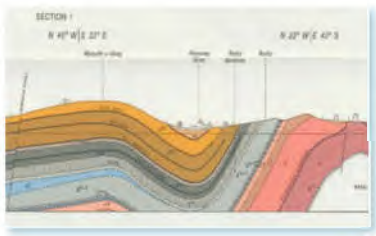
HYDROGEO



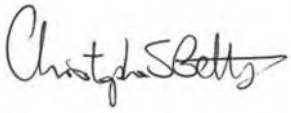
Water Quality and Quantity Monitoring and Contingency Plan

Bryn Quarry, Gelliargwelt Uchaf, Gelligaer, Hengoed

On Behalf of

Bryn Group Ltd

Quality Management

Prepared by:	Scott Greaves BSc MSc FGS	
Reviewed by:	Chris Betts BSc MSc FGS CGeol	
Reviewed & Authorised by:	Michael Willis BSc MSc FGS	
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1 Introduction

Hydrogeo were commissioned by Bryn Quarry in order to update the existing Water Quality and Quantity Monitoring and Contingency Plan Report prepared by JPCE Limited (January 2021) Document Reference: BRL-BQ-WQQMCP.

This report provides an update following formal consultation review and response from Natural Resources Wales (NRW) in relation to **Application number**: **PAN-023528 dated 29th August 2024**. The NRW response relevant to the Water Quality and Quantity Monitoring and Contingency Plan Report are detailed as follows.

Contingency Actions

"There is no leachate monitoring proposed at the site with only groundwater and surface waters monitoring (both flows, levels and quality) being proposed, This would be on a monthly based from a number of locations around the site – we accept this monitoring plan with frequency and locations (pending the above point on leachate generation being resolved).

References in Section 4 of the Water Quality & Quantity Monitoring Scheme & Contingency Plan have been made to "existing baseline monitoring data/compliance levels", but does not provide there or any further information.

6.4Action: confirm the baseline levels, and if these have already been agreed by NRW.

6.5Action: confirm what percentage for exceedance over the baseline levels has to occur to trigger an action?

The contingency details as outlined in Table 3 of the Water Quality & Quantity Monitoring Scheme & Contingency Plan are lacking detail.

6.6Action: what are the potential corrective actions that could be employed on site? As above given the type of activity this is, once a deviation from agreed baseline levels has occurred, there may be little action that can be taken.

This updated water quality and quantity monitoring and contingency plan details the regular environmental monitoring which takes place at and around Bryn Quarry, together with a suggested contingency plan once compliance limits have been set for the site.

Bryn Quarry is located within a large tract of land owned by the Applicant; surrounding the quarry are the applicant's other business activities such as farming, waste recovery and recycling, and an Anaerobic Digestion facility.

The existing quarry extracts sandstone beds from the Carboniferous Grovesend Formation. The quarry has been operational since 2008 and currently benefits from planning permission to extract mineral and import fill material to restore the quarry back to agricultural use (reference 08/0055/FULL).

The application establishes the principle that it is the Applicant's intention to restore the whole of the current extended quarry void.

Site Setting

The geological, hydrogeological and hydrological setting for the site is discussed in detail in the Hydrogeological Impact Appraisal prepared by Hydrogeo Ltd dated January 2021. There are several watercourses surrounding the current operational quarry, the extension area and the screening bund. The natural topography of the Applicant's land is such that most of the existing watercourses flow towards Nelson Bog, which is a SSSI, which acts as a natural attenuation system long before run-off enters the main river system (River Rhymney) and its tributaries.

Within the quarry there is a large ground and surface water collection sump, at times, more than one sump is used. These are located generally at the base of the worked-out quarry faces, the water level of these is freely able to vary depending on the inflows. Discharge from the sumps is controlled either by means of pumping or by gravity through a sub-surface pipe system to the quarry entrance in the north west. At the quarry entrance the water leaves the site via 300mm diameter pipe which directs the flow to a settlement lagoon system to the south and west of the quarry. Following treatment within the lagoons the treated water is discharged via a pipe to the adjacent stream.

