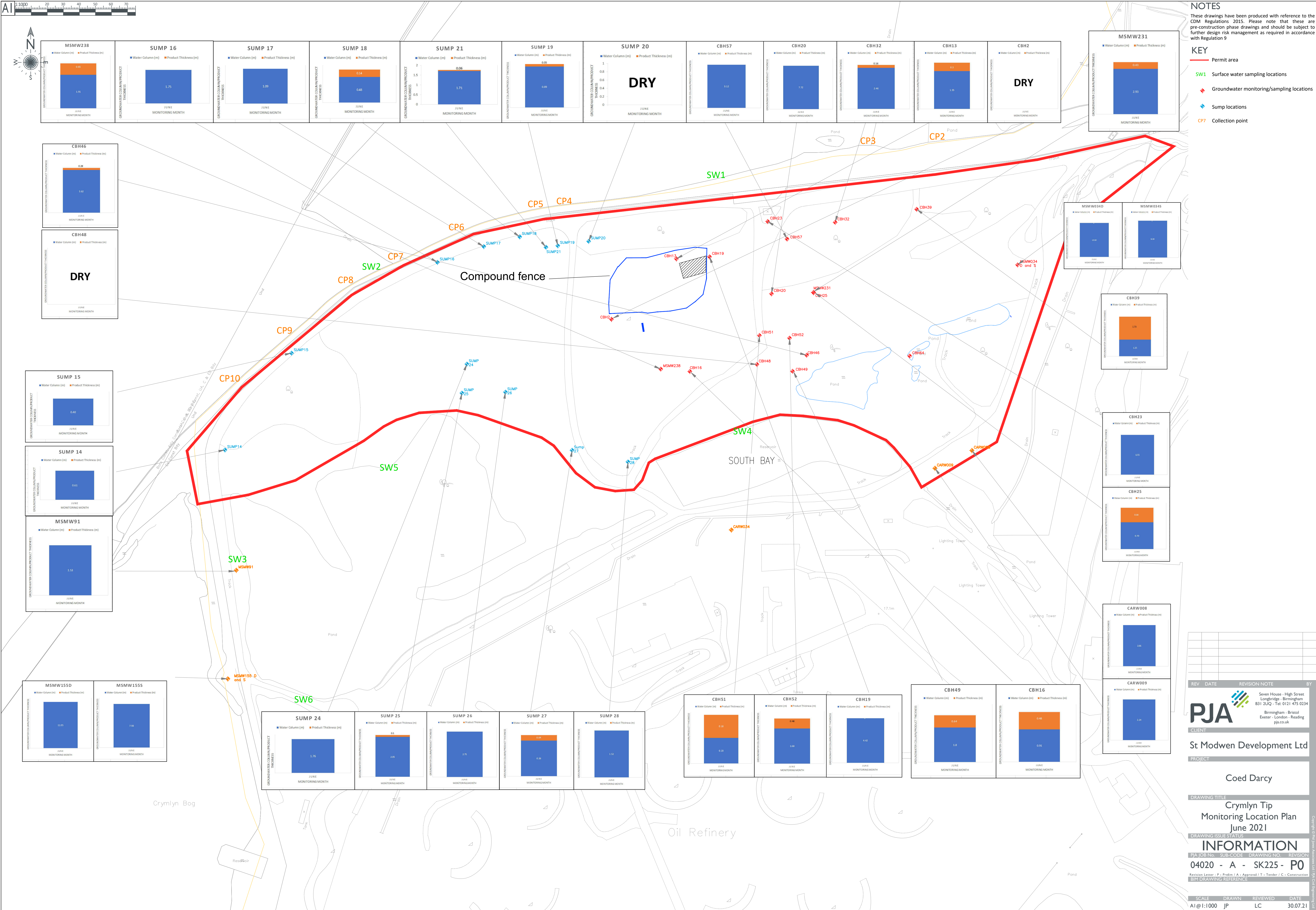


NOTES

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KEY

- Permit area
- SW1 Surface water sampling locations
- Groundwater monitoring/sampling locations
- Sump locations
- CP7 Collection point



REV	DATE	REVISION NOTE	BY
1	01/06/2021	Issue for approval	JP

CLIENT

PJA

Seven House - High Street
Longbridge - Birmingham
B31 2UQ - Tel: 0121 475 0234
Birmingham - Bristol
Exeter - London - Reading
pja.co.uk

St Modwen Development Ltd

PROJECT

Coed Darcy

DRAWING TITLE

Crymlyn Tip
Monitoring Location Plan
June 2021

DRAWING ISSUE STATUS

INFORMATION

PJA JOB No. SUB-CODE DRAWING NO. REVISION

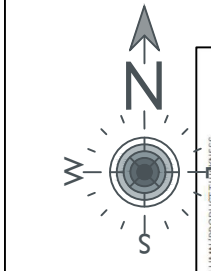
04020 - A - SK225 - P0

Revision Letter: P = Prelim / A = Approval / T = Tender / C = Construction

SEE DRAWING REFERENCE

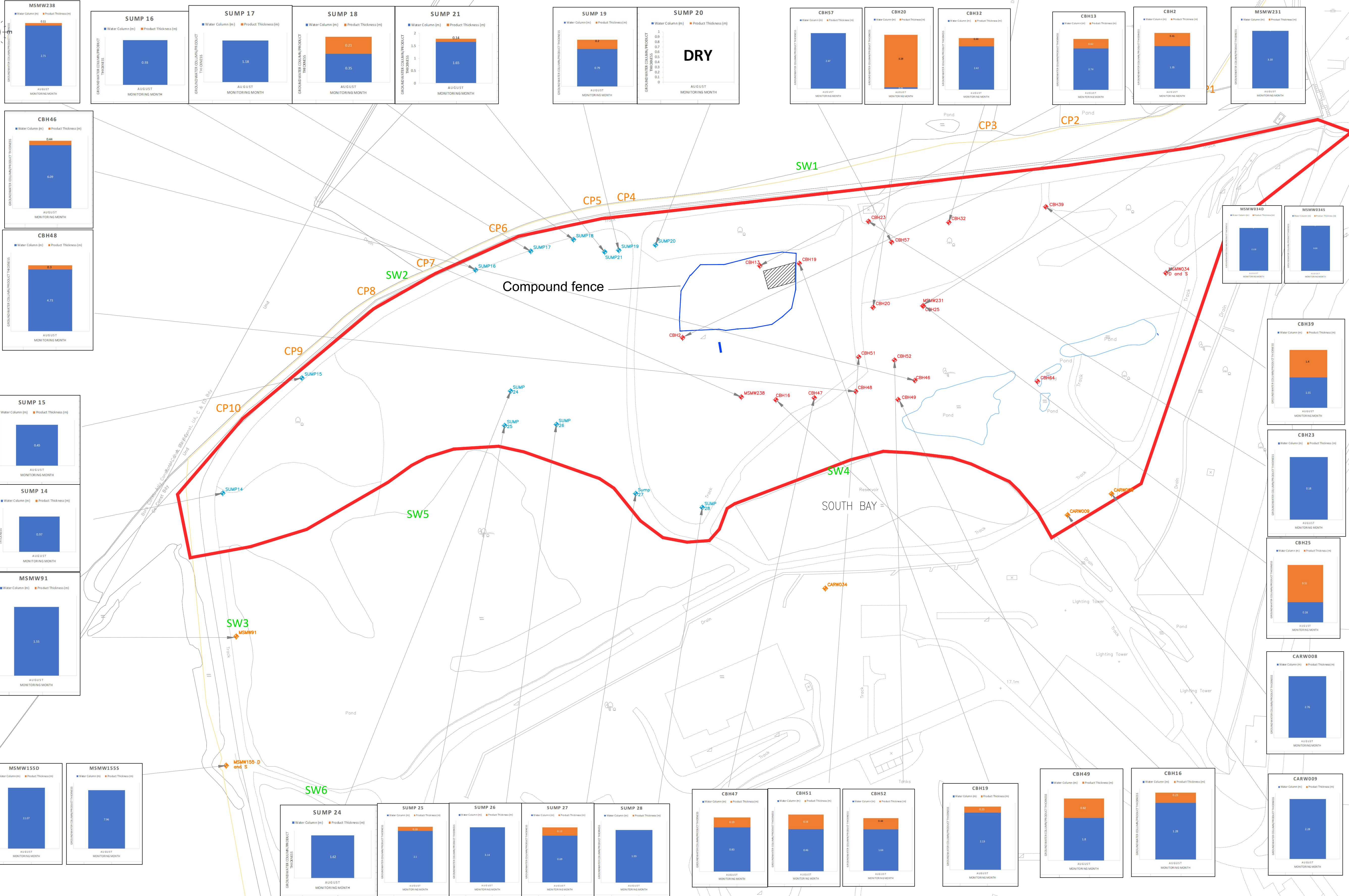
SCALE DRAWN REVIEWED DATE

AI @ 1:1000 JP LC 30.07.21



NOTES
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- KEY**
- Permit area
 - SW1 Surface water sampling locations
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REV	DATE	REVISION NOTE	BY

CLIENT
St Modwen Development Ltd

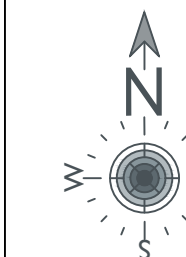
PROJECT
Coed Darcy

DRAWING TITLE
Crymlyn Tip
Monitoring Location Plan
August 2021

DRAWING ISSUE STATUS
PJA JOB No. SUB-CODE DRAWING NO. REVISION
04020 - A - SK227 - P0

INFORMATION
Revision Letter: P - Prelim / A - Approval / T - Tender / C - Construction
BIM DRAWING REFERENCE

SCALE **DRAWN** **REVIEWED** **DATE**
AI@1:1000 JP LC 14.09.21

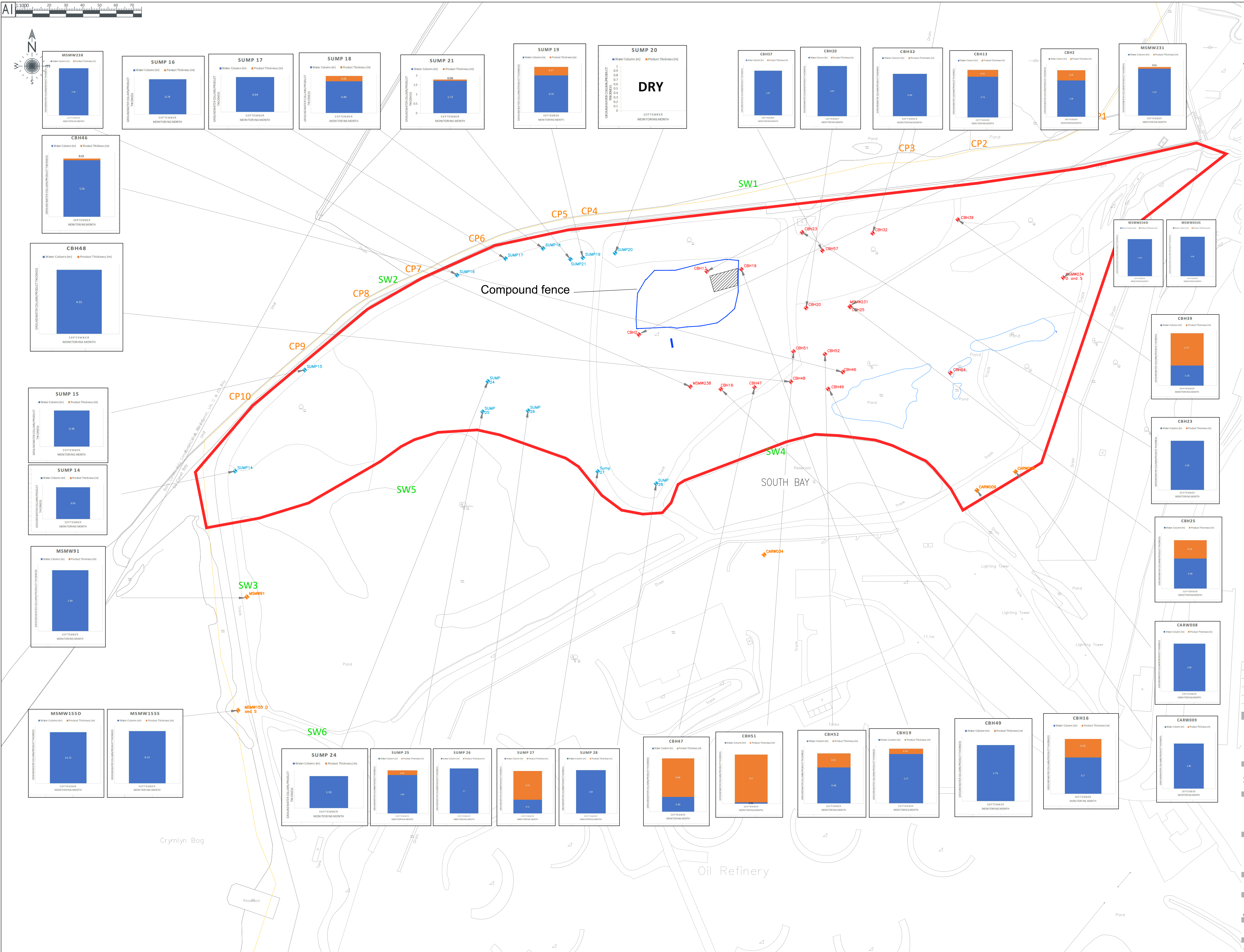


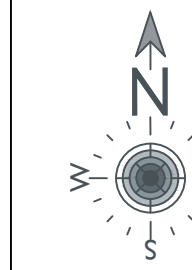
NOTES

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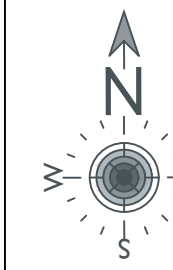
KEY

- Permit area
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SCALE	DRAWN	REVIEWED	DATE
AI@1:1000	JP	LC	09.11.21