During the both the extraction and restoration phases of the proposed quarry extension groundwater and surface water runoff will continue to be collected in sumps within the quarry and discharged to the stream via the upgraded settlement lagoons.

2 Groundwater Monitoring

Groundwater monitoring will continue to be progressed every month with levels recorded, and groundwater samples collected, where possible, from each monitoring borehole as detailed in Table 2-1. Each monitoring borehole is inspected visually during each monitoring visit and any defects are recorded. The monitoring borehole locations are depicted on Drawing BAL-SI-2020-001revC attached in Appendix A. Borehole logs detailing the installations carried out in 2020 are attached at Appendix B.

All monitoring will be carried out by suitably trained personnel with dedicated and clean sampling equipment. The water samples collected will be analysed at a suitably accredited laboratory.

Table 2-1 Groundwater Monitoring Wells

Borehole	Easting	Northing	Ground Elevation (mAOD)	Depth to Base of Borehole mbgl (Level mAOD)
BH101A	312717	196221	213.82	24.51 (189.15)
BH102A	312890	196028	216.44	25.81 (191.02)
BH103	312678	196511	217.00	18.41 (198.95)
BH104A	312891	196577	217.08	28.42 (189.07)
BH110	312570	196897	225.71	16.29 (209.86)
BH110A	312652	196724	222.07	24.30 (198.19)
BH111	313221	196118	218.16	29.23 (189.32)
BH112	313024	195927	216.44	14.12 (202.79)

Data collected:

- Depth to groundwater level measured by an electronic water level meter.
- Depth to base of monitoring borehole.
- Monitoring borehole defects.

Methodology

The methodology for the groundwater level monitoring and groundwater sampling to be carried out is outlined below:

- Record the time, date and weather conditions before each measurement is obtained from the monitoring boreholes;
- Check for any visible signs of damages or deterioration of the borehole inner/outer casing;
- Record the depth to groundwater level using an electronic water level meter and depth to base of the borehole;

Groundwater Quality Sampling

- Groundwater samples will be collected from each borehole using best environmental practices to minimise cross contamination risks and will be placed inside laboratory supplied containers. Samples will be kept in a cool box with freezer packs to preserve their integrity;
- Groundwater samples are then forwarded to an accredited laboratory on the day of collection for scheduled analysis.

Groundwater Analysis

Groundwater quality samples collected will be scheduled for the following suite for analysis as follows:

- pH;
- Electrical Conductivity;
- Biological Oxygen Demand;
- Chemical Oxygen Demand;
- Dissolved Oxygen;
- Total Organic Carbon;
- Alkalinity;
- Ammonia;
- Chloride;
- Fluoride;

- Nitrate;
- Sulphate, sulphide and total sulphur;
- Metals: Al, As, B, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Zn;
- Total Petroleum Hydrocarbons by GC-FID;
- Speciated Polyaromatic Hydrocarbons (PAH) by GC-MS

Monitoring borehole maintenance

Insofar as it is practicable maintenance is carried out at the time of the routine monitoring visit. If it is not practicable to carry out maintenance at the time of the routine monitoring visit the maintenance will be carried out before the next routine monitoring visit is due. If it is determined that the condition of a borehole is such that it is not fit for purpose and it is not practicable to rehabilitate the borehole a replacement borehole will be drilled in proximity to the original borehole. Drilling and installation of a replacement borehole will include a survey of the location and cover level of the new borehole which will be recorded in metres above Ordnance Datum (mAOD).

3 Surface Water Monitoring

Surface water monitoring will continue to be progressed every month with levels, and flow rates manually measured and recorded, with water samples collected, where possible, from each monitoring position as detailed in Table 3-1. Additionally, data will be collected from the 2no. Teledyne ISCO 2150 flow meters installed in the identified streams across the Site. The monitoring locations and the installed flow meter positions are shown on Drawing BAL-SI-2020-001revC.

All monitoring will be carried out by suitably trained personnel with dedicated and clean sampling equipment. The water samples collected will be analysed at a suitably accredited laboratory.