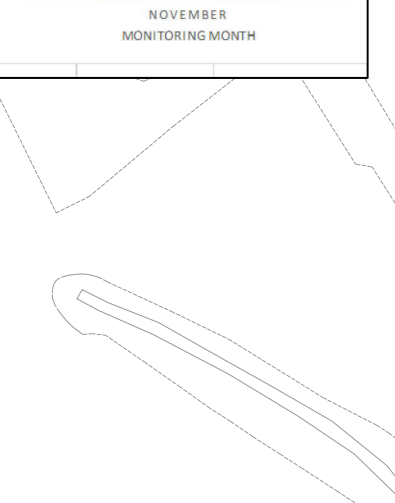
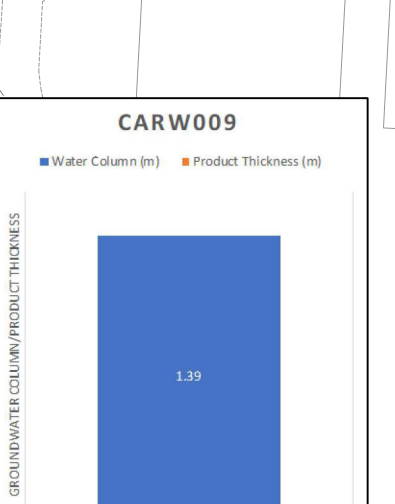
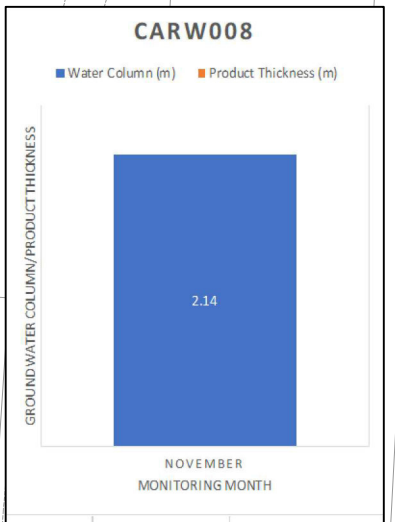
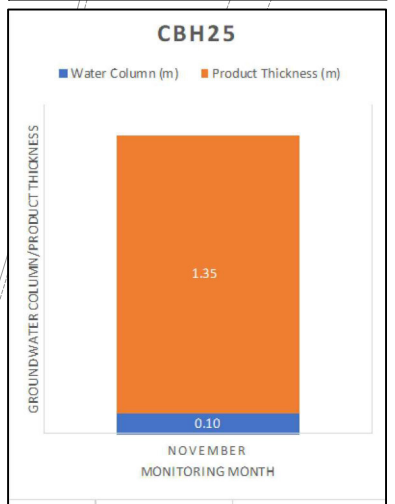
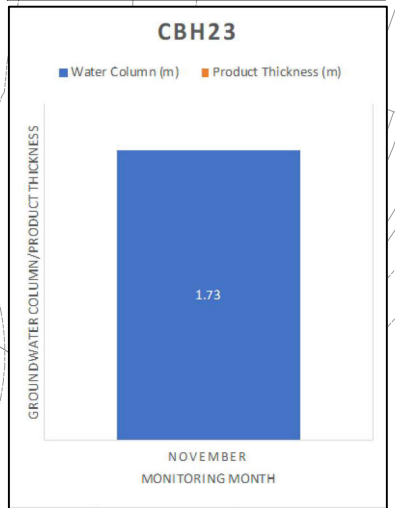
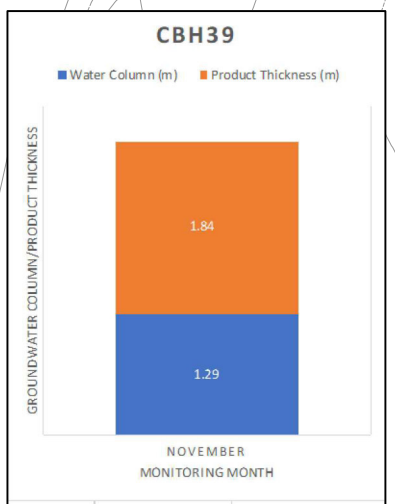
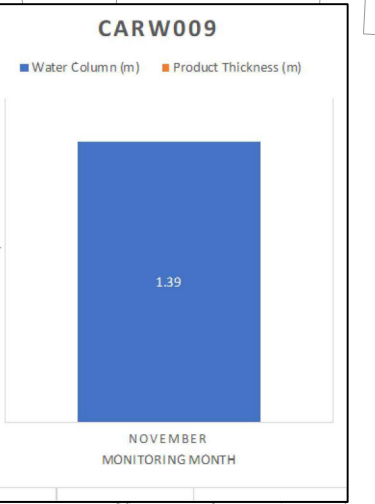
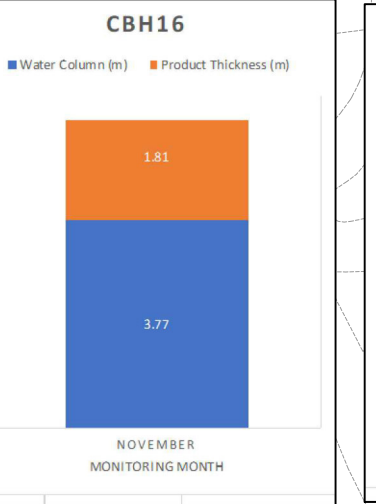
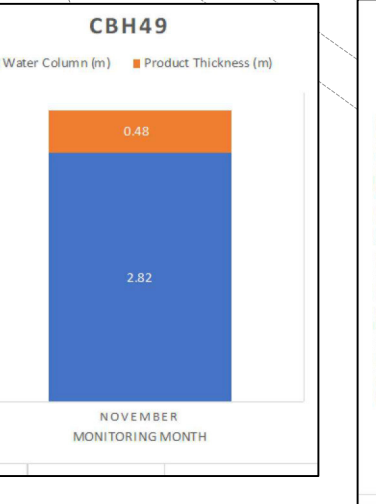
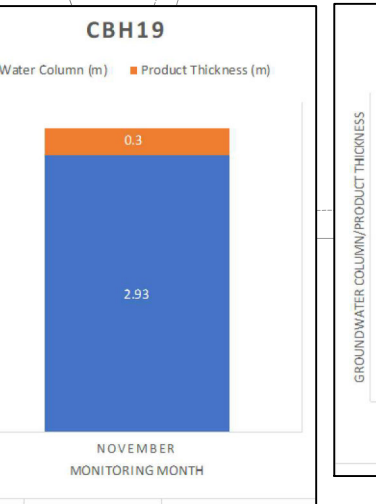
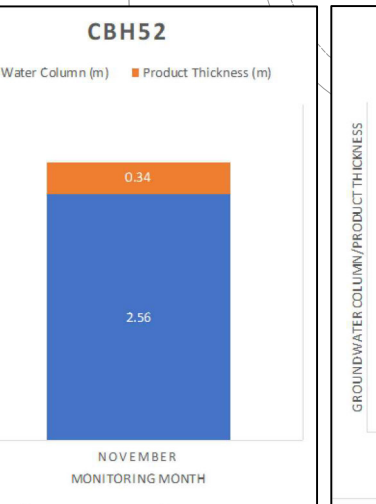
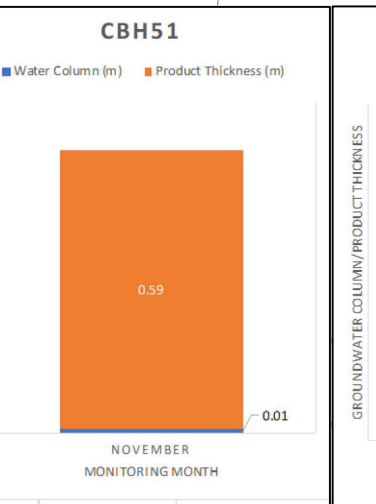
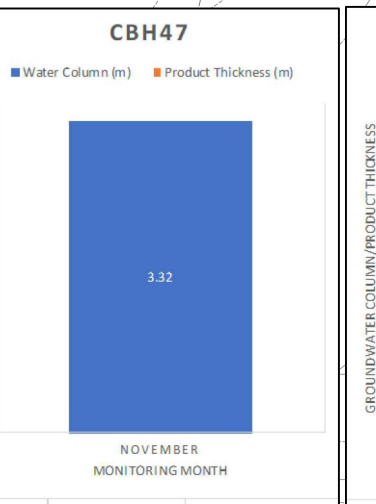
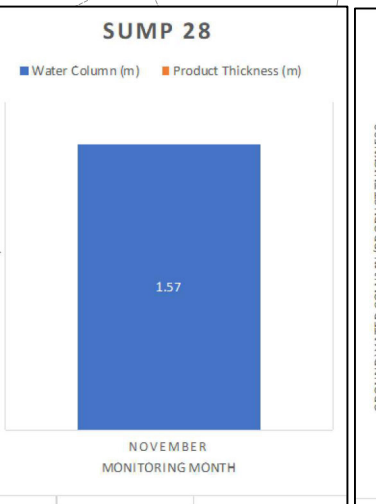
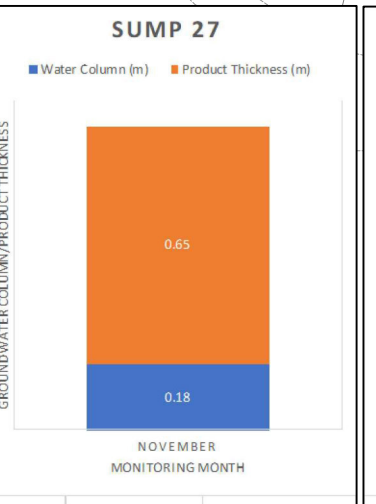
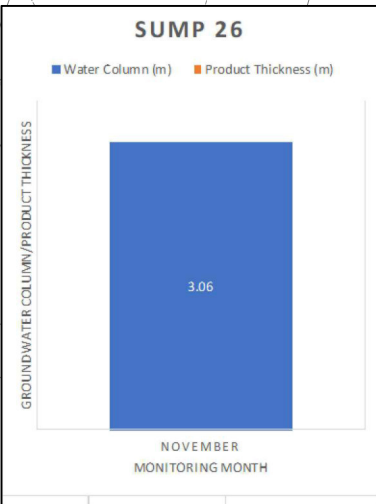
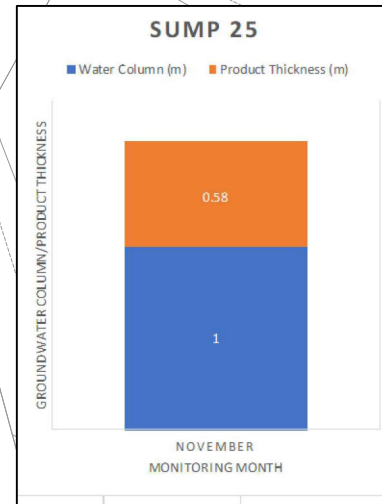
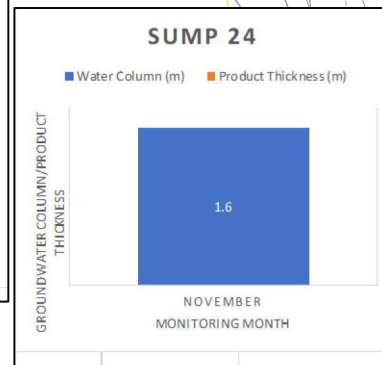
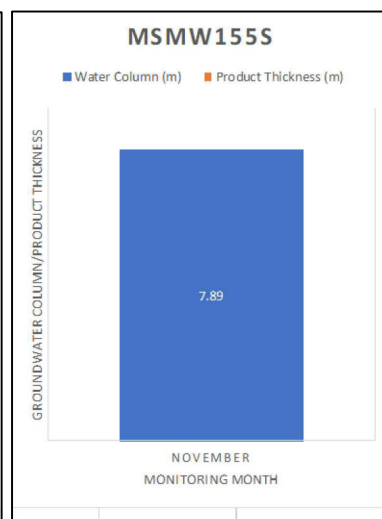
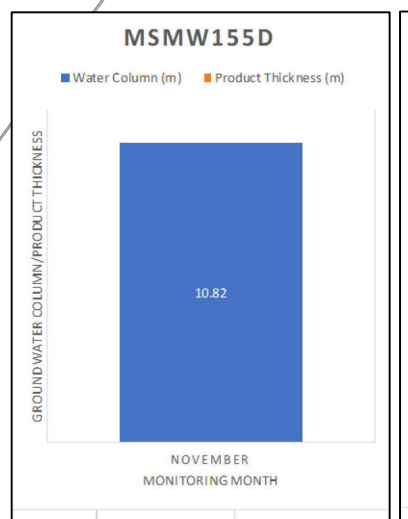
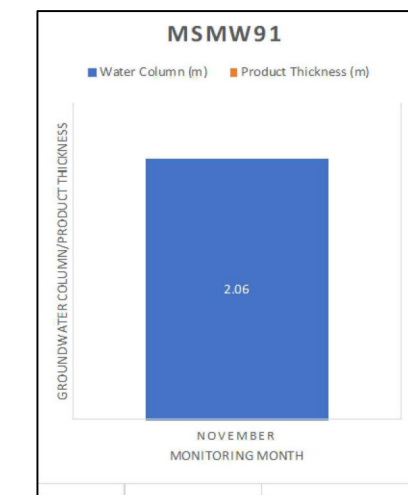
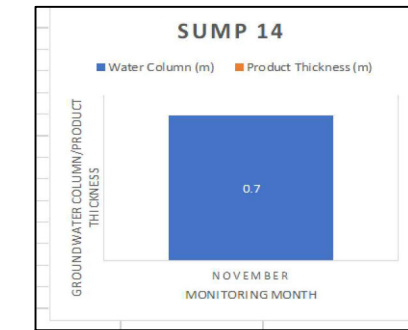
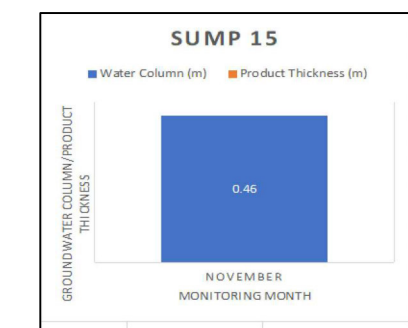
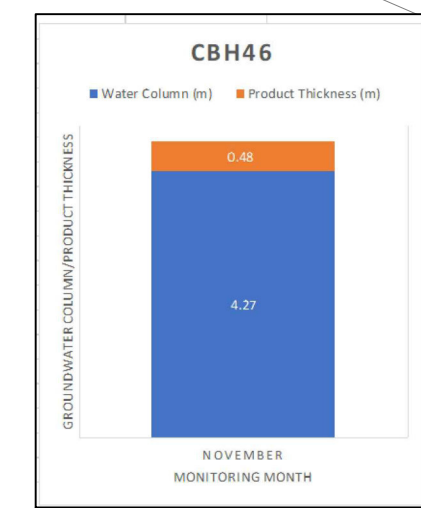
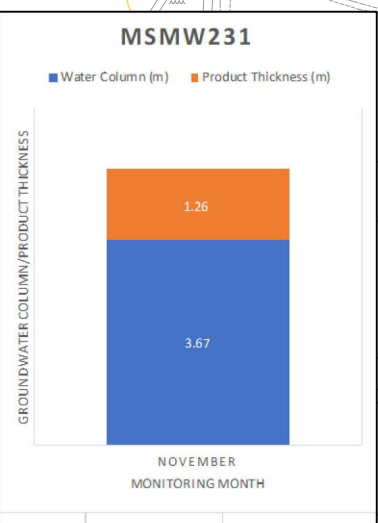
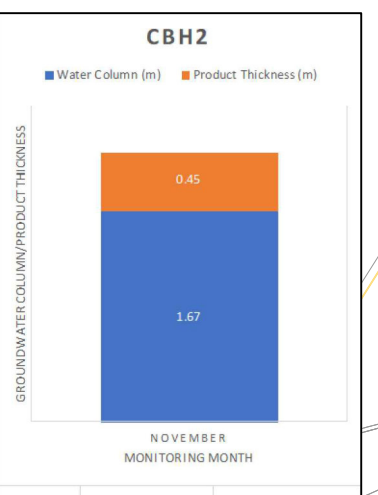
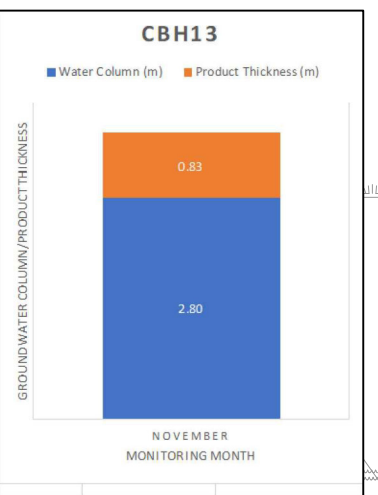
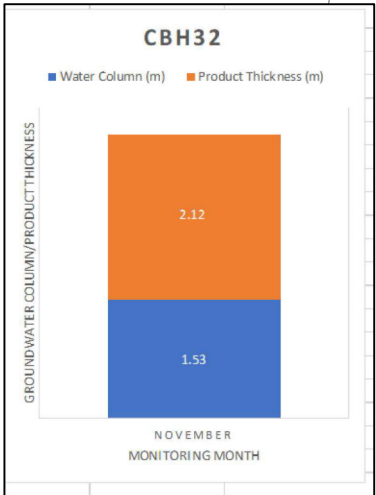
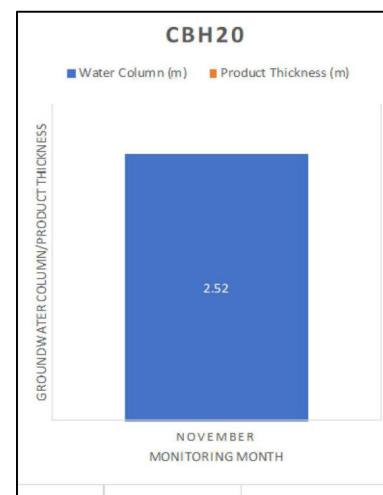
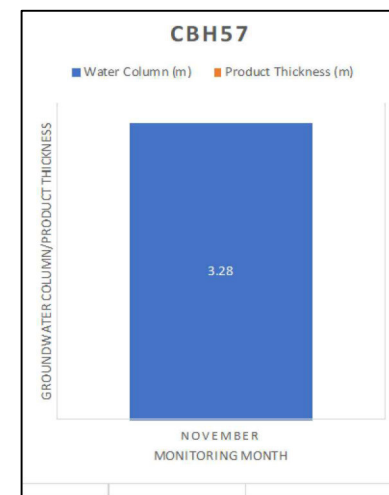
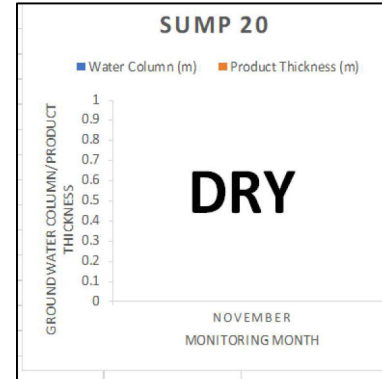
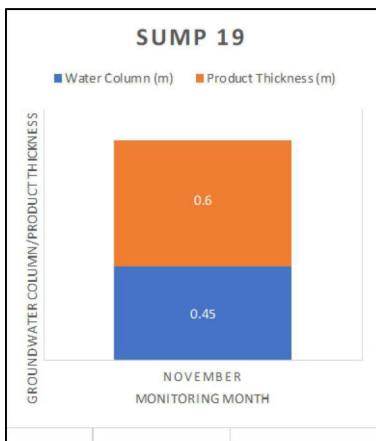
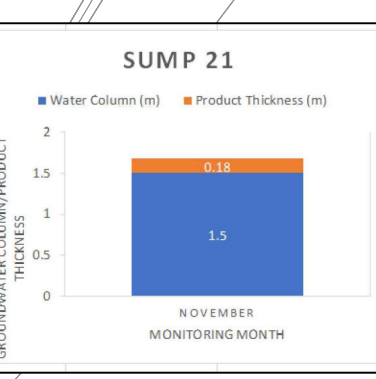
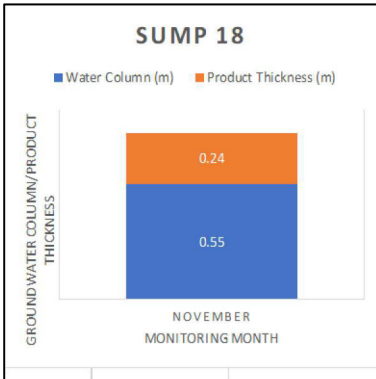
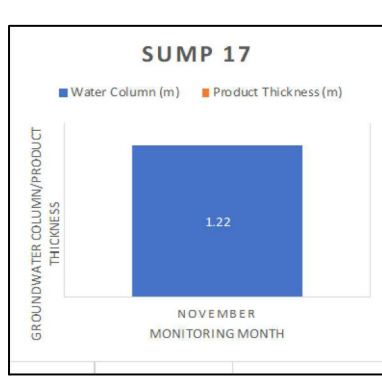
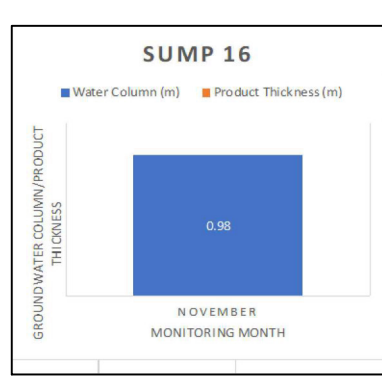
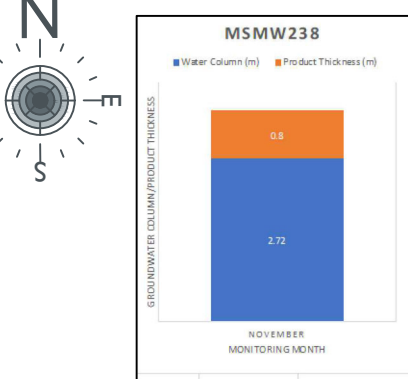


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REV DATE REVISION NOTE BY

PJA Seven House - High Street
Longbridge - Birmingham
B31 2UQ - Tel: 0121 475 0234
Birmingham - Bristol
Exeter - London - Reading
pja.co.uk

CLIENT

St Modwen Development Ltd

PROJECT

Coed Darcy

DRAWING TITLE

Crymlyn Tip

Monitoring Location Plan

November 2021

DRAWING ISSUE STATUS

INFORMATION

PJA JOB No. SUB-CODE DRAWING NO. REVISION

04020 - A - SK231 - P0

Revision Letter: P - Prelim / A - Approval / T - Tender / C - Construction

SHM DRAWING REFERENCE

SCALE DRAWN REVIEWED DATE

AI @ 1:1000 JP LC 10.01.22



Appendix E Groundwater & Surface Water Laboratory Results

ALS

				January	February	March	April	May	June	July	August	September	October	November	December																	
Customer Sample ID				CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008	CARW008																
Depth				0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00																
AGS Id																																
Sample Type				OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER																
Sampled Date				27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021	25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021																	
Sample Received Date				29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021	26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021																	
Final Instruction Date				29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021	26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021																	
Report Completed Date				05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	23/08/2021	06/09/2021	18/10/2021	16/11/2021	07/12/2021	05/01/2022																	
SDG				210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46	210826-133	211009-28	211106-44	211127-80	211218-53																	
Lab Sample Number				23630319	23794779	23968762	24193434	24398246	24603813	24798318	24876380	25122035	25288361	25416994	25559761																	
Sample Temperature				7.2	7.8	6.8	6.2	17.4	18.2	18.2	11.8	11.2	11.2	11.2	11.2																	
Sample Time																																
Analysis	Test	Method	Units	LOD												UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT PNEC											
Inorganic																																
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	0.323	0.26	0.751	0.36	0.36	0.349	0.558	0.59	<0.2	<0.2	0.557	0.668																
	pH	TM256	pH Units	<1.00		16	7.01	7.57	7.07	6.94	7.1	6.98	6.9	7.07	7.12	7.1																
	Chloride	TM184	mg/l	<2	22.3	7.07	24.2	29.1	25.3	26	29.6	32.4	20.4	22.9	26.4	26.8	250		300													
Filtered (																																
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07													
	Arsenic (diss.filt)	TM152	µg/l	<0.5	0.711	2.5	1.69	0.721	1.59	1.41	<0.5	<0.5	1.35	2.36	2.94	2.37	10	50														
	Boron (diss.filt)	TM152	µg/l	<10	28.4	35.8	47	58.8	43.6	85.9	89.4	79	64.1	60.6	65.1	49	1000															
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45													
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	1	<1	<1	1.76	<1	<1	<1	<1	50															
	Copper (diss.filt)	TM152	µg/l	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	2000	1		49.12												
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	0.403	0.2	<0.2	0.267	<0.2	0.392	0.243	<0.2	<0.2	10	1.2	14													
	Nickel (diss.filt)	TM152	µg/l	<0.4	11.9	3.4	2.36	0.59	2.22	<0.4	0.659	<0.4	3.7	<0.4	1.57	2.32	20	4	34	30.4												
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	1.56	<1	<1	<1	<1	10															
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	1.15	1	<1	<1	<1	<1	<1	<1	1.1	<1		20													
	Zinc (diss.filt)	TM152	µg/l	<1.0	2.7	2.66	<1	1.77	1	1.51	2.01	<1	9.48	<1	<1	1.85		10.9		79.03												
Unfiltered																																
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02																
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	3.11	<2	<2	2.16	3.43	<2	<2	<2	3.74	5.16	5.98																
	Boron (tot.unfilt)	TM152	µg/l	<20	-	50.7	48.3	59.8	61.1	93.8	93.9	86.8	67.9	50.9	100	63.4																
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5																
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7														
	Copper (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1.2	<1	<1	<1	<1	<1	<1	<1																
	Lead (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1																
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	8.34	4.75	20.1	9.03	15.9	22.3	5.6	3.07	13.3	18.8	23.9																
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1																
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5																
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	11.5	20.2	8.87	7.75	<5	<5	<5	10.1	7.76																
	Hardness, Total as CaCO3 unfilt	TM152	mg/l	<0.35	-	222	366	455	348	475	545	629	412	286	447	409																
TPH Criteria																																
	GRO Surrogate % recovery**	TM245	%		118	101	119	102	122	105	87	85	101	97	104	109																
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	63	165	106	95	151	110	57	93	<50	<50																
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1																
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	1	10	50													
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	4	<4	<1	<1	<1	<1	<1	<1		74														
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	5	<5	<1	<1	<1	<1	<1	<1																
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	8	<8	3.3	<1	<1	<1	<1	<1																
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1																
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	11	<11	3.3	<2	<2	<2	<2	<2																
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	28	<28	<5	<5	<5	<5	<5	<5																
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10																
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	13	10	10	11	12	<10	10	<10	<10																
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	11	32	20	14	29	22	<10	19	<10	<10																
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	22	57	35	33	52	35	19	30	<10	<10																
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	19	<10	25	<10	75	<20	123	62	<10	<10	47	15																
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	125	10	201	169	220	80	430	186	36	<10	113	91																
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	55	<10	210	146	256	89	416	221	31	<10	131	76																
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	199	10	436	315	551	169	969	469	67	<10	291	182																
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10																
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10																
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	21	13	10	19	15	<10	13	<10	<10																
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	15	38	23	22	35	23	13	20	<10	<10																
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	25	17	50	127	62	55	102	132	82	17	97	63																
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	92	25	367	159	145	60	150	180	81	<10	114	96																
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	90	14	22	198	157	40	211	198	110	<10	162	127																
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	207	56	439	484	364	155	463	510	273	17	373	286																
	Total Aliphatics & Aromatics >C5	TM174	µg/l	<10	406	90	938	964	1020	419	1580	1090	397	109	665	468			5000													
Polyaromatic																																

Naphthalene (aq)	TM178	µg/l	<0.01	0.0231	0.0131	0.0266	0.0824	0.0789	0.0358	0.0902	0.0817	0.0374	0.0258	0.0414	0.0557		2	130			
Acenaphthene (aq)	TM178	µg/l	<0.005	0.0972	0.0671	0.238	0.809	0.591	0.391	0.957	0.92	0.43	0.274	0.421	0.328						
Acenaphthylene (aq)	TM178	µg/l	<0.005	0.0185	0.0135	0.0278	0.146	0.0817	0.0593	0.154	<0.005	0.0638	0.034	0.0527	0.0582						
Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0443	0.0444	0.0563	<0.005	0.118	0.0719	0.0253	0.015	<0.005	<0.005		0.0063	0.12			
Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0653	0.042	0.0258	0.0196	<0.005	<0.005		0.1	0.1			
Phenanthrene (aq)	TM178	µg/l	<0.005	0.0222	<0.005	0.0346	0.055	0.005	<0.005	0.0842	0.0488	0.0223	0.0165	<0.005	<0.005						
Fluorene (aq)	TM178	µg/l	<0.005	0.217	0.148	0.481	2.02	1.35	0.864	2.31	2.36	1.02	0.524	0.988	0.812						
Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.01	<0.005	0.0264	0.0117	<0.005	<0.005						
Pyrene (aq)	TM178	µg/l	<0.005	0.0901	0.0349	0.142	0.147	0.181	0.0427	0.318	0.195	0.0748	0.0271	0.0634	0.0754						
Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.01	<0.005	0.0152	0.0236	<0.005	<0.005						
Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	0.0101	<0.005	<0.005	0.1		0.017			
Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.01	<0.005	<0.005	0.0052	<0.005	<0.005	0.1		0.017			
Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.004	<0.002	<0.002	0.0072	<0.002	<0.002	0.01	0.00017	0.27			
Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.01	<0.005	<0.005	0.0051	<0.005	<0.002						
Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.0126	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.0082			
Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.01	<0.005	<0.005	0.0099	<0.005	<0.005	0.1					
PAH, Total Detected USEPA 16	TM178	µg/l	<0.082	0.468	0.277	0.994	3.3	2.35	1.39	4.1	3.72	1.74	1.01	1.57	1.33						
EPH CW																					
Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	180	10	411	315	476	169	846	407	67	<10	244	167						

Naphthalene (TM178	µg/l	<0.01	<0.01	1.91	1.23	1.11	<0.01	0.616	1.74	0.0844	2.14	2.46		2	130			
Acenaphthene TM178	µg/l	<0.005	0.845	0.928	0.78	0.957	<0.005	1.13	0.893	0.0344	1.14	1.15						
Acenaphthyler TM178	µg/l	<0.005	0.216	0.246	0.166	0.275	<0.005	0.368	0.319	0.218	0.367	0.367						
Fluoranthene (TM178	µg/l	<0.005	0.0729	<0.005	<0.005	<0.005	<0.005	0.084	0.0487	0.0228	<0.005	<0.005		0.0063	0.12			
Anthracene (a TM178	µg/l	<0.005	0.0293	0.252	<0.005	<0.005	<0.005	<0.005	<0.005	0.0075	<0.005	<0.005		0.1	0.1			
Phenanthrene TM178	µg/l	<0.005	0.303	0.308	0.148	0.005	<0.005	0.144	0.193	0.109	0.232	0.25						
Fluorene (aq) TM178	µg/l	<0.005	1.05	1.21	0.919	1.13	<0.005	1.42	1.3	0.954	1.52	1.41						
Chrysene (aq) TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.068	<0.005	<0.005	<0.005						
Pyrene (aq) TM178	µg/l	<0.005	0.194	<0.005	0.115	0.005	<0.005	0.185	0.204	0.0496	<0.005	<0.005						
Benzo(a)anthr TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.00886	<0.005	<0.005	<0.005						
Benzo(b)fluor TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.017			
Benzo(k)fluor TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.017			
Benzo(a)pyrer TM178	µg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.00017	0.27			
Dibenzo(a,h)a TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002						
Benzo(g,h,i)pe TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0104	<0.005	<0.005	<0.005	0.1		0.0082			
Indeno(1,2,3-c TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1					
PAH, Total De TM178	µg/l	<0.082	2.71	4.85	3.36	3.47	<0.082	3.94	4.79	1.48	5.4	5.63						
EPH CW																		
Aliphatics >C1TM174	µg/l	<10	849	1010	269	958	858	1040	952	124	1230	847						

ALS

					Janaury	February	March	April	May	June	July	August	September	October	November	December													
Customer Sample ID					CARW034	CARW034	CARW034	CARW034	CARW034	CARW034	CARW034	CARW034	CARW034	CARW034	CARW034	CARW034													
Depth					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00												
AGS Id																													
Sample Type					OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER	OUND_WATER												
Sampled Date					27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021	25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021													
Sample Received Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021	26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021													
Final Instruction Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021	26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021													
Report Completed Date					05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	23/08/2021	06/09/2021	18/10/2021	16/11/2021	07/12/2021	06/01/2022													
SDG					210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46	210826-133	211009-28	211106-44	211127-80	211218-53													
Lab Sample Number					23630308	23794812	23968793	24193449	24398267	24603845	24798329	24876536	25122085	25288416	25417055	25559911													
Sample Temperature					7.2	7.8	6.8	6.2	17.4	18.2	18.2	11.8	11.2	11.2	11.2	11.2													
Sample Time																													
Analysis	Test	Method	Units	LOD																									
Inorganics																	UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values							
Ammoniacal Nitrogen as N					TM099	mg/l	<0.2	0.566	0.517	0.432	1.44	1.13	<0.2	<0.2	0.777	0.505	0.246	<0.2	<0.2				0.3						
pH					TM256	pH Units	<1.00		7.06	6.95	7.15	6.79	6.59	6.83	6.75	7	6.99	6.98	7.18										
Chloride					TM184	mg/l	<2	8	6.7	10.5	14.1	14.6	8	7	8.7	10.1	8.7	11.1	15.6	250		300							
Filtered (Dissolved) Metals																													
Mercury (diss.filt)					TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07							
Arsenic (diss.filt)					TM152	µg/l	<0.5	1.15	29.5	20.6	32	29.2	9.27	17	14.9	11.5	12.2	7.93	9.27	10	50								
Boron (diss.filt)					TM152	µg/l	<10	<10	10.6	<10	<10	10	42.6	34.8	33	31.8	23	20	12.8	1000									
Cadmium (diss.filt)					TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.0814	<0.08	0.111	<0.08	<0.08	<0.08	5	0.08	0.45							
Chromium (diss.filt)					TM152	µg/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	50									
Copper (diss.filt)					TM152	µg/l	<0.3	<0.3	<0.3	<0.3	0.36	0.3	3.84	1.2	1.77	6.34	1.35	0.521	0.764	2000	1			49.12					
Lead (diss.filt)					TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	1.31	1.61	0.645	2.76	0.418	0.482	0.281	10	1.2	14							
Nickel (diss.filt)					TM152	µg/l	<0.4	1.97	3.2	3.24	1.07	3.04	6.75	4.56	2.84	2.84	2.63	2.71	2.19	20	4	34			30.4				
Selenium (diss.filt)					TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	10									
Vanadium (diss.filt)					TM152	µg/l	<1.0	<1	<1	<1	1.03	1	<1	<1	<1	<1	1.13	<1	<1		20								
Zinc (diss.filt)					TM152	µg/l	<1.0	2.8	10.8	4.02	4.26	2.97	48.4	16.8	5.32	8.9	5.89	7.66	7.17		10.9				79.03				
Unfiltered (Total) Metals																													
Mercury (tot.unfilt)					TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02										
Arsenic (tot.unfilt)					TM152	µg/l	<2	-	43.2	32.2	39.1	33.2	17.9	18.7	22.4	21.6	20	15.5	49										
Boron (tot.unfilt)					TM152	µg/l	<20	-	20.1	<20	<20	20	44.7	36.4	35.2	32.8	<20	39	<20										
Cadmium (tot.unfilt)					TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.544	<0.5	<0.5	<0.5										
Chromium (tot.unfilt)					TM152	µg/l	<3	-	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7								
Copper (tot.unfilt)					TM152	µg/l	<1	-	6.83	1.59	14.6	2.08	23	15	9.68	29.8	9.64	<1	3.57										
Lead (tot.unfilt)					TM152	µg/l	<1	-	5.2	3.14	16.4	2.8	11.4	7.54	5.47	16.5	7.28	3.13	4.16										
Nickel (tot.unfilt)					TM152	µg/l	<1	-	5.63	3.41	11	4.31	11.7	4.41	4.32	6.16	7.1	3.37	2.76										
Selenium (tot.unfilt)					TM152	µg/l	<1	-	<1	<1	1.06	1	<1	<1	<1	<1	<1	<1	<1										
Vanadium (tot.unfilt)					TM152	µg/l	<5	-	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5										
Zinc (tot.unfilt)					TM152	µg/l	<5	-	60.7	12.2	86.5	5	123	48.7	22.6	70.9	59.2	11.8	19.4										
Hardness, Total as CaCO3 unfiltered					TM152	mg/l	<0.35	-	307	336	389	424	299	448	551	482	377	382	321										
TPH Criteria Working Group (TPH CWG)																													
GRO Surrogate % recovery**					TM245	%		119	100	108	91	102	92	93	96	102	103	104	85										
GRO >C5-C12					TM245	µg/l	<50	<50	97	<50	117	74	145	148	353	192	<50	73	<50										
Methyl tertiary butyl ether (MTBE)					TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1										
Benzene					TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	1	10	50							
Toluene					TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1		74								
Ethylbenzene					TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1										
m,p-Xylene					TM245	µg/l	<8	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1	<1										
o-Xylene					TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1										
Sum of detected Xylenes					TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2										
Sum of detected BTEX					TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5										
Aliphatics >C5-C6					TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10										
Aliphatics >C6-C8					TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	10	12	<10	<10	<10	<10										
Aliphatics >C8-C10					TM245	µg/l	<10	<10	11	<10	18	12	13	25	37	13	<10	17	<10										
Aliphatics >C10-C12					TM245	µg/l	<10	<10	41	18	46	27	69	166	96	18	21	<10											
Aliphatics >C12-C16 (aq)					TM174	µg/l	<10	70	100	213	457	1060	3060	1910	1760	571	512	1430	580										
Aliphatics >C16-C21 (aq)					TM174	µg/l	<10	168	280	523	671	2440	6630	4480	3670	1260	1160	3200	1350										
Aliphatics >C21-C35 (aq)					TM174	µg/l	<10	230	369	692	<50	4030	8920	6270	5230	1850	1920	4600	2110										
Total Aliphatics >C12-C35 (aq)					TM174	µg/l	<10	468	749	1430	1130	7530	18600	12700	10700	3680	3590	9230	4040										
Aromatics >EC5-EC7					TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10											
Aromatics >EC7-EC8					TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10										
Aromatics >EC8-EC10					TM245	µg/l	<10	<10	<10	<10	12	<10	<10	16	25	<10	<10	11	<10										
Aromatics >EC10-EC12					TM245	µg/l	<10	<10	27	12	31	18	46	38	111	64	12	14	<10										
Aromatics >EC12-EC16 (aq)					TM174	µg/l	<10	32	101	100	54	291	754	242	559	216	137	363	150										
Aromatics >EC16-EC21 (aq)					TM174	µg/l	<10	67	177	267	1940	956	2790	1020	1850	631	603	1160	439										

Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	71	359	612	<50	2310	6170	2510	4270	1400	1580	2780	953						
Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	170	637	979	2000	3560	9710	3780	6680	2250	2320	4300	1540						
Total Aliphatics & Aromatics >C5-35 (a TM174		µg/l	<10	639	1480	2460	3240	11200	28500	16600	17700	6120	5960	13600	5580					5000	
Polyaromatic Hydrocarbons (PAHs)																					
Naphthalene (aq)	TM178	µg/l	<0.01	0.0521	<0.01	0.0149	<0.05	<0.01	<0.01	0.0385	0.133	0.0329	0.0135	0.136	0.0636		2	130			
Acenaphthene (aq)	TM178	µg/l	<0.005	0.144	<0.005	0.0606	0.259	0.005	<0.005	<0.01	0.389	0.144	<0.005	<0.005	<0.005						
Acenaphthylene (aq)	TM178	µg/l	<0.005	0.0406	<0.005	0.0391	<0.025	0.005	<0.005	0.197	0.294	0.0489	0.0535	<0.005	<0.005						
Fluoranthene (aq)	TM178	µg/l	<0.005	0.0374	<0.005	<0.005	0.155	<0.005	<0.005	0.328	0.867	0.21	0.0972	<0.005	<0.005		0.0063	0.12			
Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.322	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005		0.1	0.1			
Phenanthrene (aq)	TM178	µg/l	<0.005	0.018	<0.005	<0.005	0.132	0.005	<0.005	<0.01	<0.005	0.161	0.0146	<0.005	<0.005						
Fluorene (aq)	TM178	µg/l	<0.005	0.222	<0.005	0.0528	0.0861	0.005	<0.005	<0.01	<0.005	0.0855	<0.005	<0.005	<0.005						
Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0955	<0.025	0.545	1.14	1.46	0.702	0.234	0.156	<0.005	0.384						
Pyrene (aq)	TM178	µg/l	<0.005	0.124	0.179	0.238	0.52	0.005	<0.005	1.99	2.07	0.666	0.376	<0.005	0.488						
Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0531	<0.025	0.157	1.57	0.382	0.447	0.123	0.0979	<0.005	0.17						
Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0772	0.133	0.005	0.446	0.539	0.55	0.151	0.158	<0.005	<0.005	0.1		0.017			
Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0245	0.0524	0.005	0.442	0.164	0.216	0.0323	0.0334	0.194	<0.005	0.1		0.017			
Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	<0.002	0.0474	0.0844	0.002	0.747	0.388	0.473	0.113	0.125	0.379	<0.002	0.01	0.00017	0.27			
Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.01	<0.005	0.0292	0.0384	<0.005	<0.002						
Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.0163	<0.005	0.0458	0.0667	0.005	<0.005	0.317	0.404	0.0954	0.0702	<0.005	<0.005	0.1		0.0082			
Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	0.241	<0.005	0.0725	0.0586	<0.005	<0.005	0.1					
PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	0.654	0.179	0.749	1.81	0.702	4.35	6.04	6.54	2.2	1.29	0.709	1.11						
EPH CWG (Speciated)																					
Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	398	649	1220	671	6470	15500	10700	8900	3110	3080	7800	3460						

ALS

					January	February	March	April	May	June	July	August	September	October	November	December							
Customer Sample ID					CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20	CBH20						
Depth					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
AGS Id																							
Sample Type					OUND_WATER	GROUND_WATER	GROUND_WATER	OUND_WATER	OUND_WATER	GROUND_WATER	OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER						
Sampled Date					27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021			07/07/2021	11/08/2021			25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021			
Sample Received Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021			09/07/2021	13/08/2021			26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021			
Final Instruction Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021			13/07/2021	13/07/2021			26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021			
Report Completed Date					05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021			21/07/2021	21/08/2021			06/09/2021	18/10/2021	15/11/2021	07/12/2021	06/01/2022			
SDG					210129-40	210225-101	210325-86	210501-32	210605-41			210709-150	210813-46			210826-133	211009-28	211106-44	211127-80	211218-53			
Lab Sample Number					23630436	23794649	23968563	24193283	24398181			24603529	24798158			24876433	25122125	25288472	25417103	25559814			
Sample Temperature					7.2	7.8	6.8	6.2	17.4			18.2	18.2			11.8	11.2	11.2	11.2	11.2			
Sample Time																							
Analysis	Test	Method	Units	LOD														UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics																							
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	0.72	1.07	1.74	3.1	1.95	<0.2	0.484	0.692	0.948	1.35	1.34	1.27			0.3				
	pH	TM256	pH Units	<1.00	-	6.78	7.03	7.23	6.91	7.03	6.69	6.56	7.33	6.73	6.74	6.8							
	Chloride	TM184	mg/l	<2	19.7	22.3	52	149	110	76.6	66.5	78.9	46.9	32.8	39.7	48.5	250		300				
Filtered (Dissolved) Metals																							
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07				
	Arsenic (diss.filt)	TM152	µg/l	<0.5	1.97	3.29	2.57	3.73	2.64	6.18	1.9	2.76	2.5	3.35	3.11	2.13	10	50					
	Boron (diss.filt)	TM152	µg/l	<10	55.4	54.3	190	592	380	126	161	162	100	85	98.7	52.2	1000						
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45				
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	<1	<1	1.45	<1	<1	<1	<1	<1	50						
	Copper (diss.filt)	TM152	µg/l	<0.3	0.441	<0.3	<0.3	<0.3	1.2	5.94	<0.3	0.675	1.62	0.335	<0.3	<0.3	2000	1			49.12		
	Lead (diss.filt)	TM152	µg/l	<0.2	0.227	<0.2	<0.2	<0.2	0.2	2.56	0.515	0.486	0.808	0.26	<0.2	<0.2	10	1.2	14				
	Nickel (diss.filt)	TM152	µg/l	<0.4	0.647	0.552	0.674	0.792	0.806	4.92	2.01	0.716	1.93	<0.4	1.06	0.656	20	4	34		30.4		
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10						
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	1.57	1.66	1	1.55	1.79	2.22	1.74	1.59	<1	<1		20					
	Zinc (diss.filt)	TM152	µg/l	<1.0	1.27	2.85	1.72	3	1.31	13.7	2.91	4.52	3.52	3.71	3.27	2.88		10.9			79.03		
Unfiltered (Total) Metals																							
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	0.0696	0.124	<0.02	0.02	<0.02	0.217	<0.02	<0.02	<0.02	<0.02	<0.02							
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	133	4.87	5.75	3.23	7.11	5.32	9	3.26	3.61	4.3	2.83							
	Boron (tot.unfilt)	TM152	µg/l	<20	-	58.3	177	645	408	126	157	170	91.1	94.2	125	55.5							
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	8.11	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5							
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	94.9	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7					
	Copper (tot.unfilt)	TM152	µg/l	<1	-	1310	20.3	9.83	6.07	12.6	30.8	54.4	8.52	2.11	25.5	13.5							
	Lead (tot.unfilt)	TM152	µg/l	<1	-	1690	16.2	6.14	6.22	3.83	22.8	37.4	4.3	1.09	5.5	3.32							
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	259	4.78	4.8	2.3	5.53	7.68	11.5	2.07	1.02	2.68	<1							
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	1.76	<1	<1	1	<1	<1	<1	<1	<1	<1	<1							
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	208	<5	<5	5	<5	<5	6.55	<5	<5	<5	<5							
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	3840	63.2	21.8	25.3	21.9	80.3	122	8.86	7.23	72	28.8							
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	310	212	308	288	141	137	206	191	212	266	243							
TPH Criteria Working Group (TPH CWG)																							
	GRO Surrogate % recovery**	TM245	%		120	98	110	91	112	94	97	95	101	94	98	89							
	GRO >C5-C12	TM245	µg/l	<50	<50	3330	61	140	122	147	297	66	85	84	147	220							
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1							
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	3.76	2.07	1.37	1.26	<1	<1	1	10	50				
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1		74					
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1							
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	8	<8	<1	<1	<1	<1	<1	<1							
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1							
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2							
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5							
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	24	<10	<10	<10	11	12	<10	<10	<10	<10	<10							
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	259	16	19	32	35	46	19	22	23	27	35							
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	671	10	27	20	21	52	10	12	<10	32	39							
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	1160	15	42	28	37	90	14	21	23	38	70							
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	30500	22	<50	357	285	865	263	59	87	231	140							
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	30800	31	<50	490	438	1220	345	85	73	314	192							
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	162	77700	293	1350	3460	2460	6690	1910	534	373	1900	1220							
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	162	139000	346	1350	4310	3180	8780	2520	678	533	2440	1550							
	Aromatics >EC5-EC7	TM245	µg/l	<10																			

Hydrocarbons (PAHs)	Acenaphthene (aq)	TM178	µg/l	<0.005	0.243	21.7	0.236	0.415	0.412	<0.005	0.687	0.534	0.329	0.324	0.496	0.4						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	0.0266	6.52	0.0249	0.16	0.0738	<0.005	<0.05	0.0794	0.0398	<0.005	0.0758	0.0584						
	Fluoranthene (aq)	TM178	µg/l	<0.005	0.0488	40.9	0.0654	0.173	0.266	<0.005	0.712	0.31	0.0699	0.0577	<0.005	0.108	0.0063	0.12				
	Anthracene (aq)	TM178	µg/l	<0.005	0.0155	6.84	<0.005	<0.025	0.0479	<0.005	<0.05	0.0615	0.0171	0.0165	<0.005	0.0263	0.1	0.1				
	Phenanthrene (aq)	TM178	µg/l	<0.005	0.128	81.2	0.0776	0.265	0.318	<0.005	0.751	0.26	0.185	0.117	0.259	0.265						
	Fluorene (aq)	TM178	µg/l	<0.005	0.174	36.2	0.203	0.338	0.396	0.464	0.666	0.534	0.303	0.268	0.476	0.381						
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	36.5	<0.005	<0.025	<0.005	0.446	<0.05	0.446	0.0459	0.0233	<0.005	0.203						
	Pyrene (aq)	TM178	µg/l	<0.005	0.0701	43.6	0.116	0.307	0.503	<0.005	1.13	0.394	0.127	0.0732	0.21	0.147						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	23.3	<0.005	<0.025	<0.005	<0.005	<0.05	0.113	0.0237	<0.005	<0.005	0.0167						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	16.3	0.0378	0.196	0.265	0.0883	0.504	0.174	0.0319	0.0205	<0.005	<0.005	0.1	0.017				
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	8.9	0.0142	0.0708	<0.005	0.0892	<0.05	0.0482	0.00559	<0.005	<0.005	<0.005	0.1	0.017				
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	21.6	<0.002	0.131	<0.002	<0.002	<0.02	0.116	0.0159	0.0138	<0.002	<0.002	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.1	<0.005	<0.025	0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	<0.002						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.1	0.0153	0.0765	<0.005	<0.005	0.276	0.0656	0.012	<0.005	<0.005	<0.005	0.1	0.0082				
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.1	<0.005	0.0726	0.005	<0.005	<0.05	0.0654	0.0174	<0.005	<0.005	<0.005	0.1					
	PAH, Total Detected USEPA 16 (α TM178		µg/l	<0.082	0.856	344	0.813	4.18	2.5	1.26	5.91	3.42	1.32	0.985	1.63	1.74						
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	162	108000	324	1350	3950	2900	7920	2260	619	446	2210	1410						