Table 3-1 Surface Water Quality Monitoring Positions

Monitoring Location	Easting	Northing	Ground Elevation (mAOD)	Description
SW1	312656	196153	197	Natural spring located at boundary between SST & shale beds
SW2	312899	195952	203	Natural spring located at boundary between SST & shale beds
SW4	312348	195754	151	High flow discharge from mine working entry point, outflow to Nelson Bog SSSI
SW5	312479	196193	179	Piped inflow to settlement lagoons from quarry floor water management system
SW-UP	312612	196313	204	Up-gradient point from the discharge point of the settlement ponds (SW5)
SW-DOWN	312724	196470	215	Down-gradient point from the discharge point of the settlement ponds (SW5)
SW DIS	312524	196431	174	Discharge from the water management system captured along the "french drain" at southern extent of quarry void
SW QDIS	312479	196470	170	Discharge from the artificial drainage channel DW1 into Stream 2

Manual Data to be collected:

- Depth of surface water measured by an electronic water level meter or hand tape as appropriate;
- Approximate channel shape;
- Channel top width (m);
- Channel base width (m);
- Flow rate (m/s);
- Silt level (m) at base of channel.

Methodology

The methodology for the surface water monitoring and sampling to be carried out is outlined below:

Surface Water Monitoring:

- Record the time, date and weather conditions before each measurement is obtained from the monitoring boreholes;
- Record the channel shape and widths at top and base, and depth of surface water using an electronic water level meter;
- Record the silt level, if present, at the base of the channel;
- Measure and record flow rate using a combination of the following equipment:

2 no. permanently installed “Teledyne ISCO 2150” flow monitoring devices. These are sited within the channel of the watercourse being monitored and provide continuous data on the flow in that channel. (See further details below). These will be visited each month and the data collected in the intervening period collected for subsequent analysis.

A portable hand held stream flow monitor ref GP-SFM01, this comprises a pole mounted calibrated rotating impellor which records the rate of flow at any point in the stream. Simple measurements of the channel dimensions and water depth will allow an estimation of the flow quantity at the time of sampling.

Surface Water Quality Sampling:

- Surface water samples will be collected at each monitoring point using best environmental practices to minimise cross contamination risks and will be placed inside laboratory supplied containers. Samples will be kept in a cool box with freezer packs to preserve their integrity;
- Surface water samples are then forwarded to an accredited laboratory on the day of collection for scheduled analysis;

Surface Water Analysis

Surface water quality samples collected will be scheduled for the following suite for analysis as follows:

- pH;
- Electrical Conductivity;
- Biological Oxygen Demand;
- Chemical Oxygen Demand;
- Dissolved Oxygen;
- Total Organic Carbon;
- Alkalinity;
- Ammonia;
- Chloride;
- Fluoride;
- Nitrate;
- Sulphate, sulphide and total sulphur;
- Suspended Solids;
- Metals: Al, As, B, Ca, Cd, Cr, Cu, Fe, Hg, K, Mg, Mn, Na, Ni, Pb, Zn;
- Total Petroleum Hydrocarbons by GC-FID;
- Speciated Polyaromatic Hydrocarbons (PAH) by GC-MS

Teledyne ISCO 2150 Flow Meter

The Teledyne ISCO 2150 is a battery powered area velocity flow meter that uses a submerged pressure transducer to measure mean level above the sensor as well as using continuous wave Doppler technology to measure mean velocity within a channel.

The level measurement range between 0.010 to 3.05m, with an accuracy of ±0.003m; and velocity measurement range between -1.5 metres per second (m/s) to 6.1m/s, with an accuracy of ±0.03m/s. The ISCO 2150 also has the capability for built-in conversions from the level and velocity measurement into flow rate; and total flow readings provided channel shape dimensions input.

The 2 no. ISCO 2150 flow meters are to be mounted on heavy-duty steel plates and installed in the channel bases at the bottom of Stream 2, down-gradient of SW-DOWN, and down- gradient of SW4, the mine adit discharge stream. The flow meters are to be set to record flows on the hour and at 15-minute intervals.

Both flow meters are to be checked as part of the monthly monitoring rounds, to ensure the flow meters remain suitably installed; no detritus is covering the probe or disrupting the true level or flow of the stream locally to the probe. Additionally, the dimensions of the stream channel and the silt level should be measured to amend the flow meter inputs. The stream flow meter data should be retrieved, and a separate stream level and flow rate measurement also taken as a check on the flow meter readings.

4 Data Screening and Reporting

Surface Water Quality Baseline

The surface water quality baseline has been determined following review of all surface water quality data at each of the 7 no. monitoring positions (SW1, SW2, SW4, SW5 SWDis, SWUp and SWDown) across the time period May 2020 – July 2024). The baseline has been provided for all chemical determinants as set out in the above surface water quality analysis section of this report.

The site currently operates under an NRW Permit – Permit number EPR/CB3391ZY which relates to the discharge of surface water from the settlement lagoon treatment system which serves Bryn Quarry. The NRW Permit restricts the discharge to 88.40l/s, which 80mg/l suspended solid concentration, pH ranging 6 to 9 and no visible oil or grease.

Summary statistics for each of the determinants, including minimum and maximum concentrations, average concentrations and proposed exceedance limits have been provided in Appendix C which provides a baseline of the surface water quality.

All of the historical data has been reviewed and the maximum reading per chemical determinant +10% is set as the exceedance limit.

Hydrogeo propose that discussion should be opened with Natural Resources Wales (NRW), and agreement sort for the confirmation of the above methodology for the determination of trigger concentrations, or if a preferred methodology is required.

Groundwater Quality Baseline

The Groundwater Quality baseline is determined following review of all available groundwater data obtained from 8 no. groundwater monitoring wells (BH101A, BH102A, BH103, BH104A, BH110, BH111 & BH112). Groundwater quality data has been collected monthly across the period May 2020 – July 2024. The baseline has been progressed for all chemical determinants as set out in the groundwater analysis section of this report.

Summary statistics for each of the determinants, including minimum and maximum concentrations, average concentrations and proposed exceedance limit have been provided in Appendix D which provides a baseline of the surface water quality.

It is proposed that all of the historical data is reviewed and the maximum reading per chemical determinant +10% is set as the exceedance limit.

Hydrogeo recommend that discussion should be opened with Natural Resources Wales (NRW), and agreement sort for the confirmation of the above methodology for the determination of trigger concentrations, or if a preferred methodology is required.

5 Contingency Plan

The surface water and groundwater monitoring data will be recorded into a database and reviewed on receipt by a suitably qualified person. The results from the surface and ground water quality results will be screened against existing baseline monitoring data/compliance levels.

Where baseline conditions/compliance levels are shown to have changed/exceeded, the number and frequency of monitoring rounds will be re-evaluated in consultation between Caerphilly Borough County Council and Natural Resources Wales. Further contingency actions may be applied if required (e.g. review site practices and continued monitoring).

Where any breach of a set concentration limit occurs, it is proposed that repeat monitoring / sampling is progressed to ensure that the breach is not on-going. Where a repeated breach of a concentration limit is noted, a suitably qualified environmental consultant should be notified, risk assessments should be reviewed, and correspondence opened with NRW.

It is proposed that surface water monitoring across the site is continued following the completion of the infilling of the quarry void. The period of continued monitoring following infilling should be discussed and agreed with Natural Resources Wales (NRW).

The proposed contingency actions are highlighted in Table 5-1 it is recommended that these contingency plans are discussed as part of any formal correspondence with Natural Resources Wales (NRW).