ALS	2021																					
		January	February	March	April	May	June	July	August	September	October	November	December									
	Customer	Sample ID	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23	CBH23					
	Depth	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00					
	AGS Id																					
	Sample Type	OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER					
	Sampled Date	27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021		25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021								
	Sample Received Date	29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021		26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021								
	Final Instruction Date	29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021		26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021								
	Report Completed Date	05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	21/08/2021		06/09/2021	18/10/2021	16/11/2021	07/12/2021	06/01/2022								
SDG	210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46		210826-133	211009-28	211106-44	211127-80	211218-53									
Lab Sample Number	23630389	23794663	23968582	24193298	24398192	24603548	24798171		24876447	25122135	25288486	25417115	25559802									
Sample Temperature	7.2	7.8	6.8	6.2	17.4	18.2	18.2		11.8	11.2	11.2	11.2	11.2									
Sample Time																						
Analysis	Test	Method	Units	LOD																		
																UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values	
Inorganics																						
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	<0.2	<0.2	2.49	4.39	2.74	0.42	0.671	4.12	<0.2	<0.2	0.61	<0.2						
	pH	TM256	pH Units	<1.00	-	7.31	7.04	7.17	7.05	7.01	6.93	7.24	7.51	7.5	7.06	7.46						
	Chloride	TM184	mg/l	<2	11.5	9.3	16.7	17.9	24.3	33	22.6	25.5	34.6	18.9	23.8	30.8	250		300			
Filtered (Dissolved) Metals																						
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07			
	Arsenic (diss.filt)	TM152	µg/l	<0.5	0.511	0.519	8.63	9.47	7.4	3.75	4.56	9.89	5.44	0.954	1.36	1	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	37.1	23.7	44.8	54.4	42.6	57.9	59.9	54.3	53.5	62.4	63.1	36.3	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.0885	<0.08	0.0887	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	<1	2.27	<1	<1	<1	<1	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	6.27	6.21	0.452	<0.3	0.35	2.65	<0.3	<0.3	0.756	12.2	1.84	7.84	2000	1				49.12
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	0.358	0.425	<0.2	<0.2	<0.2	0.878	0.487	0.393	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	1.63	1.52	1.18	0.409	1.46	4.73	3.15	<0.4	3.11	1.69	4.14	3.27	20	4	34			30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	1.23	<1	<1		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	19.7	13	4.79	3.92	3.89	9.56	8.77	2.9	10.9	20.7	31.1	23.5		10.9				79.03
Unfiltered (Total) Metals																						
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	0.139	<0.02	0.193	0.0367	<0.02	0.316	<0.02	0.215	0.0363	0.0646	0.132						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	4.35	11.5	19.2	9.89	5.48	21.7	41	15.3	2.41	20.5	4.39						
	Boron (tot.unfilt)	TM152	µg/l	<20	-	31.2	43.7	47.9	48.4	57.7	78.3	138	51.9	48.4	68.3	48.2						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	0.701	0.5	<0.5	1	1.85	0.554	<0.5	0.809	<0.5						
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	4.02	3	<3	7.13	12.7	3.78	<3	6.56	<3		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	-	30.1	7.09	69.6	13.4	15.5	112	211	69.8	22.1	110	30						
	Lead (tot.unfilt)	TM152	µg/l	<1	-	19.1	7.67	57.7	10.1	8.02	96.6	194	54.4	12	107	22.9						
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	3.35	2.43	7.63	3.25	3.8	14.6	26.9	10.3	3.99	16.1	6.14						
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	1.06	<1	1	<1	1.35	<1	1.03	<1	1.02	<1						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	9.21	5	<5	13.8	25.2	7.66	<5	18.8	<5						
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	54	20.6	160	26.2	50.4	259	464	139	40.3	228	70.5						
	Hardness, Total as CaCO3 ur	TM152	mg/l	<0.35	-	236	305	357	346	414	356	439	379	256	311	285						
TPH Criteria Working Group (TPH CWG)																						
	GRO Surrogate % recovery**	TM245	%		111	113	115	98	118	102	96	90	97	100	103	83						
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50						
	Methyl tertiary butyl ether (MTI	TM245	µg/l	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1	<1						
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	<1	1	10	50			
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1	<1		74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1						
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1	<1	<1						
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1	<1						
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2						
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5						
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	13	25	374	213	614	3450	4140	547	150	214	500						
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	52	28	667	399	1110	6440	7370	938	223	425	996						
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	<10	150	96	1580	1250	2970	18100	20200	2510	577	1230	2980						
	Total Aliphatics >C12-C35 (ac	TM174	µg/l	<10	<10	215	149	2620	1860	4690	28000	31700	4000	950	1870	4470						
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	<10	<10	<10	59	72	129	842	854	117	42	50	47						
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	24	20	259	229	512	3530	3570	437	109	191	347						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	219	200	1510	1150	2470	17400	16900	2110	764	1330	2530						
	Total Aromatics >EC12-EC35	TM174	µg/l	<10	<10	243	220	1830	1460	3110	21800	21300	2670	915	1570	2930						
	Total Aliphatics & Aromatics >	TM174	µg/l	<10	<10	458	370	4480	3320	7810	49800	53000	6670	1870	3440	7400					5000	
Polyaromatic Hydrocarbons																						
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	0.0284	0.048	0.0797	<0.1	0.443	0.0614	0.0119	0.0216	0.0901		2	130			

Hydrocarbons (PAHs)	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0227	0.0245	0.0818	<0.005	<0.05	2.05	0.201	0.0055	0.0401	0.0674						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0157	0.11	0.0613	<0.005	<0.05	1.03	0.117	0.0383	0.0527	0.132						
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	0.0363	<0.005	0.236	0.297	0.85	6.75	6.65	0.935	0.0848	0.134	0.852		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.918	<0.005	0.009	<0.005	0.0718		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	0.0198	<0.005	0.104	0.0787	<0.005	<0.05	1.07	0.143	0.0442	0.0605	0.359						
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	2.7	0.202	0.0107	0.0449	0.111						
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.473	0.349	0.904	<0.05	3.83	0.702	0.111	<0.005	0.809						
	Pyrene (aq)	TM178	µg/l	<0.005	<0.005	0.0409	0.0824	0.813	0.653	1.32	10.9	9.69	1.28	0.14	0.283	1.22						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.246	0.196	0.437	<0.05	3.56	0.391	0.0512	0.0712	0.41						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	0.0568	0.0969	0.987	0.555	0.673	6.72	7.58	0.717	0.174	0.223	0.64	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	0.0276	0.0276	0.256	0.16	<0.005	2.12	2.93	0.303	0.0402	0.118	0.611	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	0.0422	0.0596	0.535	0.288	0.683	3.5	5.18	0.488	0.14	0.29	0.851	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	1.14	<0.005	0.0232	<0.005	0.851						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0642	<0.005	0.252	0.621	<0.05	5.09	0.473	0.193	<0.005	<0.005	0.1		0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	0.0492	0.0503	0.375	0.278	0.367	<0.05	3.93	0.448	0.171	<0.005	0.561	0.1					
	PAH, Total Detected USEPA	TM178	µg/l	<0.082	<0.082	0.273	0.419	4.19	3.3	5.93	30	57.8	6.46	1.25	1.34	6.78						
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	202	124	2250	1650	4080	24500	27500	3450	800	1660	3970						

ALS

January

Customer Sample ID CBH30

Depth 0.00-0.00

AGS Id

Sample Type GROUND_WATER

Sampled Date 27/01/2021

Sample Received Date 29/01/2021

Final Instruction Date 29/01/2021

Report Completed Date 05/02/2021

SDG 210129-40

Lab Sample Number 23630417

Sample Temperature 7.2

Sample Time

Analysis	Test	Method	Units	LOD		UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	0.508				0.3		
	pH	TM256	pH Units	<1.00							
	Chloride	TM184	mg/l	<2	15.3	250		300			
	Filtered (Dissolved) Met										
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	1		0.07			
	Arsenic (diss.filt)	TM152	µg/l	<0.5	1.18	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	97.8	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	2.61	2000	1				49.12
	Lead (diss.filt)	TM152	µg/l	<0.2	0.92	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	6.77	20	4	34			30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	17.3		10.9				79.03
	Unfiltered (Total) Metals										
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-						
	Boron (tot.unfilt)	TM152	µg/l	<20	-						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-						
	Chromium (tot.unfilt)	TM152	µg/l	<3	-		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	-						
	Lead (tot.unfilt)	TM152	µg/l	<1	-						
	Nickel (tot.unfilt)	TM152	µg/l	<1	-						
	Selenium (tot.unfilt)	TM152	µg/l	<1	-						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-						
	Zinc (tot.unfilt)	TM152	µg/l	<5	-						
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-						
TPH Criteria Working Gr											
	GRO Surrogate % recovery**	TM245	%		119						
	GRO >C5-C12	TM245	µg/l	<50	180						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3						
	Benzene	TM245	µg/l	<7	<7	1	10	50			
	Toluene	TM245	µg/l	<4	<4		74				
	Ethylbenzene	TM245	µg/l	<5	<5						
	m,p-Xylene	TM245	µg/l	<8	<8						
	o-Xylene	TM245	µg/l	<3	<3						
	Sum of detected Xylenes	TM245	µg/l	<11	<11						
	Sum of detected BTEX	TM245	µg/l	<28	<28						
	Aliphatics >C5-C6	TM245	µg/l	<10	<10						
	Aliphatics >C6-C8	TM245	µg/l	<10	12						
	Aliphatics >C8-C10	TM245	µg/l	<10	25						
	Aliphatics >C10-C12	TM245	µg/l	<10	74						
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	1020						
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	1010						
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	2770						
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	4810						
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10						
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10						
	Aromatics >EC8-EC10	TM245	µg/l	<10	17						
	Aromatics >EC10-EC12	TM245	µg/l	<10	49						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	275						
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	359						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	634						
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	5620						5000
	Polyaromatic Hydrocart										

Naphthalene (aq)	TM178	µg/l	<0.01	<0.01		2	130			
Acenaphthene (aq)	TM178	µg/l	<0.005	1.05						
Acenaphthylene (aq)	TM178	µg/l	<0.005	0.119						
Fluoranthene (aq)	TM178	µg/l	<0.005	0.994		0.0063	0.12			
Anthracene (aq)	TM178	µg/l	<0.005	0.139		0.1	0.1			
Phenanthrene (aq)	TM178	µg/l	<0.005	0.181						
Fluorene (aq)	TM178	µg/l	<0.005	0.374						
Chrysene (aq)	TM178	µg/l	<0.005	0.57						
Pyrene (aq)	TM178	µg/l	<0.005	1.15						
Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	0.304						
Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.4	0.1		0.017			
Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.148	0.1		0.017			
Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.237	0.01	0.00017	0.27			
Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005						
Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.157	0.1		0.0082			
Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.124	0.1					
PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	5.95						
EPH CWG (Speciated)										
Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	3780						

ALS

				January	February	March	April	May	June	July	August	September	October	November	December						
Customer Sample ID				CBH46	CBH46	CBH46	CBH46	CBH46	CBH46	CBH46	CBH46	CBH46	CBH46	CBH46	CBH46						
Depth				0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
AGS Id																					
Sample Type				OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER						
Sampled Date				27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021	25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021						
Sample Received Date				29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021	26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021						
Final Instruction Date				29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021	26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021						
Report Completed Date				05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	23/08/2021	06/09/2021	18/10/2021	16/11/2021	07/12/2021	06/01/2022						
SDG				210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46	210826-133	211009-28	211106-44	211127-80	211218-53						
Lab Sample Number				23630398	23794672	23968604	24193310	24398202	24603565	24798192	24876458	25122145	25288499	25417126	25559788						
Sample Temperature				7.2	7.8	6.8	6.2	17.4	18.2	18.2	11.8	11.2	11.2	11.2	11.2						
Sample Time																					
Analysis	Test	Method	Units	LOD												UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	<0.2	0.333	8.05	13.4	14.4	16.2	12.8	13.7	12	11.8	13.4	3.72			0.3		
	pH	TM256	pH Units	<1.00		7.61	7.35	7.53	7.43	7.28	7.51	7.48	7.83	7.44	7.31	7.44					
	Chloride	TM184	mg/l	<2	13.6	14.5	88.5	134	139	171	125	156	111	131	120	45.7	250	300			
Filtered (Dissolved) Metals	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07		
	Arsenic (diss.filt)	TM152	µg/l	<0.5	1.93	2.2	6.31	5.63	7.97	7.17	5.83	3.9	13.7	5.82	6.22	4.8	10	50			
	Boron (diss.filt)	TM152	µg/l	<10	76	66.7	405	551	681	604	543	545	562	509	539	150	1000				
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45		
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	1.52	2.32	2.28	<1	2.23	2.13	2.42	1.38	2.4	1.09	50				
	Copper (diss.filt)	TM152	µg/l	<0.3	8.82	1.05	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.39	<0.3	<0.3	0.654	2000	1			49.12
	Lead (diss.filt)	TM152	µg/l	<0.2	0.396	<0.2	<0.2	<0.2	0.495	<0.2	<0.2	<0.2	0.378	<0.2	0.252	0.284	10	1.2	14		
	Nickel (diss.filt)	TM152	µg/l	<0.4	3.63	2.91	10*	11.9	14.3	13.2	10.6	16.2	8.15	11.4	10.2	2.8	20	4	34		30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10				
	Vanadium (diss.filt)	TM152	µg/l	<1.0	3.18	4.25	18.2	26.7	26.8	24	23.2	26.9	17.6	23.7	23.9	10.6		20			
	Zinc (diss.filt)	TM152	µg/l	<1.0	10.6	4.06	1.85	<1	1.7	<1	1.55	2.24	2.82	2.62	1.18	1.5		10.9			79.03
Unfiltered (Total) Metals	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	0.0281	0.048	0.0901	0.112	0.0566	<0.02	0.103	0.101	<0.2	0.0514					
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	<20	10.2	8.34	11.6	14.8	7.43	10.2	20.5	11.2	13	10.9					
	Boron (tot.unfilt)	TM152	µg/l	<20	-	<200	396	590	678	671	570	585	604	495	605	171					
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.508	<0.5					
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<30	10.1	9.7	10.7	25.5	6.94	13.3	12.7	17.9	15.9	14.7		4.7			
	Copper (tot.unfilt)	TM152	µg/l	<1	-	11.4	19.7	26.9	17.4	73.2	20.1	43.7	52.6	63.5	76.1	71.2					
	Lead (tot.unfilt)	TM152	µg/l	<1	-	<10	22.4	20.8	18.8	66.7	21.5	34.6	39.5	43.3	43.1	51.5					
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	<10	15.4	18.6	18.8	34.2	15.3	81.8	19.8	26.9	23.5	15.8					
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<10	<1	1.27	1	1.08	1.05	<1	<1	<1	<1	<1					
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<50	45.2	42.6	52.8	97.2	37.3	57.3	54.7	63.9	59.9	48.9					
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	<50	146	59.6	48.4	203	57.1	322	111	132	155	145					
	Hardness, Total as CaCO3	TM152	mg/l	<0.35	-	394	638	587	597	609	606	647	607	572	609	513					
	TPH Criteria Working Group (TPH CWG)	GRO Surrogate % recovery**	TM245	%		126	108	110	94	104	81	88	95	94	99	95	73				
GRO >C5-C12		TM245	µg/l	<50	296	1690	1140	2180	1590	1940	4170	1500	1760	2630	2560	1530					
Methyl tertiary butyl ether (MTBE)		TM245	µg/l	<3	<3	<3	<3	52	39	<3	9	7.75	10.2	5.7	8.11	1.04					
Benzene		TM245	µg/l	<7	<7	<7	483	833	734	574	847	1100	615	928	1000	78	1	10	50		
Toluene		TM245	µg/l	<4	<4	<4	<4	<4	4	<4	4.08	5.23	3.4	4.23	4.29	<1		74			
Ethylbenzene		TM245	µg/l	<5	<5	<5	5	6	5	<5	4.9	5.65	1.29	2.91	4.06	1.04					
m,p-Xylene		TM245	µg/l	<8	<8	<8	<8	<8	8	<8	4.26	4.61	3.94	2.24	2.8	1.62					
o-Xylene		TM245	µg/l	<3	<3	<3	<3	4	3	<3	3.28	3.03	2.93	2.58	2.86	1.58					
Sum of detected Xylenes		TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	7.54	7.64	6.87	4.82	5.66	3.2					
Sum of detected BTEX		TM245	µg/l	<28	<28	<28	488	839	734	574	847	1100	624	928	1000	82.2					
Aliphatics >C5-C6		TM245	µg/l	<10	11	<10	62	46	45	68	46	71	91	74	108	53					
Aliphatics >C6-C8		TM245	µg/l	<10	27	39	99	99	63	92	86	96	150	143	187	160					
Aliphatics >C8-C10		TM245	µg/l	<10	34	180	67	167	104	144	327	85	155	202	257	197					
Aliphatics >C10-C12		TM245	µg/l	<10	121	806	220	509	311	570	1710	221	459	715	538	555					
Aliphatics >C12-C16 (aq)		TM174	µg/l	<10	1990	14900	1440	3850	6260	29200	3540	1070	5000	2340	2130	3020					
Aliphatics >C16-C21 (aq)		TM174	µg/l	<10	2570	17400	1690	4620	7280	32900	4290	1340	5490	2990	2320	3240					
Aliphatics >C21-C35 (aq)		TM174	µg/l	<10	4740	30200	3080	8180	15700	59200	7480	2600	9820	5660	4140	6030					
Total Aliphatics >C12-C35 (aq)		TM174	µg/l	<10	9300	62500	6210	16600	29200	121000	15300	5000	20300	11000	8590	12300					
Aromatics >EC5-EC7		TM245	µg/l	<10	<10	<10	483	833	734	574	629	808	493	873	925	61					
Aromatics >EC7-EC8		TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10					
Aromatics >EC8-EC10		TM245	µg/l	<10	23	120	57	129	83	107	234	68	107	145	184	135					
Aromatics >EC10-EC12		TM245	µg/l	<10	81	538	147	340	207	380	1140	147	306	477	359	370					
Aromatics >EC12-EC16 (aq)		TM174	µg/l	<10	725	5050	386	1970	1680	9900	587	387	1810	609	950	953					
Aromatics >EC16-EC21 (aq)		TM174	µg/l	<10	1340	8560	835	2760	3280	15500	1700	738	2500	1390	1100	1210					
Aromatics >EC21-EC35 (aq)		TM174	µg/l	<10	2890	17200	1800	5490	6460	31400	3930	1600	4860	3110	1960	2470					
Total Aromatics >EC12-EC3		TM174	µg/l	<10	4960	30800	3020	10200	11400	56800	6220	2720	9170	5110	4010	4630					
Total Aliphatics & Aromatics		TM174	µg/l	<10	14600	95000	10400	29000	42200	180000	25700	9230	31200	18700	15200	18500				5000	
Polyaromatic Hydrocarbons	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.2	<0.01	6.46	0.01	18.5	<0.1	0.0853	8.1	0.125	6.17	1.93		2	130		

PAHs	Acenaphthene (aq)	TM178	µg/l	<0.005	12.2	91.3	1.77	48.9	0.005	274	<0.05	0.74	58.1	2.97	36.5	200						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	0.553	3.56	0.36	2.15	0.005	2.88	<0.05	0.267	2.13	0.721	1.1	9.64						
	Fluoranthene (aq)	TM178	µg/l	<0.005	4.46	30.9	3.7	10.6	<0.005	64.6	0.256	3.05	11	9.63	4.16	0.665		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	3.37	38.1	2.44	16.4	<0.005	98.7	<0.05	0.869	17.8	2.95	8.16	8.8		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	2.99	61	1.35	25.8	<0.005	227	<0.05	0.554	41	2.04	18.9	23.7						
	Fluorene (aq)	TM178	µg/l	<0.005	7.21	92.4	1.52	46.1	<0.005	282	<0.05	0.653	57.4	2.9	33.9	176						
	Chrysene (aq)	TM178	µg/l	<0.005	2.24	15	2.36	5.33	0.0283	33.9	<0.05	1.65	5.03	3.39	2.18	3.19						
	Pyrene (aq)	TM178	µg/l	<0.005	7.36	36.2	6.06	14.1	<0.005	84.2	0.639	4.77	11.8	12.8	4.14	<0.005						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	1.53	9.11	1.7	4.31	0.0128	22	<0.05	1.05	3.19	3.84	1.57	1.72						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	1.34	7.54	1.62	4.69	0.0179	18.9	0.135	1.07	2.9	3.71	<0.005	1.63	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.536	2.75	0.497	1.32	0.0055	5.89	<0.05	0.365	1.02	0.779	<0.005	0.791	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	1.22	6.12	1.5	3.17	0.0191	15.1	0.124	0.816	2.59	2.76	<0.002	<0.002	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	0.185	<0.1	0.228	0.433	<0.005	2.12	<0.05	0.12	0.425	0.409	<0.005	<0.002						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.728	<0.1	0.6	1.62	<0.005	9.85	0.0868	0.441	1.57	1.39	<0.005	<0.005	0.1		0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.502	<0.1	0.645	1.66	<0.005	6.07	0.053	0.412	1.15	2.22	<0.005	<0.005	0.1					
PAH, Total Detected USEPA	TM178	µg/l	<0.082	46.4	394	26.3	193	0.0836	1160	1.29	16.9	225	52.7	117	428							
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueol	TM174	µg/l	<10	7310	47700	4770	12800	23000	92100	11800	3940	15300	8650	6460	9270						