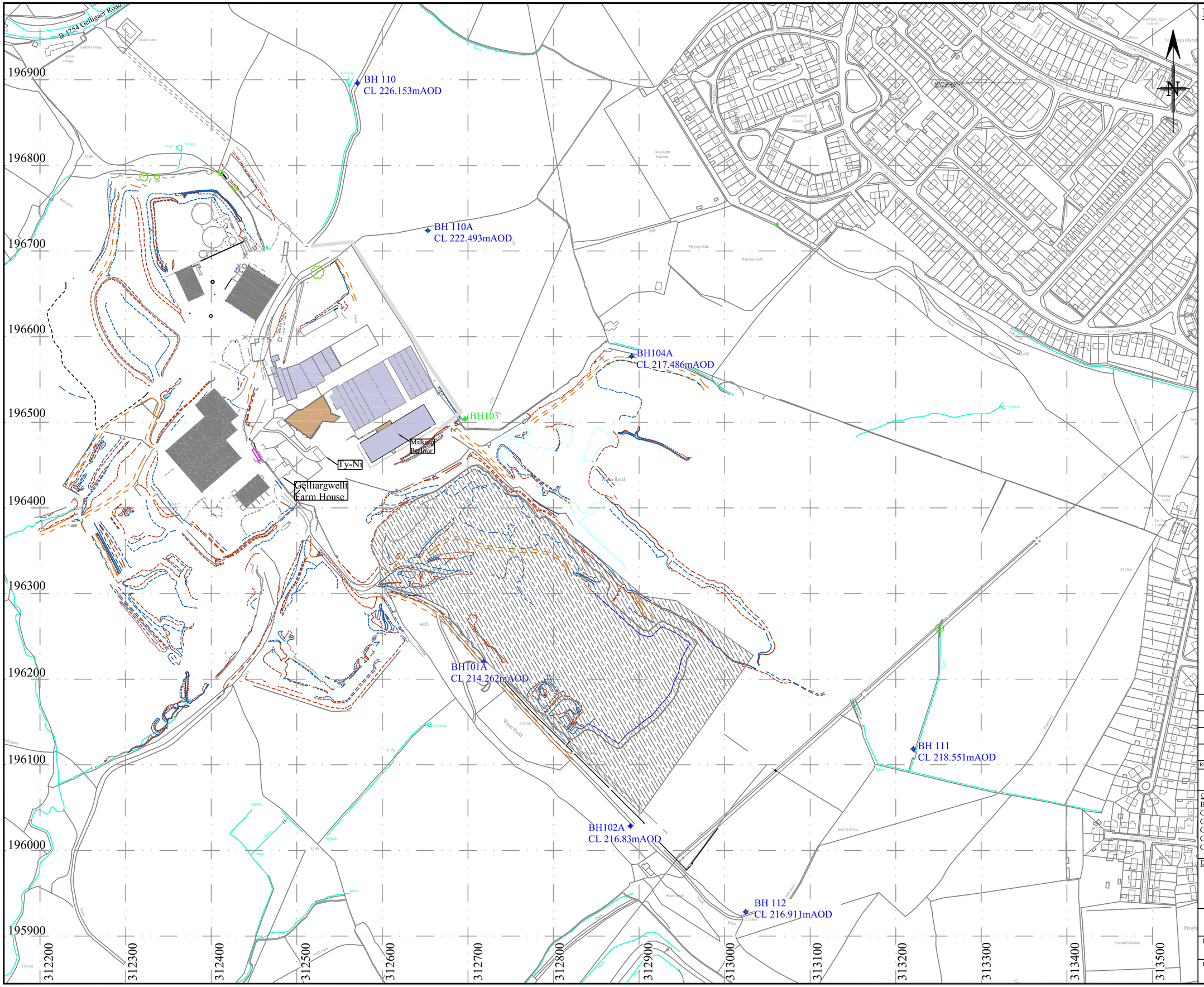
Table 5-1 Proposed Contingency Actions

Contingency action	Response time	Responsibility
Increase the survey frequency to monthly from quarterly or to weekly from monthly	One month	Monitoring technician
Re-appraise the risks and options for protective measures	6 months	Bryn Aggregates & Environmental consultant
If the risks are acceptable re- evaluate the assessment criteria	6 months	Bryn Aggregates & Environmental consultant

Contingency action	Response time	Responsibility
If the risks are unacceptable implement agreed corrective action	12 months	Bryn Aggregates

Appendix A

Drawing BAL-SI-2020-001revC



KEY

- Approximate Current Quarry Void
- BH104 Existing Borehole Positions
- BH110 Proposed Borehole locations
- BH101 Borehole to be repaired or replaced

REV'N	DATE	ISSUE
A	April 20	As Installed

J P C E Limited

CLIENT
BRYN AGGREGATES LTD
GELLIARGWELLT FARM
GELLIGAER ROAD
GELLIGAER
CAERPHILLY
CF82 8PY

JOHN PERKINS
CONSULTING ENGINEER
Bronhaul,
Abernant Road
Aberdare CF44 0PY
Tel 07889 644649
e-mail jpce@hotmail.co.uk

DRAWING TITLE & SCHEME

SITE INVESTIGATIONS REPORT FOR BRYN QUARRY GELLIARGWELLT FARM, NELSON

Location Plan for new groundwater monitoring installations

Drawing Number	Drawn By :
BAL-SI-2020-001A	B M JONES

Date :	Scale	Checked :
JAN 2020	1:4000@A3	J PERKINS

Appendix B

Drillers Borehole Logs

Contract Name Bryn Quarry

Contract No

Date 10.2.20

Sheet 1 of 1 Working Day 1

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client Bryn Aggregates

Order No

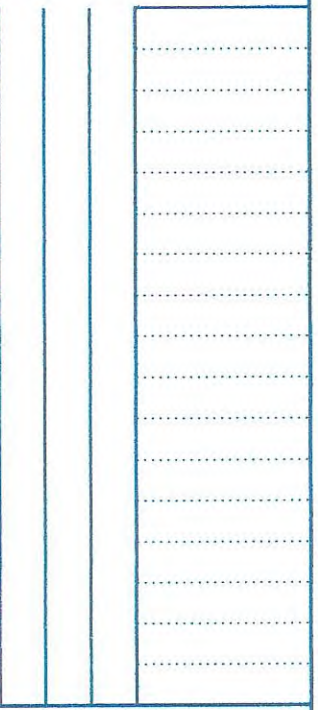
Drill Crew Ben Jones - D. Leech

Rig Type Klemm

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
	Arrive on site	-		9.00 o'clock	- Site recce	
	fuel up - load 4x4 with equipment					
	Track to first position					
BH110	0.00	1.80	1.80		Boulder clay	
	1.80	3.80	2.00		SST	Case - 3.00m
Rn° 1	3.80	5.30	1.50	1.50	SST	
Rn° 2	5.30	6.90	1.60	1.60	SST	WS 2nd Run
Rn° 3	6.90	8.40	1.50	1.50	SST	
Rn° 4	8.40	9.90	1.50	1.50	SST	
Rn° 5	9.90	11.40	1.50	1.50	SST	
	Track Rig to safe location				20 mins	

INSTALLATION DETAILS

Borehole



Diameter ..... Ø
Well Casing ..... m
Well Screen ..... m
Gravel ..... m
Bentonite ..... m
Gas Bung ..... (No)
End Cap ..... (No)
Cover Type RAISED / FLUSH
Water Level ..... m
Remarks .....

QUANTITIES

Site Moves ..... (No)	Casing ..... m	Core Boxes ..... (No)	Fixed Plant		
Bore Moves ..... (No)	Open Hole ..... m	Core Liner ..... m			
Return Moves ..... (No)	W. Samples ..... m	SPT/CPT ..... (No)	Standing Times ..... (hrs)		
Security YES / NO	Corking ..... m	Installation ..... m	Breakdown 1 1/2 ..... (hrs)		

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

Signed by Apex .....

Signed by Client ..... Date .....