ALS

					March	April	May	June	July	August							
					Customer Sample ID	CBH52	CBH52	CBH52	CBH52	CBH52	CBH52						
					Depth	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
					AGS Id												
					Sample Type	GROUND_WATER	GROUND_WATER	OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER						
					Sampled Date	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021	25/08/2021						
					Sample Received Date	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021	26/08/2021						
					Final Instruction Date	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021	26/08/2021						
					Report Completed Date	06/04/2021	10/05/2021	14/06/2021	21/07/2021	23/08/2021	06/09/2021						
					SDG	210325-86	210501-32	210605-41	210709-150	210813-46	210826-133						
					Lab Sample Number	23968691	24193349	24398232	24603635	24798252	24876497						
					Sample Temperature	6.8	6.2	17.4	18.2	18.2	11.8						
					Sample Time												
Analysis	Test	Method	Units	LOD							UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values	
Inorganics																	
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	0.684	1.6	1.05		<0.2	<0.2	<0.2						
	pH	TM256	pH Units	<1.00	7.51	7.79	7.34		7.45	7.4	7.46						
	Chloride	TM184	mg/l	<2	22.1	27.4	27.4		21.3	18.9	19.1	250		300			
Filtered (Dissolved) Met																	
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01		0.0579	<0.01	<0.01	1		0.07			
	Arsenic (diss.filt)	TM152	µg/l	<0.5	2.29	2.31	2.18		2.08	3.91	2.74	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	69	79.6	73.4		64.8	94.3	103	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08		<0.08	<0.08	<0.08	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1		<1	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	0.496	0.892	<0.3		12.8	<0.3	1.92	2000	1			49.12	
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	0.25	<0.2		<0.2	<0.2	0.296	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	1.29	1.01	1.21		2.02	1.88	0.92	20	4	34		30.4	
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1		<1	<1	<1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	1.84	<1		<1	1.26	2.58		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	6.43	4.02	3.75		28.5	7.82	14.6		10.9			79.03	
Unfiltered (Total) Metals																	
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	<0.02	0.0609	0.02		<0.02	0.0669	<0.02						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	6.39	17.3	4.05		3.79	8.98	7.44						
	Boron (tot.unfilt)	TM152	µg/l	<20	66	85.1	86.9		70.9	101	103						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	<0.5	0.841	0.5		<0.5	<0.5	0.536						
	Chromium (tot.unfilt)	TM152	µg/l	<3	<3	7.94	4.86		<3	<3	3.4		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	9.22	74.5	4.32		20.5	26.2	54.5						
	Lead (tot.unfilt)	TM152	µg/l	<1	17.1	148	4.58		3.34	23.3	21.6						
	Nickel (tot.unfilt)	TM152	µg/l	<1	2.22	13.2	3.65		2	3.72	5.34						
	Selenium (tot.unfilt)	TM152	µg/l	<1	<1	1.05	1		<1	<1	<1						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	5.02	37.3	5		<5	16.1	10.6						
	Zinc (tot.unfilt)	TM152	µg/l	<5	37	339	11.8		37.1	76.4	162						
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	411	522	385		324	395	458						
TPH Criteria Working G																	
	GRO Surrogate % recovery**	TM245	%		114	96	114		92	96	97						
	GRO >C5-C12	TM245	µg/l	<50	<50	970	50		<50	191	133						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3		<3	<1	<1						
	Benzene	TM245	µg/l	<7	<7	<7	7		<7	<1	1.6	1	10	50			
	Toluene	TM245	µg/l	<4	<4	<4	<4		<4	<1	<1		74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5		<5	<1	<1						
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8		<8	<1	<1						
	o-Xylene	TM245	µg/l	<3	<3	<3	<3		<3	<1	<1						
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11		<11	<2	<2						
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28		<28	<5	<5						
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10		<10	<10	<10						
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	19	<10		<10	<10	11						
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	94	<10		<10	23	13						
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	473	10		<10	85	56						
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	1660	5460	506		271	20700	2280						
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	2740	8100	946		446	30700	4110						
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	9240	24600	3420		1460	94400	14400						
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	13600	38200	4870		2180	146000	20800						
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	10		<10	<10	<10						
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	10		<10	<10	<10						
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	63	10		<10	16	<10						
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	315	10		<10	57	37						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	267	1120	147		62	5360	494						
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	1450	4220	547		238	17900	2430						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	5660	14300	1780		899	61100	10100						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	7380	19700	2470		1200	84300	13000						
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	21000	58800	7380		3380	230000	33900				5000		
Polyaromatic Hydrocart																	

EPH CWG (Speciated)

Naphthalene (aq)	TM178	µg/l	<0.01	0.0239	<0.01	0.0304	<0.01	<1	0.0542		2	130			
Acenaphthene (aq)	TM178	µg/l	<0.005	0.0632	4.19	0.137	<0.005	<0.5	0.416						
Acenaphthylene (aq)	TM178	µg/l	<0.005	0.192	0.692	0.0769	<0.005	<0.5	0.362						
Fluoranthene (aq)	TM178	µg/l	<0.005	2.04	12	1.31	<0.005	4.5	3.47		0.0063	0.12			
Anthracene (aq)	TM178	µg/l	<0.005	<0.005	2.86	0.0978	<0.005	<0.5	<0.005		0.1	0.1			
Phenanthrene (aq)	TM178	µg/l	<0.005	0.47	6.14	0.005	<0.005	3.89	<0.005						
Fluorene (aq)	TM178	µg/l	<0.005	<0.005	4.85	0.005	<0.005	2.97	0.318						
Chrysene (aq)	TM178	µg/l	<0.005	2.17	14	1.76	0.717	<0.5	2.75						
Pyrene (aq)	TM178	µg/l	<0.005	6.34	28	3.08	<0.005	11.5	10.2						
Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	1.88	8.11	1.02	0.266	2.09	2.73						
Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	2.2	5.94	1.01	0.315	2.04	3.05	0.1		0.017			
Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.54	4.1	0.205	0.0818	0.795	0.98	0.1		0.017			
Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	1.77	<0.002	0.002	0.242	1.96	2.69	0.01	0.00017	0.27			
Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	0.396	<0.005	0.005	<0.005	<0.5	0.544						
Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.743	<0.005	0.27	0.149	0.884	1.45	0.1		0.0082			
Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.799	<0.005	0.005	0.0838	0.679	1.18	0.1					
PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	19.6	90.8	9	1.85	31.3	30.1						
Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	12000	32700	4370	1910	125000	18500						

ALS

					January	February	March	April	May	June	July	August	September	October	November	December
Customer Sample ID					CBH57	CBH57	CBH57	CBH57	CBH57	CBH57	CBH57 CBH57		CBH57	CBH57 CBH57	CBH57	CBH57
Depth					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00
AGS Id																
Sample Type					OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER
Sampled Date					27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021		25/08/2021	07/10/2021	04/11/2021	26/11/2021
Sample Received Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021		26/08/2021	09/10/2021	06/11/2021	18/12/2021
Final Instruction Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021		26/08/2021	08/10/2021	08/10/2021	08/10/2021
Report Completed Date					05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	21/08/2021		06/09/2021	18/10/2021	16/11/2021	05/01/2022
SDG					210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46		210826-133	211009-28	211106-44	211218-53
Lab Sample Number					23630446	23794684	23968631	24193321	24398212	24603586	24798214		24876470	25122045	25288372	25417006
Sample Temperature					7.2	7.8	6.8	6.2	17.4	18.2	18.2		11.8	11.2	11.2	11.2
Sample Time																
Analysis	Test	Method	Units	LOD												
Inorganics																
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	<0.2	0.329	1.3	2.45	1.6	2.07	3.33	3.72		<0.2	<0.2	1.68
	pH	TM256	pH Units	<1.00		7.12	7.05	7.24	6.97	7.2	7.06	7.33	7.21	6.93	6.87	7.07
	Chloride	TM184	mg/l	<2	6.4	8.1	14.1	22.2	23.4	23.1	26.7	24.8	15.6	11	17.1	29.4
Filtered (Dissolved) Metals																
	Mercury (diss.filt)	TM183	µg/l	<0.01	0.0184	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Arsenic (diss.filt)	TM152	µg/l	<0.5	6.66	3.25	5.28	5.06	6.16	1.1	6.32	7.35	4.14	5.08	5.08	4.53
	Boron (diss.filt)	TM152	µg/l	<10	11.7	<10	15.7	16.4	10	20.6	27.4	18.6	17.9	24	25.9	<10
	Cadmium (diss.filt)	TM152	µg/l	<0.08	0.249	0.135	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
	Chromium (diss.filt)	TM152	µg/l	<1	1.19	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
	Copper (diss.filt)	TM152	µg/l	<0.3	53.6	1.83	<0.3	<0.3	<0.3	1.81	0.484	3.15	0.676	<0.3	<0.3	0.366
	Lead (diss.filt)	TM152	µg/l	<0.2	19.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.354	<0.2
	Nickel (diss.filt)	TM152	µg/l	<0.4	3.31	1.38	0.989	0.436	0.66	<0.4	0.835	<0.4	2.14	<0.4	0.716	1.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Vanadium (diss.filt)	TM152	µg/l	<1.0	5.18	<1	1.43	<1	<1	<1	<1	<1	1.17	<1	<1	<1
	Zinc (diss.filt)	TM152	µg/l	<1.0	44.1	71.5	9.52	1.46	1.44	5.67	3.67	2.32	2.53	4.18	1.75	1.89
Unfiltered (Total) Metals																
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	0.987	<0.02	0.0281	0.286	0.549	0.381	<0.02	0.0357	<0.02	<0.02	<0.02
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	19.9	17.5	6.8	24.6	38.6	17.2	10.3	6.45	5.63	6.28	5.73
	Boron (tot.unfilt)	TM152	µg/l	<20	-	34.6	22.9	<20	27.2	23.8	37.8	22.2	<20	21.8	47	<20
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	0.884	0.911	<0.5	0.876	2.02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	13.1	40.2	<3	17.8	25.9	3	<3	<3	<3	<3	<3
	Copper (tot.unfilt)	TM152	µg/l	<1	-	247	176	26.3	169	277	73.8	1.55	13.6	2.52	3.72	<1
	Lead (tot.unfilt)	TM152	µg/l	<1	-	98.6	72.9	9.6	86.6	144	29.3	<1	5.92	1.05	3	<1
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	21.5	23.3	4.05	27.7	43.3	6.35	<1	4.42	2.08	1.66	1.4
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	1.24	<1	1	1.87	<1	<1	<1	<1	<1	<1
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	26.3	33.6	<5	19.4	39.9	8.31	<5	<5	<5	<5	<5
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	197	199	33.4	182	369	55.1	5.75	15.3	15.8	14	<5
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	154	197	213	243	269	266	254	209	202	235	209
TPH Criteria Working Group (TPH CWG)																
	GRO Surrogate % recovery**	TM245	%		128	105	103	101	110	97	95	88	98	103	103	112
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	75	<50	<50	<50	<50	<50	<50
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1	<1
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	20	<10	<10	150	<10	<10	<10	<10	<10	<10
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	15	<10	37	<10	<10	268	<10	<10	20	<10	<10	<10
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	81	49	155	124	<10	947	<10	<10	53	<10	<10	<10
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	96	49	212	124	<10	1370	<10	<10	73	<10	<10	<10
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	<10	<10	17	<10	<10	<10	<10	<10	<10
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	48	<10	<10	<10	<10	<10	<10

	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	14	<10	<10	100	<10	<10	<10	<10	<10	<10							
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	38	23	167	<10	13	504	<10	<10	<10	<10	<10	<10	<10						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	38	23	181	<10	13	652	<10	<10	<10	<10	<10	<10	<10						
	Total Aliphatics & Aromatics >C5-35 (aq)	TM174	µg/l	<10	134	72	393	138	13	2090	<10	<10	73	<10	<10	<10	<10				5000		
Polyaromatic Hydrocarbons (PAHs)	Naphthalene (aq)	TM178	µg/l	<0.01	0.0177	<0.01	0.0217	0.0592	0.0177	0.017	0.0486	0.0157	<0.01	<0.01	<0.01	<0.01	<0.01		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	0.00971	0.00704	0.0316	0.0576	0.0463	<0.005	0.058	0.0716	0.0141	0.0115	0.0253	0.0097	0.0097						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.00715	<0.005	0.005	<0.005	0.00737	0.011	<0.005	<0.005	<0.005	<0.005	<0.005						
	Fluoranthene (aq)	TM178	µg/l	<0.005	0.038	0.044	0.111	0.0308	0.0454	<0.05	0.0378	0.0448	0.0134	0.0075	0.0075	<0.005	<0.005		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	0.00877	<0.005	0.0165	0.00664	0.0115	<0.005	0.00813	0.00899	<0.005	<0.005	<0.005	<0.005	<0.005		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	0.0401	0.0356	0.174	0.042	0.0753	0.209	0.0431	0.0267	<0.005	0.0059	0.0092	<0.005	<0.005						
	Fluorene (aq)	TM178	µg/l	<0.005	0.00802	0.0102	0.0518	0.0608	0.0508	<0.005	0.0471	0.0906	0.0172	0.0097	0.029	0.0075	0.0075						
	Chrysene (aq)	TM178	µg/l	<0.005	0.0419	0.049	0.187	<0.005	0.0694	0.238	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Pyrene (aq)	TM178	µg/l	<0.005	0.0401	0.0482	0.16	0.0391	0.0597	0.211	0.0394	0.0482	0.0169	0.0081	0.0093	<0.005	<0.005						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	0.026	0.0272	0.074	<0.005	0.0228	0.0651	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.061	0.0523	0.14	0.0262	0.0367	0.0783	0.0262	<0.005	<0.005	0.0079	<0.005	<0.005	<0.005		0.1	0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.024	0.0218	0.0412	0.015	0.0172	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.1	0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.0373	0.0266	0.0788	0.0197	0.0235	<0.002	0.0142	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		0.01	0.00017	0.27		
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	0.0188	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.0374	0.0379	0.0752	0.0211	0.0182	<0.005	0.0342	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.1	0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.0275	0.0247	0.0714	0.0106	0.005	<0.005	0.0137	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.1				
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	0.436	0.385	1.24	0.389	0.494	0.979	0.378	0.318	<0.082	<0.082	<0.082	<0.082	<0.082						
EPH CWG (Speciated)	Aliphatics >C16-C35																						
	Aqueous	TM174	µg/l	<10	96	49	192	124	10	1220	<10	<10	73	<10	<10	<10	<10						

ALS

					January	February	March	April	May	June	July	August	September	October	November						
Customer Sample ID					CBH64	CBH64	CBH64	CBH64	CBH64	CBH64	CBH64	CBH64	CBH64	CBH64	CBH64						
Depth					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
AGS Id																					
Sample Type					JUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER						
Sampled Date					27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021		25/08/2021	07/10/2021	04/11/2021	26/11/2021					
Sample Received Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021		26/08/2021	09/10/2021	06/11/2021	27/11/2021					
Final Instruction Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021		26/08/2021	08/10/2021	08/10/2021	08/10/2021					
Report Completed Date					05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	23/08/2021		06/09/2021	18/10/2021	16/11/2021	07/12/2021					
SDG					210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46		210826-133	211009-28	211106-44	211127-80					
Lab Sample Number					23630467	23794706	23968655	24193339	24398222	24603608	24798237		24876484	25122055	25288383	25417019					
Sample Temperature					7.2	7.8	6.8	6.2	17.4	18.2	18.2		11.8	11.2	11.2	11.2					
Sample Time																					
Analysis	Test	Method	Units	LOD												UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	1.11	0.937	3.17	3.24	1.31	<0.2	0.236	2.16	0.358	1.65	3.46			0.3			
	pH	TM256	pH Units	<1.00		7.43	7.64	7.74	7.42	7.5	7.81	7.58	7.7	7.4	7.45						
	Chloride	TM184	mg/l	<2	27.6	20.5	32.4	33.6	24.7	12.4	19.9	24.1	23.1	22.3	32.8	250	300				
	Filtered (Dissolved) Metals																				
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1	0.07				
	Arsenic (diss.filt)	TM152	µg/l	<0.5	2.42	2.55	22.7	50.8	18.8	5.91	7.53	7.48	5.57	9.85	14.2	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	138	137	142	117	126	114	105	116	86.7	85.9	129	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	0.218	0.22	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	2.42	<1	1.34	<1	<1	1.55	<1	<1	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	21.1	20.8	1.04	1.47	0.612	6.83	<0.3	<0.3	3.88	2.01	<0.3	2000	1			49.12	
	Lead (diss.filt)	TM152	µg/l	<0.2	1.13	2.54	<0.2	1.44	0.669	1.72	0.869	<0.2	1.3	0.884	0.369	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	10	11.1	7.76	6.03	5.7	3.73	5.64	2.5	4.96	3.37	3.17	20	4	34		30.4	
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	1.23	2.72	1.98	<1	1.23	2.06	<1	1.35	1.47		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	99.9	132	11.3	20.9	7.65	56.3	6.23	7.82	22	9.82	2.81		10.9			79.03	
Unfiltered (Total) Metals																					
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	0.107	<0.02	0.104	0.109	<0.02	0.245	<0.02	0.119	0.0396	<0.02						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	19.1	48.1	101	53	23.4	30.6	11.9	38.9	36.6	29.9						
	Boron (tot.unfilt)	TM152	µg/l	<20	-	158	120	114	135	123	111	124	99.4	85.8	163						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	0.759	<0.5	2.3	0.558	<0.5	0.953	<0.5	0.575	<0.5	<0.5						
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	9.14	7.48	4.28	4.95	<3	3.27	<3	<3		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	-	79.3	6.98	158	76.5	44.9	95.4	22.3	61.1	27.1	23.3						
	Lead (tot.unfilt)	TM152	µg/l	<1	-	166	18.9	454	186	102	246	51.2	179	72.8	76.9						
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	16.3	7.46	24.2	14.3	9.3	14.3	4.63	10.8	7.17	6.83						
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	1.08	1	<1	1.15	<1	<1	<1	<1						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	5.5	<5	16.6	10.1	<5	7.84	<5	6.37	5.54	<5						
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	316	34.7	581	229	221	410	88.7	189	87.7	87.3						
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	1010	841	887	761	693	613	662	537	685	748						
TPH Criteria Working Group (TPH CWG)																					
	GRO Surrogate % recovery**	TM245	%		120	103	103	91	111	94	89	90	101	100	105						
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1						
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	1	10	50			
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1		74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1						
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1						
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1						
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2						
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5						
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	<10	<20	<10	<10	<10	<10						
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	12	<20	<10	<10	<10	<10						
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	44	<20	<10		24	<10						
Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	56	<20	<10		24	<10							
Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10							

	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	<10	<20	<10	<10	<10	<10	<10					
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	<10	<20	<10	<10	<10	<10	<10					
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	32	<20	<10	19	<10	<10	<10					
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	32	<20	<10	19	<10	<10	<10					
	Total Aliphatics & Aromatics >C5-35 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	<10	94	<20	<10	43	<10	<10	<10				5000	
Polyaromatic Hydrocarbons (PAHs)																					
	Naphthalene (aq)	TM178	µg/l	<0.01	0.0209	<0.01	<0.01	<0.05	0.0278	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.01		2	130		
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.00926	0.0707	0.0108	0.0158	<0.1	0.201	0.00748	0.0051	0.0125						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.0061	<0.005	<0.1	<0.005	<0.005	<0.005	<0.005						
	Fluoranthene (aq)	TM178	µg/l	<0.005	0.0124	0.0287	0.0251	0.24	0.0791	0.0851	<0.1	0.117	0.0762	0.0186	0.031		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0531	0.0143	0.02	<0.1	0.0171	0.0102	<0.005	<0.005		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	0.00833	0.024	0.0118	0.228	0.081	0.0868	<0.1	0.0749	0.0845	0.0191	0.0254						
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0425	<0.0109	0.0206	<0.1	0.0174	0.00665	<0.005	<0.005						
	Chrysene (aq)	TM178	µg/l	<0.005	0.0108	0.0247	0.0219	0.316	0.078	0.0981	<0.1	0.078	0.0711	0.0162	0.0237						
	Pyrene (aq)	TM178	µg/l	<0.005	0.011	0.0259	0.0226	0.258	0.0761	0.0827	<0.1	0.109	0.0808	0.0182	0.0291						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	0.0108	0.0213	0.0106	0.211	0.0446	0.0543	<0.1	0.0539	0.0406	<0.005	0.0173						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.0211	0.0388	0.0298	0.429	0.0978	0.11	<0.1	0.102	0.0682	0.0207	0.0242	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.0108	0.0156	0.0105	0.148	0.0319	0.0487	<0.1	0.041	0.0215	0.0081	<0.005	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.015	0.016	0.015	0.19	0.0496	0.0804	<0.04	0.0621	0.0428	0.0129	0.0151	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.0162	<0.005	<0.1	<0.005	0.00682	0.0051	<0.005						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.0146	0.0257	0.0121	0.256	0.0641	<0.005	<0.1	0.0586	0.0507	0.0056	0.0137	0.1		0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.012	0.0153	0.0151	0.227	0.0487	<0.005	<0.1	0.0536	0.0392	0.0176	<0.005	0.1					
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	0.148	0.236	0.184	2.67	0.737	0.703	<1.64	0.986	0.607	0.147	0.192						
EPH CWG (Speciated)																					
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	<10	<10	<50	10	56	<20	<10	24	<10	<10	<10					

					January	February	March	April	May						
Customer Sample ID					MSMW091	MSMW091	MSMW091	MSMW091	MSMW091						
Depth					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
AGS Id															
Sample Type					OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER						
Sampled Date					27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021						
Sample Received Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021						
Final Instruction Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021						
Report Completed Date					05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021						
SDG					210129-40	210225-101	210325-86	210501-32	210605-41						
Lab Sample Number					23630481	23794580	23968502	24193462	24398277						
Sample Temperature					7.2	7.8	6.8	6.2	17.4						
Sample Time															
Analysis	Test	Method	Units	LOD						UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	<0.2	<0.2	<0.2	0.42	<0.2				0.3		
	pH	TM256	pH Units	<1.00		7.28	7.44	7.42	7.17						
	Chloride	TM184	mg/l	<2	12.3	9.1	10	11.5	17.9	250		300			
Filtered (Dissolved) Metals															
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	1		0.07			
	Arsenic (diss.filt)	TM152	µg/l	<0.5	2.04	2.02	3.24	1.2	9.88	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	53	52.7	55.6	66.1	70.9	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	0.798	<0.3	0.401	<0.3	<0.3	2000	1				49.12
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	0.23	0.694	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	1.96	1.62	1.61	6.86	3.58	20	4	34			30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	13.7	14.2	3.62	4.75	19.6		10.9				79.03
Unfiltered (Total) Metals															
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	0.276	0.02						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	16.1	7.03	30.9	12.4						
	Boron (tot.unfilt)	TM152	µg/l	<20	-	64.5	55.5	63	89.2						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	0.988	0.5						
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	6.89	3		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	-	3.24	4.53	67.3	5.99						
	Lead (tot.unfilt)	TM152	µg/l	<1	-	6.21	11.3	172	17.9						
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	1.87	3.16	27.5	6.07						
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	1.38	1						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	16.4	5						
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	30.5	45.8	409	97.5						
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	384	431	576	559						
TPH Criteria Working Group (TPH CWG)															
	GRO Surrogate % recovery**	TM245	%		123	101	118	98	111						
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	280	50						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	3						
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	1	10	50			
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4		74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5						
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8						
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3						
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11						
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28						
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10						
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10						
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	32	<10						
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	127	<10						
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	12	142	2790	234						
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	377	21	196	3910	277						
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	498	<10	281	6230	325						
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	875	33	619	12900	836						
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10						
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10						
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	22	<10						
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	85	<10						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	41	<10	50	735	69						
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	126	<10	118	2100	155						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	548	<10	319	4870	297						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	715	<10	487	7710	521						
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	1590	37	1110	20900	1360						5000

Polyaromatic Hydrocarbons (PAHs)															
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	1.49	0.0204		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.269	0.0432						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0198	0.391	0.0247						
	Fluoranthene (aq)	TM178	µg/l	<0.005	0.0637	<0.005	0.0787	4.12	0.32		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	1.28	0.005						
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005						
	Chrysene (aq)	TM178	µg/l	<0.005	0.0956	<0.005	0.147	3.26	0.229						
	Pyrene (aq)	TM178	µg/l	<0.005	0.224	<0.005	0.242	5.49	0.466						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	0.0416	<0.005	0.0693	2.98	0.179						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.2	0.00876	0.109	3.77	0.187	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.0799	<0.005	0.0266	0.982	0.0489	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.13	0.0118	0.0765	2.1	0.0994	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0227	0.466	0.005						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.152	0.0148	0.0744	1.11	0.0621	0.1		0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0588	1.37	0.0565	0.1					
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	0.986	<0.082	0.925	29.1	1.74						
EPH CWG (Speciated)															
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	875	21	477	10100	602						

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					Janaury	February	March	April	May	June	July	September	October	November	December						
Customer Sample ID					MSMW034D	MSMW34D	MSMW34D	MSMW34D	MSMW34D	MSMW34D	MSMW34D	MSMW34D	MSMW34D	MSMW34D	MSMW34D						
Depth					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
AGS Id																					
Sample Type					OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER						
Sampled Date					27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021						
Sample Received Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021						
Final Instruction Date					29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021						
Report Completed Date					05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	23/08/2021	18/10/2021	16/11/2021	07/12/2021	06/01/2022						
SDG					210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46	211009-28	211106-44	211127-80	211218-53						
Lab Sample Number					23630408	23794637	23968550	24193271	24398320	24603511	24798134	25122065	25288393	25417032	25559738						
Sample Temperature					7.2	7.8	6.8	6.2	17.4	18.2	18.2	11.2	11.2	11.2	11.2						
Sample Time																					
Analysis	Test	Method	Units	LOD												UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					
	pH	TM256	pH Units	<1.00		7.52	7.56	7.61	7.49	7.82	7.44	8.03	7.55	7.54	7.54						
	Chloride	TM184	mg/l	<2	27.4	25	26.6	26.9	27.3	26.7	26.8	26.8	26.9	27	27.6	250		300			
Filtered (Dissolved) Metals	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07		
	Arsenic (diss.filt)	TM152	µg/l	<0.5	2.79	2.62	0.623	0.664	2.99	1.18	0.956	1.42	3.03	<0.5	2.65	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	20.8	16.7	20.6	18.8	<10	<10	15.3	21.6	19.1	18.5	15.9	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45		
	Chromium (diss.filt)	TM152	µg/l	<1	<1	1.89	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	50				
	Copper (diss.filt)	TM152	µg/l	<0.3	<0.3	<0.3	0.336	<0.3	<0.3	<0.3	<0.3	0.35	<0.3	<0.3	<0.3	<0.3	2000	1		49.12	
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.263	<0.2	<0.2	<0.2	<0.2	0.223	<0.2	10	1.2	14		
	Nickel (diss.filt)	TM152	µg/l	<0.4	2.11	2.08	2.04	1.4	3.35	3.46	1.49	2.02	<0.4	1.82	2.62	20	4	34		30.4	
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10				
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		20		
	Zinc (diss.filt)	TM152	µg/l	<1.0	2.29	2.51	24.3	11.9	5.04	7.98	2.78	10.9	2.3	4.58	3.54		10.9			79.03	
	Unfiltered (Total) Metals	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.02	0.064	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02				
Arsenic (tot.unfilt)		TM152	µg/l	<2	-	3.52	<2	<2	3.56	6.79	2.21	2.51	4.25	3.24	3.74						
Boron (tot.unfilt)		TM152	µg/l	<20	-	22.5	<20	20.6	20	<20	24.3	<20	<20	36.1	23.6						
Cadmium (tot.unfilt)		TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5						
Chromium (tot.unfilt)		TM152	µg/l	<3	-	<3	<3	<3	3	6.17	<3	<3	<3	<3	<3		4.7				
Copper (tot.unfilt)		TM152	µg/l	<1	-	1.24	<1	<1	1	35.2	<1	7.6	4.66	<1	<1						
Lead (tot.unfilt)		TM152	µg/l	<1	-	1.9	<1	<1	1.08	51.4	<1	12.4	4.31	6.03	<1						
Nickel (tot.unfilt)		TM152	µg/l	<1	-	2.95	2.39	1.99	5.47	88	1.65	16.6	5.68	6.22	3.59						
Selenium (tot.unfilt)		TM152	µg/l	<1	-	<1	<1	<1	1	2.72	<1	<1	<1	<1	<1	<1					
Vanadium (tot.unfilt)		TM152	µg/l	<5	-	<5	<5	<5	5	10.8	<5	<5	<5	<5	<5	<5					
Zinc (tot.unfilt)		TM152	µg/l	<5	-	8.74	24.5	15.4	8.3	245	<5	86.6	28	28.9	13.6						
Hardness, Total as CaCO3 unfiltered		TM152	mg/l	<0.35	-	309	292	286	309	325	308	324	288	303	302						
TPH Criteria Working Group (TPH CWG)																					
TPH Criteria Working Group (TPH CWG)	GRO Surrogate % recovery**	TM245	%		118	111	115	98	120	100	108	103	96	108	87						
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1						
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	1	10	50			
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1		74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1						
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1						
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1						
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2					
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5					
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	<10	22	<10	<10	<10	<10	20	<10	<10	<10	<10	<10					
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	<10	22	<10	<10	<10	<10	20	<10	<10	<10	<10	<10					
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	11	<10	<10	<10	<10	<10					
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	11	<10	<10	<10	<10	<10					
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	<10	22	<10	<10	<10	<10	37	<10	<10	<10							

(PAHs)	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.00562	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.00746	0.0223	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.016	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.00539	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00935	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.00801	0.0156	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.00017	0.27		
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002				
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	0.1	0.0082		
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1				
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082					
EPH CWG (Speciated)																					
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	22	<10	<10	10	20	<10	<10	<10	<10	<10	<10					

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				January	February	March	April	May	July	August	September	October	November	December								
Customer Sample ID				MSMW034S	MSMW34S	MSMW34S	MSMW34S	MSMW34S	MSMW34S	MSMW34S	MSMW34S	MSMW34S	MSMW34S	MSMW34S								
Depth				0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00				0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00							
AGS Id																						
Sample Type				OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER							
Sampled Date				27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	11/08/2021		25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021							
Sample Received Date				29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/08/2021		26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021							
Final Instruction Date				29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021			26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021							
Report Completed Date				05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	23/08/2021		06/09/2021	18/10/2021	16/11/2021	07/12/2021	06/01/2022							
SDG				210129-40	210225-101	210325-86	210501-32	210605-41	210813-46		210826-133	211009-28	211106-44	211127-80	211218-53							
Lab Sample Number				23630427	23794625	23968540	24193260	24398317	24798123		24876586	25122115	25288460	25417093	25559834							
Sample Temperature				7.2	7.8	6.8	6.2	17.4		11.8	11.2		11.2	11.2	11.2							
Sample Time																						
Analysis	Test	Method	Units	LOD													UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values
Inorganics																						
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	2.28	2.9	1.08	0.876	0.365	0.626	0.892		<0.2	2.03		<0.2	0.259			0.3		
	pH	TM256	pH Units	<1.00		5.88	6.59	7.26	6.88	7.15	6.94		7.8	6.18		7.05	7.1					
	Chloride	TM184	mg/l	<2	33	28.3	15.5	17.7	18.8		12	10.3	7.4	25.7		10.2	13.7	250		300		
Filtered (Dissolved) Metals																						
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07		
	Arsenic (diss.filt)	TM152	µg/l	<0.5	2.28	2.49	1.57	1.06	1.15	0.834	2.04	4.8	2.71	2.06	1.15	10	50					
	Boron (diss.filt)	TM152	µg/l	<10	49.7	42.5	42.9	95	92.1	108	111	51.3	66.7	72.1	28.6	1000						
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.108	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45				
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	50						
	Copper (diss.filt)	TM152	µg/l	<0.3	0.409	<0.3	0.607	<0.3	<0.3	<0.3	6.21	1.59	<0.3	<0.3	1.84	2000	1				49.12	
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	0.237	1.07	10.4	<0.2	<0.2	1.49	1.06	10	1.2	14				
	Nickel (diss.filt)	TM152	µg/l	<0.4	1.03	0.924	1.35	1.08	1.16	2.54	2.95	1.31	<0.4	1.89	1.14	20	4	34				30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10						
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	1.56	<1	<1	<1		20					
	Zinc (diss.filt)	TM152	µg/l	<1.0	6.23	4.92	8.3	2.86	1.73	3.42	64.1	2.23	5	5.1	4.32		10.9					79.03
Unfiltered (Total) Metals																						
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	0.021	0.0272	0.0338	0.0375	<0.02	<0.02	<0.02	0.0215	0.034							
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	5.04	11.1	7.05	31.5	3.09	62.2	2.66	6.43	6.99	7.14							
	Boron (tot.unfilt)	TM152	µg/l	<20	-	48	28.4	82.9	120	110	133	46	53	82.8	24.7							
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	3.12	<0.5	7.52	<0.5	<0.5	<0.5	<0.5							
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	3.05	13.2	5.32	84.9	<3	142	<3	<3	<3	3.06		4.7					
	Copper (tot.unfilt)	TM152	µg/l	<1	-	34.5	58.9	25.4	498	31.2	937	30.2	11	37.7	35.4							
	Lead (tot.unfilt)	TM152	µg/l	<1	-	34.8	154	32	1070	18.3	1340	12.3	10.2	23.5	30.4							
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	2.07	7.71	4.19	55.1	3.07	124	3.36	2.86	3.99	4.38							
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	1.03	<1	6	1.06	6.34	<1	1	<1	<1							
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	5.1	17.7	7.82	79.8	<5	195	<5	<5	8.24	7.73							
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	28.5	95.9	41.4	543	18.4	1040	14.2	13.6	27.8	28.6							
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	1180	533	290	390	569	865	366	833	391	253							
TPH Criteria Working Group (TPH CWG)																						
	GRO Surrogate % recovery**	TM245	%		100	95	100	93	111	90	87	96	92	103	96							
	GRO >C5-C12	TM245	µg/l	<50	1330	1500	696	328	124	<50	<50	<50	857	<50	<50							
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	4	<3	<1	<1	<1	<1	<1	<1							
	Benzene	TM245	µg/l	<7	10	8	<7	<7	<7	<1	<1	<1	4.48	<1	<1	1	10	50				
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1		74					
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1							
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1	<1							
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1							
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2							
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5							
	Aliphatics >C5-C6	TM245	µg/l	<10	30	38	18	<10	<10	<10	<10	<10	17	<10	<10							
	Aliphatics >C6-C8	TM245	µg/l	<10	90	86	46	21	<10	<10	<10	<10	48	<10	<10							
	Aliphatics >C8-C10	TM245	µg/l	<10	490	547	236	104	36	<10	<10	<10	319	<10	<10							
	Aliphatics >C10-C12	TM245	µg/l	<10	229	276	142	75	29	<10	<10	<10	153	<10	<10							
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	59	<40	<10	<10	338	<20	<10	<10	<100	37	<10							
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	114	53	79	213	2620	<20	101	99	<100	158	107							
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	365	398	354	469	14100	<20	465	543	<100	707	468							
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	538	451	433	682	17000	<20	566	642	<100	902	575							
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10							
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10							
	Aromatics >EC8-EC10	TM245	µg/l	<10	327	365	157	69	24	<10	<10	<10	213	<10	<10							
	Aromatics >EC10-EC12	TM245	µg/l	<10	153	184	95	50	19	<10	<10	<10	102	<10	<10							

	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	193	159	77	78	306	<10	41	<10	<100	58	<10						
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	49	<40	65	112	1380	<10	74	41	<100	104	84						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	138	119	167	327	5410	<10	289	237	<100	325	247						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	380	278	309	517	7090	<10	404	278	<100	487	331						
	Total Aliphatics & Aromatics >C5-35 (aq)	TM174	µg/l	<10	2250	2230	1440	1520	24200	<10	971	920	857	1410	906					5000	
Polyaromatic Hydrocarbons (PAHs)	Naphthalene (aq)	TM178	µg/l	<0.01	0.103	0.133	<0.01	0.0208	0.0646	<0.02	<0.01	<0.01	<0.1	<0.01	<0.01		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	0.495	0.46	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	0.148	0.0579	0.0089						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	0.106	0.0937	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005						
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.05	0.0239	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	0.264	0.151	<0.005	<0.005	0.328	<0.01	<0.005	<0.005	0.114	<0.005	<0.005						
	Fluorene (aq)	TM178	µg/l	<0.005	0.531	0.434	<0.005	<0.005	0.01	<0.01	<0.005	<0.005	0.114	0.0511	<0.005						
	Chrysene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	0.01	<0.01	<0.005	<0.005	0.0564	<0.005	<0.005						
	Pyrene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	0.01	<0.01	<0.005	<0.005	0.176	<0.005	<0.005						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005		0.1	0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005		0.1	0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.02	<0.008	<0.002	<0.002	<0.004	<0.004	<0.002	<0.002	<0.02	<0.002	<0.002		0.01	0.00017	0.27		
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.002						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	0.0268	<0.01	<0.01	0.00954	<0.005	<0.05	0.0112	<0.005		0.1	0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.05	<0.02	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005	<0.05	<0.005	<0.005		0.1				
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	1.5	1.3	<0.082	<0.082	0.392	<0.164	<0.082	<0.082	<0.82	0.12	<0.082						
EPH CWG (Speciated)	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	479	451	433	682	16700	<20	566	642	<100	865	575						

ALS

		January	February	March	April	May	June	July	August	September	October	November	December								
Customer Sample ID		MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S	MSMW155S								
Depth		0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00								
AGS Id																					
Sample Type		OUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER	GROUND_WATER								
Sampled Date		27/01/2021	23/02/2021	23/03/2021	30/04/2021	04/06/2021	07/07/2021	11/08/2021		25/08/2021	07/10/2021	04/11/2021	26/11/2021	16/12/2021							
Sample Received Date		29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	09/07/2021	13/08/2021		26/08/2021	09/10/2021	06/11/2021	27/11/2021	18/12/2021							
Final Instruction Date		29/01/2021	25/02/2021	25/03/2021	01/05/2021	05/06/2021	13/07/2021	13/07/2021		26/08/2021	08/10/2021	08/10/2021	08/10/2021	08/10/2021							
Report Completed Date		05/02/2021	06/03/2021	06/04/2021	10/05/2021	14/06/2021	21/07/2021	20/08/2021		06/09/2021	18/10/2021	16/11/2021	07/12/2021	06/01/2022							
SDG		210129-40	210225-101	210325-86	210501-32	210605-41	210709-150	210813-46		210826-133	211009-28	211106-44	211127-80	211218-53							
Lab Sample Number		23630498	23794593	23968514	24193237	24398294	24603493	24798342		24876555	25122095	25288429	25417066	25559882							
Sample Temperature		7.2	7.8	6.8	6.2	17.4	18.2	18.2		11.8	11.2		11.2	11.2	11.2						
Sample Time																					
Analysis	Test	Method	Units	LOD																	
															UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT Values	
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	0.764	0.978	0.823	0.791	0.743	0.69	0.774	0.7	0.864	1.13	0.952	0.985			0.3		
	pH	TM256	pH Units	<1.00		7.63	7.57	7.73	7.49	7.94	7.61	7.58	7.9	7.49	7.74	7.6					
	Chloride	TM184	mg/l	<2	19.9	18.6	18.9	18.1	19	18.9	19	18.9	19	21.9	21.2	20.9	250		300		
Filtered (Dissolved) Metals	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07		
	Arsenic (diss.filt)	TM152	µg/l	<0.5	2.9	2.24	1.87	1.61	2.15	2.56	3.26	3.29	5.35	3.01	2.57	2.87	10	50			
	Boron (diss.filt)	TM152	µg/l	<10	69.6	61.4	61.3	53.5	36.3	57.3	69	60.5	72.8	65.9	75.5	61.4	1000				
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45		
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	50				
	Copper (diss.filt)	TM152	µg/l	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.382	<0.3	<0.3	<0.3	<0.3	2000	1			49.12
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	4.31	3.28	<0.2	<0.2	<0.2	0.59	<0.2	10	1.2	14		
	Nickel (diss.filt)	TM152	µg/l	<0.4	0.487	<0.4	<0.4	<0.4	<0.4	<0.4	0.732	<0.4	<0.4	<0.4	<0.4	0.603	20	4	34		30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	10				
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	1.09	<1	<1	1.58	<1	<1	<1	<1	1.22		20			
	Zinc (diss.filt)	TM152	µg/l	<1.0	3.9	1.05	6.9	<1	2.58	20.5*	9.26	<1	2.38	<1	1.95	2.15		10.9			79.03
Unfiltered (Total) Metals	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	3.24	2.54	2.13	2.5	3.46	3.2	3.28	6.13	3.34	2.92	3.68					
	Boron (tot.unfilt)	TM152	µg/l	<20	-	64.4	55.7	59.4	55.9	58.9	74.4	65	80.9	63.6	96.1	75.4					
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7			
	Copper (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1.03	2.31	<1	<1	1.1	2.1	<1	<1					
	Lead (tot.unfilt)	TM152	µg/l	<1	-	1.23	1.12	<1	1.87	5.04	1.39	<1	1.3	2.14	<1	<1					
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	2.01	1.37	<1	<1	<1	1.29	<1	<1					
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1					
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5					
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	7.52	6.59	6.97	11	21	7.75	<5	17.5	17.2	5.58	6.54					
	Hardness, Total as CaCO3 unfilter	TM152	mg/l	<0.35	-	284	257	256	247	234	249	251	262	255	274	275					
TPH Criteria Working Group (TPH CWG)																					
	GRO Surrogate % recovery**	TM245	%		122	109	119	99	113	98	102	94	106	102	107	75					
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50					
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1					
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	1	10	50		
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1	<1	74			
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1					
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1	<1					
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1					
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2					
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5					
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	14	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	15	<10				
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	<10				
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	&							

Total Aliphatics & Aromatics >C5< TM174		µg/l	<10	70	58	69	73	<10	38	<10	28	78	40	305	98					5000
Polyaromatic Hydrocarbons (PAHs)																				
Naphthalene (aq)	TM178	µg/l	<0.01	0.157	0.201	0.388	1.21	0.336	2.36	1.53	1.35	1.54	0.427	5.48	5.27		2	130		
Acenaphthene (aq)	TM178	µg/l	<0.005	5.7	6.35	6.71	6.65	5.64	5.87	4.48	4.81	4.83	5.09	8.29	7.34					
Acenaphthylene (aq)	TM178	µg/l	<0.005	0.116	0.0429	0.0432	0.0269	0.005	1.78	0.0656	0.0632	0.0618	0.064	0.0468	0.0502					
Fluoranthene (aq)	TM178	µg/l	<0.005	1.36	1.39	1.07	1.6	0.82	1.35	1.17	1.2	1.39	0.621	1.94	1.57		0.0063	0.12		
Anthracene (aq)	TM178	µg/l	<0.005	<0.005	0.221	0.221	0.337	0.0834	0.303	0.142	0.0342	0.234	0.0139	0.644	0.612		0.1	0.1		
Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	0.108	0.117	0.216	0.0333	0.376	0.124	0.0192	0.279	0.012	1.11	1.15					
Fluorene (aq)	TM178	µg/l	<0.005	0.251	0.504	0.398	0.726	0.258	<0.005	0.488	0.28	0.625	0.146	1.95	1.54					
Chrysene (aq)	TM178	µg/l	<0.005	0.0316	0.0313	0.0176	0.0279	0.005	0.0463	0.0327	0.0208	0.0269	0.0285	0.0397	0.0334					
Pyrene (aq)	TM178	µg/l	<0.005	0.937	0.717	0.544	0.826	0.467	0.688	0.607	0.772	0.708	0.479	0.89	0.794					
Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	0.0346	0.0213	0.0426	0.005	0.0415	0.0262	0.0217	0.0357	0.0287	0.046	0.0228					
Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0113	0.013	0.0113	0.00508	<0.005	<0.005	0.0104	<0.005	0.0052	0.1		0.017		
Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.00908	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.017		
Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0054	<0.002	<0.002	0.01	0.00017	0.27		
Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002					
Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.0082		
Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.0069	<0.005	<0.005	0.1				
PAH, Total Detected USEPA 16 (ε TM178		µg/l	<0.082	8.55	9.6	9.53	11.7	7.65	12.8	8.67	8.57	9.72	6.94	20.4	18.4					
EPH CWG (Speciated)																				
Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	14	<10					

	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<20						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	15	<10	<10	<10	<10	<10	<20						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	46	<10	<10	<10	<10	<10	<20						
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	<10	<10	<10	50	10	76	<10	22	<10	<10	<10	<20					5000	
Polyaromatic Hydrocarbons (PAHs)																						
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	0.0116	0.00603	0.0152	0.0179	0.021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Fluoranthene (aq)	TM178	µg/l	<0.005	0.0496	<0.005	<0.005	0.0099	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	0.0179	<0.005	<0.005	0.0102	<0.005	0.0119	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	0.00612	<0.005	0.00796	0.0115	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Chrysene (aq)	TM178	µg/l	<0.005	0.0443	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Pyrene (aq)	TM178	µg/l	<0.005	0.0597	0.0138	0.011	0.00923	<0.005	<0.005	<0.005	0.0101	0.0107	0.0113	<0.005	<0.01						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	0.00987	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.0988	<0.005	0.0107	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.0352	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.0509	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.004	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.0539	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	0.1		0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.0485	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	0.1					
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	0.469	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.164						
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	<10	<10	50	<10	<10	<10	22	22	<10	<10	<20						

	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	<10	<10	85	10	10	11	<10	<10	<10	<10	<10	<10	<10				5000	
Polyaromatic Hydrocart																						
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012			2	<u>130</u>		
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0837	0.066	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0479	0.0115					
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Fluoranthene (aq)	TM178	µg/l	<0.005	0.0372	<0.005	0.0154	0.0116	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0094	0.0933			0.0063	<u>0.12</u>		
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0132		0.1	<u>0.1</u>		
	Phenanthrene (aq)	TM178	µg/l	<0.005	0.0192	<0.005	0.0728	0.0388	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0166	0.037					
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.048	0.0474	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0241	0.0108					
	Chrysene (aq)	TM178	µg/l	<0.005	0.0326	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0066	<0.005	0.0906					
	Pyrene (aq)	TM178	µg/l	<0.005	0.0544	<0.005	0.0202	0.0143	0.005	<0.005	<0.005	0.0104	<0.005	<0.005	0.008	0.0135	0.0879					
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0189	<0.005	0.0623					
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.0627	<0.005	<0.005	0.0119	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0085	<0.005	0.14	0.1		<u>0.017</u>		
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.0205	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0437	0.1		<u>0.017</u>		
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.0298	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0767	0.01	0.00017	<u>0.27</u>		
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0212					
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.038	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0639	0.1		<u>0.0082</u>		
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.0245	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0762	0.1				
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	0.319	<0.082	0.24	0.19	0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	0.112	0.84					
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	<10	85	<10	10	<10	<10	<10	<10	<10	<10	<10	<10					

ALS

[illegible]

	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	-	<10	<10	<10	<10	<10	<10						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	26	<10	<10	<10	-	<10	<10	<10	<10	<10	<10						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	26	<10	<10	<10	-	<10	<10	<10	<10	<10	<10						
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	40	<10	<10	81	-	<10	<10	<10	<10	<10	<10					5000	
Polyaromatic Hydrocart																					
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	0.0159		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.00537	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	0.00542	<0.005	<0.005	<0.005	<0.005	<0.005	0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.032	-	<0.005	0.0166	<0.005	<0.005	<0.005	<0.005	<0.005					
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.00636	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Pyrene (aq)	TM178	µg/l	<0.005	0.0144	0.00923	<0.005	0.00907	-	<0.005	0.00614	0.0144	<0.005	0.0076	<0.005	0.0082					
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.0188	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.0103	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.0124	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.00017	0.27		
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	0.0117	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	0.0102	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1				
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	<0.082	<0.082	<0.082	<0.082	-	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082					
EPH CWG (Speciated)																					
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	14	<10	<10	81	-	<10	<10	<10	<10	<10	<10						

ALS

		Customer Sample ID	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1	SW1					
		Depth	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00					
SDG(s):	211217-91	AGS Id																			
Customer:	PJA Civil Engineering	Sample Type	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	ICE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER					
Client Reference /	Birmingham (11813)																				
Location:	Coed Darcy, Skewen, Neath	Sampled Date	27/01/2021	23/02/2021	23/03/2021	30/04/2021	03/06/2021	07/07/2021	11/08/2021	24/08/2021	06/10/2021	03/11/2021	29/11/2021	16/12/2021							
Order no:	108284	Sample Received Date	29/01/2021	25/02/2021	25/03/2021	01/05/2021	04/06/2021	09/07/2021	13/08/2021	25/08/2021	07/10/2021	05/11/2021	01/12/2021	17/12/2021							
		Final Instruction Date	29/01/2021	25/02/2021	25/03/2021	01/05/2021	04/06/2021	13/07/2021	13/07/2021	25/08/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021							
		Report Completed Date	05/02/2021	06/03/2021	06/04/2021	10/05/2021	13/06/2021	21/07/2021	20/08/2021	03/09/2021	14/10/2021	15/11/2021	16/12/2021	05/01/2022							
		SDG	210129-40	210225-101	210325-86	210501-32	210604-41	210709-150	210813-46	210825-41	211007-53	211105-119	211201-41	211217-91							
		Lab Sample Number	23630377	23794567	23968491	24193227	24390344	24603479	24798085	24865932	25107365	25286125	25434773	25551180							
		Sample Temperature	7.2	7.8	6.8	6.2	12.9	18.2	18.2	15.8	5.8	5.8	5.8	5.8							
		Sample Time																			
Analysis	Test	Method	Units	LOD												UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	MBAT PNEC	Permit Emission Limit
Carbon	Carbon, Organic (diss.filt)	TM090	mg/l	<3	-	-	-	-	-	-	-	-	-	-	-	-					
Inorganics	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	2.91	3.22	4.01	1.51	2.33	0.295	0.937	0.263	2.7	3.39	3.37	3.59			0.3		
	pH	TM256	pH Units	<1.00	7.27	7.21	7.29	7.77	7.18	7.67	7.92	7.15	7.04	7.24	7.25	7.32					
	Chloride	TM184	mg/l	<2	23.4	23.8	27	24.5	26.6	13.4	17.4	19.5	23	25.7	28	23.5	250		300		
Filtered (Dissolved) Metals	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.054	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07		
	Arsenic (diss.filt)	TM152	µg/l	<0.5	0.543	0.66	1.28	<0.5	0.5	1.18	1.48	1.43	1	0.88	0.702	0.829	10	50			
	Boron (diss.filt)	TM152	µg/l	<10	179	180	178	170	189	105	117	151	119	167	137	141	1000				
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45		
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	1.44	<1	<1	50				
	Copper (diss.filt)	TM152	µg/l	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	1.27	<0.3	<0.3	<0.3	<0.3	2000	1		49.12	
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	3.06	<0.2	<0.2	<0.2	<0.2	10	1.2	14		
	Nickel (diss.filt)	TM152	µg/l	<0.4	0.646	<0.4	0.405	0.647	0.434	<0.4	0.564	0.897	0.669	1.87	<0.4	0.459	20	4	34	30.4	
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	10				
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	1.02	<1	<1	<1	<1		20			
	Zinc (diss.filt)	TM152	µg/l	<1.0	15.2	5.32	11.6	12.8	2.09	15.2	13.4	17.6	5.19	1.66	3.99	14.3		10.9		79.03	
	Calcium (Dis.Filt)	TM152	mg/l	<0.2	-	-	-	-	-	-	-	-	-	-	-	-					
	Hardness, Total as CaCO3	TM152	mg/l	<0.65	-	-	-	-	-	-	-	-	-	-	-	-					
Unfiltered (Total) Metals	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.024	<0.02	0.0371	<0.02	<0.02	<0.02	<0.02	<0.02					
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	<2	<2	3.48	4.9	<2	4.24	4.01	<2	<2	<2	2.07					
	Boron (tot.unfilt)	TM152	µg/l	<20	-	199	163	155	181	116	121	152	145	158	147	151					
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	1.63	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7			
	Copper (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	1.63	6.33	1.39	5.96	3.43	<1	<1	<1	2.61					
	Lead (tot.unfilt)	TM152	µg/l	<1	-	<1	1.54	5.75	32.1	2.62	13.6	9.93	3.66	1.31	2.29	9.11					
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	<1	1.68	1.72	2.15	<1	2	3.09	<1	<1	1.5	1.43					
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1					
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	<5	5	<5	6.16	<5	<5	<5	<5	<5					
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	10.3	37.4	226	1460	142	285	376	29	134	83	324					
	Calcium (Tot. Unfilt.)	TM152	mg/l	<0.057	-	-	-	-	-	-	-	-	-	-	-	-					
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	672	872	646	651	276	404	509	438	669	642	704					
TPH Criteria Working Group (TPH CWG)	GRO Surrogate % recovery**	TM245	%		118	94	106	96	96	93	92	114	108	83	85	99					
	GRO >C5-C12	TM245	µg/l	<50	50	118	88	73	197	79	<50	70	125	88	110	139					
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1					
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	1	10	50		
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	4	<4	<1	<1	<1	<1	<1	<1		74			
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	5	<5	<1	<1	<1	<1	<1	<1					
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	8	<8	<1	<1	<1	<1	<1	<1					
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1					
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	11	<11	<2	<2	<2	<2	<2	<2					
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	28	<28	<5	<5	<5	<5	<5	<5					
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	17	<10	<10	21	13	<10	<10	16	10	<10	14					
	Aliphatics >C8-C10	TM245	µg/l	<10	10	26	15	15	45	18	13	13	30	18	23	31					
	Aliphatics >C10-C12	TM245	µg/l	<10	15	33	32	25	58	20	10	22	32	26	35	42					
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	10	<20	<10	176	&								

	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	17	10	10	30	12	<10	<10	20	12	15	21						
	Aromatics >EC10-EC12	TM245	µg/l	<10	10	22	21	17	39	13	<10	15	21	17	24	28						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	44	55	57	<50	59	<20	<10	111	<10	65	86	<10						
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	10	13	<50	11	<20	<10	293	<10	<10	40	<10						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<50	78	<20	<10	1350	<10	<10	111	<10						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	44	65	70	<50	148	<20	<10	1760	<10	65	237	<10						
	Total Aliphatics & Aromatics >C5-35 (aq)	TM174	µg/l	<10	94	183	158	<50	622	78	44	5600	124	667	517	139						5000
Polyaromatic Hydrocarbons (PAHs)																						
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	0.0751	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0356	0.053		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	0.0498	<0.005	0.0865	0.112	<0.005	<0.005	<0.005	<0.005	0.022	0.0752	0.0967						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.0187	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	0.0158						
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Fluorene (aq)	TM178	µg/l	<0.005	0.0375	<0.005	<0.005	0.0943	0.13	<0.005	<0.005	<0.005	<0.005	0.0127	0.0627	0.0834						
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Pyrene (aq)	TM178	µg/l	<0.005	0.00998	<0.005	0.0107	<0.025	0.005	<0.005	0.0113	0.0153	<0.005	0.0078	<0.005	<0.005						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	<0.002	<0.002	<0.01	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1		0.0082			
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.025	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1					
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	<0.082	<0.082	<0.082	<0.41	0.261	<0.082	<0.082	<0.082	<0.082	<0.082	0.185	0.249						
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	<10	<10	<50	277	<20	<10	3590	3590	448	170	<10						

ALS

				January	February	March	April	May	June	July	August	September	October	November	December							
		Customer Sample ID	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2	SW2						
		Depth	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00						
SDG(s):		211217-91	AGS Id																			
Customer:		PJA Civil Engineering Birmingham (116)	Sample Type																			
Client Reference / Location:		Coed Darcy, Skewen, Neath	Sampled Date		27/01/2021	23/02/2021	23/03/2021	30/04/2021	03/06/2021	07/07/2021	11/08/2021	24/08/2021	06/10/2021	03/11/2021	29/11/2021	16/12/2021						
Order no:		108284	Sample Received Date		29/01/2021	25/02/2021	25/03/2021	01/05/2021	04/06/2021	09/07/2021	13/08/2021	25/08/2021	07/10/2021	05/11/2021	01/12/2021	17/12/2021						
		Final Instruction Date		29/01/2021	25/02/2021	25/03/2021	01/05/2021	04/06/2021	13/07/2021	13/07/2021	25/08/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021							
		Report Completed Date		05/02/2021	06/03/2021	06/04/2021	10/05/2021	13/06/2021	21/07/2021	23/08/2021	03/09/2021	14/10/2021	17/11/2021	31/12/2021	15/01/2022							
		SDG		210129-40	210225-101	210325-86	210501-32	210604-41	210709-150	210813-46	210825-41	211007-53	211105-119	211201-41	211217-91							
		Lab Sample Number		23630367	23794720	23968676	24193361	24390376	24603661	24798264	24865945	25107376	25286157	25434786	25551198							
		Sample Temperature		7.2	7.8	6.8	6.2	12.9	18.2	18.2	15.8	5.8	5.8	5.8	5.8							
		Sample Time																				
Analysis	Test	Method	Units	LOD												UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	Permit Emission Limit	MBAT PNEC	
Carbon	Carbon, Organic (diss.filt)	TM090	mg/l	<3	23.7	24.8	22.9	25.2	31.2	24.6	23.7	25.1	12.6	16.8	27.7	19.3						
Inorganics																						
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	0.566	0.417	0.263	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.38	<0.2				0.3		
	pH	TM256	pH Units	<1.00	7.68	7.71	7.69	7.64	7.6	7.53	8.04	7.11	7.6	7.72	7.44	7.88						
	Chloride	TM184	mg/l	<2	17.1	15.7	19.1	18.9	21.8	14.6	14.1	15.4	15.6	18.2	20.4	20.7	250		300			
Filtered (Dissolved) Metals																						
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	0.0141	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07			
	Arsenic (diss.filt)	TM152	µg/l	<0.5	<0.5	<0.5	0.672	<0.5	0.5	0.575	<0.5	0.785	<0.5	<0.5	<0.5	<0.5	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	60.6	57.9	73.5	46	74.5	134	101	119	40.9	41.2	40.1	45.2	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	<0.3	<0.3	<0.3	<0.3	0.3	0.405	<0.3	0.455	<0.3	<0.3	<0.3	<0.3	2000	1				49.12
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	<0.4	<0.4	<0.4	<0.4	0.423	<0.4	0.476	0.54	<0.4	0.966	<0.4	<0.4	20	4	34			30.4
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	4.2	3.98	23	1.03	7.75	11.2	2.93	10.9	2.46	3.63	2.82	1.38		10.9				79.03
	Calcium (Dis.Filt)	TM152	mg/l	<0.2	66.65	67.7	91.5	66.8	87.1	71.6	60.1	82.2	35.8	57	53	54.4						
	Hardness, Total as CaCO3	TM152	mg/l	<0.65	-	-	-	-	-	-	-	-	116	-	-	-						
Unfiltered (Total) Metals																						
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	<2	<2					
	Boron (tot.unfilt)	TM152	µg/l	<20	-	73.6	73.3	41.6	81.8	164	108	123	52.3	42.4	41	50.5						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5						
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	27.9	<1	<1	<1	<1	<1	<1						
	Lead (tot.unfilt)	TM152	µg/l	<1	-	<1	1.06	1.03	1	1.73	<1	<1	<1	<1	1.09	<1						
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	1.45	<1	<1	<1	<1						
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5						
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	<5	95.3	21	12	36.4	<5	6.22	<5	6.53	16	17.4						
	Calcium (Tot. Unfilt.)	TM152	mg/l	<0.057	-	65.7	94.5	70.1	85.3	74.8	62.3	85	39	60.2	59.1	59						
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	217	302	225	274	240	210	277	127	196	198	195						
TPH Criteria Working Group (TPH CWG)																						
	GRO Surrogate % recovery**	TM245	%		118	93	102	95	101	94	107	102	100	92	95	102						
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1	1	10	50			
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	<1					
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	<4	<4	<1	<1	<1	<1	<1	<1	<1	74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1					
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	<8	<8	<1	<1	<1	<1	<1	<1	<1					
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	<3	<3	<1	<1	<1	<1	<1	<1	<1					
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	<11	<11	<2	<2	<2	<2	<2	<2	<2					
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	<28	<28	<5	<5	<5	<5	<5	<5	<5					
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	<10	27	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	<10	27	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					

	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	<10	<10	31	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10					
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	<10	<10	31	<10	15	<10	<10	<10	<10	<10	<10	<10	<10	<10				
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	<10	27	31	<10	15	<10	<10	<10	<10	<10	<10	<10	<10	<10			5000	
Polyaromatic Hydrocarbons (PAHs)	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		2	130		
	Acenaphthene (aq)	TM178	µg/l	<0.005	0.0201	0.0201	<0.005	0.0202	0.005	0.00535	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0063	0.12		
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.1		
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	0.0355	<0.005	0.00895	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0106	<0.005	<0.005				
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.017		
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.017		
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.00017	0.27	
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.0082		
	Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1			
	PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082				
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	27	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10				

ALS

		January	February	March	April	May	June	July	August	September	October	November	December	
	Customer Sample ID	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3	SW3
	Depth	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00
SDG(s):	211217-91													
Customer:	PJA Civil Engineering Birmingham (11													
Location:	Coed Darcy, Skewen, Neath													
Order no:	108284													
	AGS Id													
	Sample Type	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	ICE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	IFACE_WATER	
	Sampled Date	27/01/2021	23/02/2021	23/03/2021	30/04/2021	03/06/2021	07/07/2021	11/08/2021	24/08/2021	06/10/2021	03/11/2021	29/11/2021	16/12/2021	
	Sample Received Date	29/01/2021	25/02/2021	25/03/2021	01/05/2021	04/06/2021	09/07/2021	13/08/2021	25/08/2021	07/10/2021	05/11/2021	01/12/2021	17/12/2021	
	Final Instruction Date	29/01/2021	25/02/2021	25/03/2021	01/05/2021	04/06/2021	13/07/2021	13/07/2021	25/08/2021	07/10/2021	07/10/2021	07/10/2021	07/10/2021	
	Report Completed Date	05/02/2021	06/03/2021	06/04/2021	10/05/2021	13/06/2021	21/07/2021	20/08/2021	03/09/2021	14/10/2021	16/11/2021	15/12/2021	05/01/2022	
	SDG	210129-40	210225-101	210325-86	210501-32	210604-41	210709-150	210813-46	210825-41	211007-53	211105-119	211201-41	211217-91	
	Lab Sample Number	23630357	23794731	23968703	24193374	24390388	24603692	24798274	24865963	25107390	25286172	25434797	25551220	
	Sample Temperature	7.2	7.8	6.8	6.2	12.9	18.2	18.2	15.8	5.8	5.8	5.8	5.8	
	Sample Time													

Analysis	Test	Method	Units	LOD													UK DWS	EQS Freshwater (AA)	EQS Freshwater (MAC)	EQS 90 percentile	MBAT PNEC	Permit emission limit
Carbon	Carbon, Organic (diss.filt)	TM090	mg/l	<3	-	-	-	-	-	-	-	-	-	-	-	-						
Inorganics																						
	Ammoniacal Nitrogen as N	TM099	mg/l	<0.2	<0.2	<0.2	<0.2	0.663	0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2				0.3		
	pH	TM256	pH Units	<1.00	-	7.78	7.77	7.54	7.59	7.57	7.6	7.37	7.55	7.57	7.6	7.74						
	Chloride	TM184	mg/l	<2	13.6	13.2	16.8	18.3	19.6	17.3	18	18.4	14	16.6	22.5	19.6	250		300			
Filtered (Dissolved) Metals																						
	Mercury (diss.filt)	TM183	µg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	1		0.07			
	Arsenic (diss.filt)	TM152	µg/l	<0.5	0.645	0.712	0.692	1.44	0.736	1.4	1.15	1.41	0.836	0.911	0.58	0.587	10	50				
	Boron (diss.filt)	TM152	µg/l	<10	28.9	27.7	34.7	57.5	39.2	42.4	58.3	73.2	32.7	41	40.5	34.9	1000					
	Cadmium (diss.filt)	TM152	µg/l	<0.08	<0.08	<0.08	<0.08	<0.08	0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	5	0.08	0.45			
	Chromium (diss.filt)	TM152	µg/l	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	50					
	Copper (diss.filt)	TM152	µg/l	<0.3	2.9	2.19	1.88	<0.3	1.52	1.05	<0.3	0.314	3.41	2.44	2	2.89	2000	1			49.12	
	Lead (diss.filt)	TM152	µg/l	<0.2	<0.2	<0.2	<0.2	1.55	0.2	0.514	<0.2	<0.2	<0.2	<0.2	<0.2	0.312	10	1.2	14			
	Nickel (diss.filt)	TM152	µg/l	<0.4	0.844	0.773	0.771	0.861	0.847	<0.4	1.12	0.816	1.04	<0.4	0.843	0.919	20	4	34		30.4	
	Selenium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	10					
	Vanadium (diss.filt)	TM152	µg/l	<1.0	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1		20				
	Zinc (diss.filt)	TM152	µg/l	<1.0	12.5	9.87	14.7	13.9	2.48	8.23	3.44	4.35	5.73	4.43	4.18	4.75		10.9			79.03	
	Calcium (Dis.Filt)	TM152	mg/l	<0.2	-	-	-	-	-	-	-	-	-	-	-	-						
	Hardness, Total as CaCO3	TM152	mg/l	<0.65	-	-	-	-	-	-	-	-	-	-	-	-						
Unfiltered (Total) Metals																						
	Mercury (tot.unfilt)	TM183	µg/l	<0.02	-	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02						
	Arsenic (tot.unfilt)	TM152	µg/l	<2	-	<2	<2	2.3	2.4	<2	<2	<2	<2	<2	<2	<2						
	Boron (tot.unfilt)	TM152	µg/l	<20	-	42.9	34	63.7	50.7	53.5	60.5	64.2	46.6	42.5	39.6	28.4						
	Cadmium (tot.unfilt)	TM152	µg/l	<0.5	-	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5						
	Chromium (tot.unfilt)	TM152	µg/l	<3	-	<3	<3	<3	3	<3	<3	<3	<3	<3	<3	<3		4.7				
	Copper (tot.unfilt)	TM152	µg/l	<1	-	3.96	2.5	1.27	8.92	1.52	<1	<1	5.29	3.95	61.6	4.23						
	Lead (tot.unfilt)	TM152	µg/l	<1	-	2.92	1.4	<1	13	1.04	<1	<1	2.76	<1	3.2	1.25						
	Nickel (tot.unfilt)	TM152	µg/l	<1	-	1.24	1.23	1.07	1.85	1.03	<1	<1	1.41	1.15	1.58	1.1						
	Selenium (tot.unfilt)	TM152	µg/l	<1	-	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1						
	Vanadium (tot.unfilt)	TM152	µg/l	<5	-	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5						
	Zinc (tot.unfilt)	TM152	µg/l	<5	-	18.5	46.8	18.2	43.8	15.2	11	13.8	14.8	12.7	48.7	10.4						
	Calcium (Tot. Unfilt.)	TM152	mg/l	<0.057	-	-	-	-	-	-	-	-	-	-	-	-						
	Hardness, Total as CaCO3 unfiltered	TM152	mg/l	<0.35	-	127	167	237	181	190	203	225	152	151	197	134						
TPH Criteria Working Group (TPH CWG)																						
	GRO Surrogate % recovery**	TM245	%		122	110	121	100	103	92	109	113	105	95	97	99						
	GRO >C5-C12	TM245	µg/l	<50	<50	<50	<50	<50	50	<50	<50	<50	<50	<50	<50	<50						
	Methyl tertiary butyl ether (MTBE)	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1						
	Benzene	TM245	µg/l	<7	<7	<7	<7	<7	<7	<7	<1	<1	<1	<1	<1	<1	1	10	50			
	Toluene	TM245	µg/l	<4	<4	<4	<4	<4	4	<4	<1	<1	<1	<1	<1	<1		74				
	Ethylbenzene	TM245	µg/l	<5	<5	<5	<5	<5	5	<5	<1	<1	<1	<1	<1	<1						
	m,p-Xylene	TM245	µg/l	<8	<8	<8	<8	<8	8	<8	<1	<1	<1	<1	<1	<1						
	o-Xylene	TM245	µg/l	<3	<3	<3	<3	<3	3	<3	<1	<1	<1	<1	<1	<1						
	Sum of detected Xylenes	TM245	µg/l	<11	<11	<11	<11	<11	11	<11	<2	<2	<2	<2	<2	<2						
	Sum of detected BTEX	TM245	µg/l	<28	<28	<28	<28	<28	28	<28	<5	<5	<5	<5	<5	<5						
	Aliphatics >C5-C6	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C6-C8	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C8-C10	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C10-C12	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C12-C16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aliphatics >C16-C21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	24	<10					
	Aliphatics >C21-C35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	39	<10					
	Total Aliphatics >C12-C35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	63	<10					
	Aromatics >EC5-EC7	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC7-EC8	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC8-EC10	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC10-EC12	TM245	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC12-EC16 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						

	Aromatics >EC16-EC21 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Aromatics >EC21-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Total Aromatics >EC12-EC35 (aq)	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10						
	Total Aliphatics & Aromatics >C5-35 (a	TM174	µg/l	<10	<10	<10	<10	<10	10	<10	<10	15	<10	<10	63	<10						5000
Polyaromatic Hydrocarbons (PAHs)																						
	Naphthalene (aq)	TM178	µg/l	<0.01	<0.01	<0.01	<0.01	0.088	0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01		2	130			
	Acenaphthene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.0103	0.895	0.0116	<0.005	0.17	<0.05	<0.005	<0.005	<0.005	<0.005						
	Acenaphthylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0358	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005						
	Fluoranthene (aq)	TM178	µg/l	<0.005	<0.005	0.00956	<0.005	0.0469	<0.005	<0.005	0.0195	<0.05	<0.005	<0.005	<0.005	<0.005		0.0063	0.12			
	Anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0493	<0.005	<0.005	<0.005	<0.05	<0.005	0.0059	<0.005	<0.005		0.1	0.1			
	Phenanthrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.00567	0.0977	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005						
	Fluorene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	0.00737	0.702	0.0136	0.0759	0.131	<0.05	<0.005	<0.005	<0.005	<0.005						
	Chrysene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0275	<0.005	<0.005	<0.005	<0.05	<0.005	0.0095	<0.005	<0.005						
	Pyrene (aq)	TM178	µg/l	<0.005	0.0181	0.0144	0.00645	0.0464	<0.005	<0.005	0.0196	0.253	0.0145	0.0088	0.0132	<0.005						
	Benzo(a)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	0.0348	<0.005	<0.005	<0.005	<0.05	<0.005	0.0202	<0.005	<0.005						
	Benzo(b)fluoranthene (aq)	TM178	µg/l	<0.005	0.0205	0.0237	<0.005	0.0103	<0.005	<0.005	<0.005	<0.05	0.0223	0.0096	<0.005	0.0092	0.1		0.017			
	Benzo(k)fluoranthene (aq)	TM178	µg/l	<0.005	0.00852	0.00915	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.00991	0.0055	<0.005	<0.005	0.1		0.017			
	Benzo(a)pyrene (aq)	TM178	µg/l	<0.002	0.00794	0.00854	<0.002	<0.002	<0.002	<0.002	<0.002	<0.02	0.0106	0.0064	<0.002	<0.002	0.01	0.00017	0.27			
	Dibenzo(a,h)anthracene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005						
	Benzo(g,h,i)perylene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.0155	<0.005	<0.005	<0.005	0.1		0.0082			
Indeno(1,2,3-cd)pyrene (aq)	TM178	µg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.005	0.1						
PAH, Total Detected USEPA 16 (aq)	TM178	µg/l	<0.082	<0.082	<0.082	<0.082	2.03	<0.082	<0.082	0.34	<0.82	<0.082	<0.082	<0.082	<0.082							
EPH CWG (Speciated)																						
	Aliphatics >C16-C35 Aqueous	TM174	µg/l	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	63	<10						



Appendix F Landfill Gas Monitoring Data

January Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	25/01/2021	0.3	0.3	3.3	3.3	19	19	1016	0.56
MSMW155D	25/01/2021	0.3	0.3	0.7	0.5	21.2	21.2	1016	0.09
MSMW155S	25/01/2021	3.2	3.2	2	2	17.3	17.3	1016	-0.02
CBH49	25/01/2021	79.9	79.9	4	4	6.9	6.9	1015	0.36
CARW009	25/01/2021	1.4	1.4	2.6	2.6	19.9	19.9	1016	0.07
CARW008	25/01/2021	0.4	0.4	1.6	1.6	19.7	19.7	1015	0.09
CBH51	25/01/2021	0.5	0.4	5.3	2.3	19.1	19.1	1015	-0.1
CBH52	25/01/2021	0.9	0.4	0.3	0.2	20.5	20.5	1015	0.05
CBH20	25/01/2021	32.4	32.2	5.7	5.6	0.1	0.1	1015	0.1
MSMW231	25/01/2021	9.2	8.7	3.4	3.1	16.4	16.4	1015	-0.27
CBH57	25/01/2021	1.5	0.4	1.5	1.4	12.6	12.6	1015	0.05
CBH32	25/01/2021	0.3	0.3	0.2	0.2	20.6	20.6	1015	4.99
CBH23	25/01/2021	0.3	0.3	0.2	0.1	21.1	21.1	1015	0.02

February Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	26/02/2021	0.1	0.1	13.5	13.5	5.1	5.1	1020	0.03
MSMW155D	26/02/2021	0.1	0.1	0.5	0.3	20.9	20.9	1020	0.03
MSMW155S	26/02/2021	0.1	0.1	9.6	0.7	20.4	20.4	1020	-0.02
CBH49	26/02/2021	0.1	0.1	0.1	0.1	21.0	21.0	1020	-0.03
CARW009	26/02/2021	0.4	0.3	1.1	0.9	20.6	20.6	1020	0.03
CARW008	26/02/2021	1	0.1	0.8	0.6	20.7	20.7	1020	-0.03
CBH51	26/02/2021	6.9	6.2	4.5	4.5	13.4	13.4	1020	-0.05
CBH52	26/02/2021	0.2	0.1	0.2	0.1	21.0	21.0	1020	0.01
MSMW231	26/02/2021	7.8	6.6	4.6	3.7	16.2	16.2	1020	0.01
CBH20	26/02/2021	67.8	67.7	5.6	5.6	0.3	0.3	1020	-0.02
CBH57	26/02/2021	0.1	0.1	0.4	0.1	21.0	21.0	1020	0.03
CBH32	26/02/2021	0.2	0.2	0.8	0.8	20.1	20.1	1020	0.03
CBH23	26/02/2021	0.1	0.1	1	0.5	20.3	20.3	1020	0.03

March Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	23/03/2021								
MSMW155D	23/03/2021	0.3	0.2	0.5	0.5	20.8	20.8	1031	0.07
MSMW155S	23/03/2021	0.5	0.5	0.8	0.8	20.1	20.1	1031	-0.02
CBH49	23/03/2021	1.1	0.4	0.2	0.1	20.8	20.8	1030	0.02
CARW009	23/03/2021	0.5	0.4	1	0.9	20.7	20.7	1030	0.03
CARW008	23/03/2021	0.2	0.2	0.7	0.7	19.9	19.9	1030	0.09
CBH51	23/03/2021	1.2	1.2	1	1	18.9	18.9	1030	-0.05
CBH52	23/03/2021	0.3	0.3	0.3	0.2	20.3	20.3	1030	0
CBH20	23/03/2021	8.8	8.3	3.2	3	16.2	16.2	1029	0.03
MSMW231	23/03/2021	49.4	49.4	3.9	3.9	0.7	0.7	1030	0.02
CBH57	23/03/2021	5.9	5.8	5.1	5	4	4	1030	-0.27
CBH32	23/03/2021	0.4	0.3	0.4	0.3	20.4	20.4	1030	0
CBH23	23/03/2021	1	0.3	1.9	1.3	18.2	18.2	1030	0.14

April Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	24/04/2021	0	0	5.5	5.5	7.2	7.2	1027	-0.02
MSMW155D	24/04/2021	0.2	0	1.5	1.4	16.5	16.5	1027	0.02
MSMW155S	24/04/2021	0.7	0.7	1.5	1.4	16.5	16.5	1027	0.17
CBH49	24/04/2021	0.4	0.4	0.2	0.2	20.4	20.4	1027	-0.15
CARW009	24/04/2021	0.2	0.2	0.8	0.8	20.5	20.5	1027	0.02
CARW008	24/04/2021	0	0	0.8	0.6	20.7	20.7	1027	0.21
CBH51	24/04/2021	1.5	0.9	0.8	9.6	19.8	19.8	1026	-0.12
CBH52	24/04/2021	2	2	1.6	1.6	17.8	17.8	1026	
MSMW231	24/04/2021	9.2	8.7	4.2	3.9	14.5	14.5	1026	0.05
CBH20	24/04/2021	40.2	40.1	6.5	6.4	0.7	0.7	1026	-0.07
CBH57	24/04/2021	0.5	0.5	0.4	0.3	19.5	19.5	1026	0.05
CBH32	24/04/2021	0.1	0	0.1	0.1	20.1	20.1	1026	-0.12
CBH23	24/04/2021	0.3	0	0.9	0.7	19.2	19.2	1026	-2.41

May Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	27/05/2021	0	0	5.2	5.2	7.8	7.8	1033	-0.1
MSMW155D	27/05/2021	0	0	1.7	1.7	19.8	19.8	1033	-0.09
MSMW155S	27/05/2021	0.1	0.1	0	0	21.5	21.5	1033	-0.05
CBH49	27/05/2021	0	0	0.1	0.1	19.6	19.6	1031	-0.09
CARW009	27/05/2021	0.1	0.1	0.6	0.6	21.1	21.1	1035	-0.09
CARW008	27/05/2021	0	0	1	1	20.2	20.2	1035	-0.09
CBH51	27/05/2021	0	0	0.1	0.1	19.9	19.9	1031	-0.1
CBH52	27/05/2021	0	0	0.9	0.9	17.9	17.9	1031	-0.05
MSMW231	27/05/2021	2.7	2.7	1.7	1.7	17.4	17.4	1030	0.1
CBH20	27/05/2021	72.8	72.8	3.4	3.4	0.2	0.2	1029	-0.03
CBH57	27/05/2021	4.4	4.4	2.3	2.3	6.9	6.9	1029	-0.17
CBH32	27/05/2021	0.1	0.1	0.2	0.2	20.4	20.4	1030	-0.07
CBH23	27/05/2021	0	0	0.4	0.4	19.1	19.1	1030	0.02

June Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	23/06/2021	0.1	0	8.7	8.7	7.3	7.3	1024	0.03
MSMW155D	23/06/2021	0.1	0	0.1	0.1	21.9	21.9	1024	0.05
MSMW155S	23/06/2021	0.2	0.1	1	1	19.9	19.9	1024	0.09
CARW009	23/06/2021	0.3	0.3	0.8	0.7	21.3	21.3	1024	0.03
CARW008	23/06/2021	0.1	0	0.6	0.6	21.1	21.1	1024	0.07
CBH51	23/06/2021	2.4	2.4	1.3	1.3	18.5	18.5	1024	0.07
CBH52	23/06/2021	0.8	0.5	2.5	1.7	17.6	17.6	1024	0.03
MSMW231	23/06/2021	7.3	7.1	3.8	3.6	14.6	14.6	1024	0.05
CBH20	23/06/2021	28.2	28.1	7.7	7.6	0.2	0.2	1024	0.03
CBH57	23/06/2021	0.9	0.9	0.9	0.9	18.7	18.7	1024	0.02
CBH32	23/06/2021	1.3	1.3	2.9	2.9	16.3	16.3	1024	0.03
CBH23	23/06/2021	0.3	0.1	1.5	0.5	19.7	19.7	1024	-0.03

July Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	21/07/2021	0.2	0.2	13.4	13.3	2.7	2.7	1004	0.07
MSMW155D	21/07/2021	0.2	0.2	0.2	0.1	20.9	20.9	1004	-1.4
MSMW155S	21/07/2021	0.4	0.3	0.6	0.3	20.6	20.6	1004	-7.3
CBH49	21/07/2021								
CARW009	21/07/2021	0.2	0.2	1.3	1.2	19.1	19.1	1016	0
CARW008	21/07/2021	3	2.4	3	2.4	19.4	19.4	1016	-10.5
CBH51	21/07/2021	0.4	0.2	0.1	0.1	21	21	1003	0
CBH52	21/07/2021	1	0.8	0.8	0.7	17.5	17.5	1003	0
MSMW231	21/07/2021	11.7	11.7	3.9	3.9	15.1	15.1	1003	0.34
CBH20	21/07/2021	84	83.9	5.5	5.5	0.2	0.2	1002	-0.03
CBH57	21/07/2021	7.8	7.8	5.2	5.2	6.1	6.1	1003	0.02
CBH23	21/07/2021	1.1	0.2	0.3	0.2	20.2	20.2	1003	0.03

August Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	17/08/2021	0.1	0.1	13.5	13.5	5.1	5.1	1020	0.03
MSMW155D	17/08/2021	0.1	0.1	0.5	0.3	20.9	20.9	1020	0.03
MSMW155S	17/08/2021	0.1	0.1	9.6	0.7	20.4	20.4	1020	-0.02
CBH49	17/08/2021	0.1	0.1	0.1	0.1	21.0	21.0	1020	-0.03
CARW009	17/08/2021	0.4	0.3	1.1	0.9	20.6	20.6	1020	0.03
CARW008	17/08/2021	1	0.1	0.8	0.6	20.7	20.7	1020	-0.03
CBH51	17/08/2021	6.9	6.2	4.5	4.5	13.4	13.4	1020	-0.05
CBH52	17/08/2021	0.2	0.1	0.2	0.1	21.0	21.0	1020	0.01
MSMW231	17/08/2021	7.8	6.6	4.6	3.7	16.2	16.2	1020	0.01
CBH20	17/08/2021	67.8	67.7	5.6	5.6	0.3	0.3	1020	-0.02
CBH57	17/08/2021	0.1	0.1	0.4	0.1	21.0	21.0	1020	0.03
CBH32	17/08/2021	0.2	0.2	0.8	0.8	20.1	20.1	1020	0.03
CBH23	17/08/2021	0.1	0.1	1	0.5	20.3	20.3	1020	0.03

September Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	23/09/2021	0.1	0.1	2.7	2.7	17.3	17.3	1023	0.53
MSMW155D	23/09/2021	0.1	0.1	0.6	0.5	20.7	20.7	1023	0.91
MSMW155S	23/09/2021	0.1	0.1	0.2	0.2	21.1	21.1	1023	0.63
CBH49	23/09/2021	5.8	5.4	4.4	4	15.2	15.2	1023	0.56
CARW009	23/09/2021	0.1	0.1	0.6	0.6	20.7	20.7	1023	0.7
CARW008	23/09/2021	0.4	0.4	0.9	0.9	20.9	20.9	1023	0.83
CBH51	23/09/2021	0.9	0.7	0.7	0.5	20.8	20.8	1023	0.42
CBH52	23/09/2021	4.7	4.5	8.4	7.7	5.9	5.9	1023	0.15
MSMW231	23/09/2021	16.5	16.2	2.2	2.1	17.1	17.1	1023	0.31
CBH20	23/09/2021	41.2	38.7	9.5	9.2	0.5	0.5	1023	0
CBH57	23/09/2021	7.8	6.5	5.2	4.4	7.9	7.9	1023	0
CBH32	23/09/2021	5.8	5.8	13.2	13.2	1.2	1.2	1023	0.83
CBH23	23/09/2021	4.1	4	0.5	0.4	20.5	20.5	1023	0

October Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	25/10/2021	0.1	0.1	5.5	1.7	18.4	18.4	1008	0.03
MSMW155D	25/10/2021	0.1	0.1	0.5	0.3	20.9	20.9	1008	0.02
MSMW155S	25/10/2021	0.1	0.1	1.2	1.1	20.4	20.4	1008	-0.3
CBH49	25/10/2021	10.1	10	5.1	4.8	15.2	15.2	1008	0.02
CARW009	25/10/2021	0.4	0.2	0.8	0.3	20.8	20.8	1008	0.03
CARW008	25/10/2021	0.1	0.1	1.7	1.4	20.6	20.6	1008	0.02
CBH51	25/10/2021	0.2	0.1	0.2	0.2	20.2	20.2	1008	0.05
CBH52	25/10/2021	4.4	3.9	7.8	7.2	8.4	8.4	1008	0.02
MSMW231	25/10/2021	15.3	14.5	2.3	2.3	18.8	18.8	1008	0
CBH20	25/10/2021	43.5	39.7	10.1	9.5	0.8	0.8	1008	0.09
CBH57	25/10/2021	3.2	3	1.6	1.5	12.6	12.6	1008	0.03
CBH32	25/10/2021	5.3	4.8	12.5	12	2.2	2.2	1008	0
CBH23	25/10/2021	4.1	4	0.5	0.4	20.5	20.5	1008	-0.03

November Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	24/11/2021	0.6	0	5	4.9	17.6	17.6	1020	0.48
MSMW155D	24/11/2021	0	0	1	0.3	20.6	20.6	1020	0.09
MSMW155S	24/11/2021	0	0	0.8	0.8	20.8	20.8	1020	0.93
CBH49	24/11/2021	1.3	1.1	0.5	0.3	20.7	20.7	1020	0.67
CARW009	24/11/2021	0	0	0.2	0.2	20.9	20.9	1019	0.49
CARW008	24/11/2021	0.2	0.1	1.9	1.8	20.7	20.7	1019	0.92
CBH51	24/11/2021	3.7	2.6	2.9	2.9	16.4	16.4	1020	0.05
CBH52	24/11/2021	9.2	8.6	2.1	2	17.6	17.6	1020	0.32
MSMW231	24/11/2021	6.8	6.3	21.5	1.5	20.3	20.3	1020	0.15
CBH20	24/11/2021	28.7	28.7	8.5	8.5	0.1	0.1	1020	0.05
CBH57	24/11/2021	10.6	10.6	8.1	8.1	0.1	0.1	1020	0.32
CBH32	24/11/2021	5.9	4.5	13.9	10.7	5.1	5.1	1020	0.12
CBH23	24/11/2021	0.8	0.3	2.6	1.7	17.9	17.9	1020	0.12

December Gas Data

Location	Date	CH4 (%)		CO2 (%)		O2 (%)		Barometric Pressure	Relative Pressure
		Peak	Stable	Peak	Stable	Minimum	Stable		
MSMW91	28/12/2021	0.4	0	4.6	4.1	15.4	15.4	1003	-1.3
MSMW155D	28/12/2021	0	0	1.3	1.2	21.2	21.2	1003	0.17
MSMW155S	28/12/2021	0.3	0.2	0.7	0.3	21.7	21.7	1004	0.38
CBH49	28/12/2021	0.4	0.4	0.1	0.1	21.7	21.7	1001	-0.85
CARW009	28/12/2021	1	0.9	2.2	2.1	19.8	19.8	1004	-1.71
CARW008	28/12/2021	0.2	0.2	2.2	2.2	20.1	20.1	1003	0.8
CBH51	28/12/2021	4	0.1	0.2	0.1	21.3	21.3	1000	-2.32
CBH52	28/12/2021	0.2	0.1	0.1	0.1	21.6	21.6	1000	0.32
CBH20	28/12/2021	0.3	0.3	0.1	0.1	21.9	21.9	1001	1.14
MSMW231	28/12/2021	60.5	60.4	4.1	4.1	0.4	0.4	999	-0.62
CBH57	28/12/2021	0.3	0.3	0.2	0.2	21.9	21.9	1001	0.65
CBH32	28/12/2021	4.1	2.7	10.3	6.7	11.3	11.3	1001	-1.96
CBH23	28/12/2021	0.1	0.1	2	1.7	17.8	17.8	1001	-0.34