Blue – Client's Copy Yellow – QS Copy White – Site Copy

Contract Name: Bryn Quarry

Contract No:

Date: 12.2.20

Sheet: 1 of 1 Working Day: 2

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates LTD

Order No:

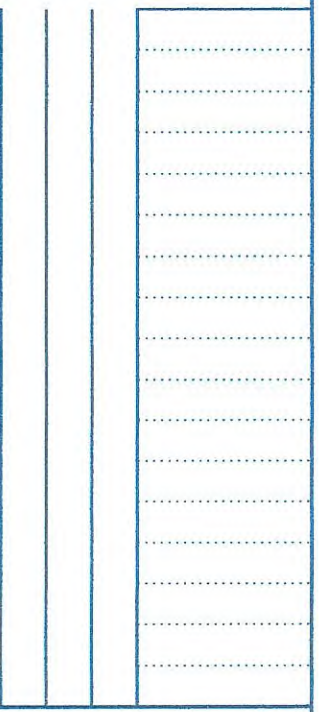
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
RN° 6	11.40	12.90	1.50	1.50	SS	
RN° 7	12.90	14.40	1.50	1.50	SS	
RN° 8	14.40	15.90	1.50	1.40	SS	
RN° 9	15.90	17.40	1.50	1.50	SS - SHale	
RN° 10	17.40	18.90	1.50	1.50	SHALE	
RN° 11	18.90	20.40	1.50	1.50	SH	
RN° 12	20.40	21.90	1.50	1.50	SH	
RN° 13	21.90	23.40	1.50	1.20	SH	
	Instal	50 MM	Pipe -	16.00M		
			Slotted	14.50 M		
			Plain	2.00 M		

INSTALLATION DETAILS

Borehole



Diameter: 50 MM Ø
Well Casing: 2.00 m
Well Screen: 14.50 m
Gravel: 14.50 (Supplied by Quarry) m
Bentonite: 8.40 m
Gas Bung: 1/1 (No)
End Cap: (No)
Cover Type: (RAISED) / FLUSH
Water Level: Ground Level m
Remarks:

QUANTITIES

Site Moves: (No)
Bore Moves: (No)
Return Moves: (No)
Security: YES / NO

Casing: m
Open Hole: m
W. Samples: m
Corking: 12.00 m

Core Boxes: 4 (No)
Core Liner: 12.00 m
SPT/CPT: (No)
Installation: 16.00 m

Fixed Plant:
Standing Times: (hrs)
Breakdown: (Track to BH 20 mins) (hrs)

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

Signed by Apex:

Signed by Client: Date:

Blue – Client's Copy Yellow – QS Copy White – Site Copy

Contract Name: Bryn Quarry

Contract No:

Date: 12.2.20

Sheet: 1 of 2 Working Day: 4 3

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
	Track to Next Position					
BH110A	0.00	0.20	0.20		Top Soil	
	0.20	1.30	1.10		boulder clay	
	1.30	1.70	0.40		SST	WS = 1.50m
Run 1	1.70	3.30	1.60	1.60	SST	
Run 2	3.30	4.70	1.40	1.40	SS	
Run 3	4.70	6.20	1.50	1.50	SS	
Run 4	6.20	7.70	1.50	1.50	SS	
Run 5	7.70	9.30	1.60	1.60	SS	
Run 6	9.30	10.80	1.50	1.50	SS	
Run 7	10.80	12.30	1.50	1.50	SS	

INSTALLATION DETAILS

Borehole

Diameter: Ø
Well Casing: m
Well Screen: m
Gravel: m
Bentonite: m
Gas Bung: (No)
End Cap: (No)
Cover Type: RAISED / FLUSH
Water Level: m
Remarks:

QUANTITIES

Site Moves: (No)	Casing: 1.50 m	Core Boxes: 4 (No)	Fixed Plant:		
Bore Moves: 1 (No)	Open Hole: 1.70 m	Core Liner: 10.60 m			
Return Moves: (No)	W. Samples: m	SPT/CPT: (No)	Standing Times: (hrs)		
Security: YES / NO	Corking: 10.60 m	Installation: m	Breakdown: (hrs)		

BRITISH DRILLING ASSOCIATION

ACM UKAS

Certificate No: 08750A

Signed by Apex:

Signed by Client: Date:

Blue – Client's Copy Yellow – QS Copy White – Site Copy

Contract Name: Bryn Quarry

Contract No:

Date: 12.2.20

Sheet: 2 of 2 Working Day: 4 3

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

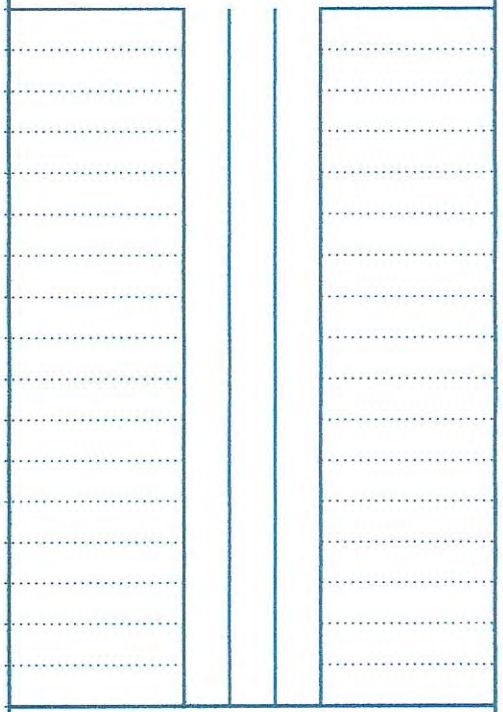
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
BH 110A						
Run 8	12.80	13.80	1.50	1.50	SS	
Run 9	13.80	15.30	1.50	1.50	SS	
Run 10	15.30	16.80	1.50	1.50	SS	

INSTALLATION DETAILS

Borehole



Diameter: Ø
Well Casing: m
Well Screen: m
Gravel: m
Bentonite: m
Gas Bung: (No)
End Cap: (No)
Cover Type: RAISED / FLUSH
Water Level: m
Remarks:

QUANTITIES

Site Moves: (No)	Casing: m	Core Boxes: 2 (No)	Fixed Plant:		
Bore Moves: (No)	Open Hole: m	Core Liner: 4.50 m			
Return Moves: (No)	W. Samples: m	SPT/CPT: (No)	Standing Times: (hrs)		
Security: YES / NO	Corking: 4.50 m	Installation: m	Breakdown: (hrs)		

British Drilling Association

ACM UKAS

Certificate No: 08750A

Signed by Apex:

Signed by Client: Date:

Blue – Client's Copy Yellow – QS Copy White – Site Copy

Contract Name: Bryn Quarry

Contract No:

Date: 13.2.20

Sheet: 1 of 1 Working Day: 4

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggragates

Order No:

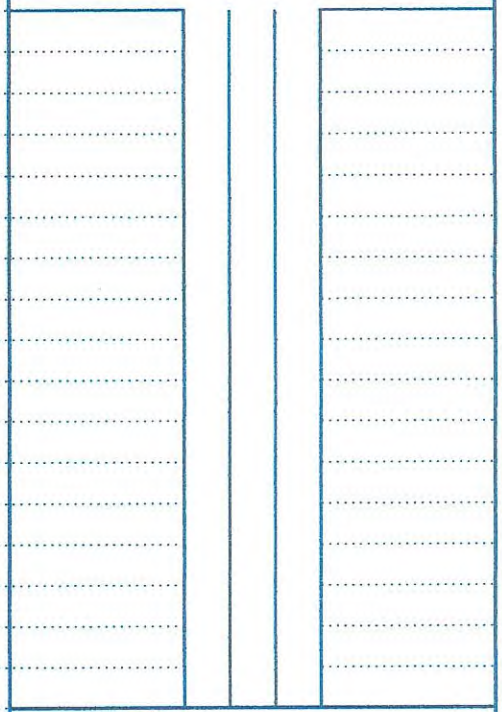
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
RW 11	16.80	18.30	1.50	1.50	SS	
RW 12	18.30	19.80	1.50	1.80	SS	
RW 13	19.80	20.50	0.70	0.70	SS	
RW 14	20.50	22.00	1.50	1.50	SS	
RW 15	22.00	23.50	1.50	1.50	SS - [redacted]	
RW 16	23.50	25.00	1.50	1.50	[redacted] SS - Coal trace	
RW 17	25.00	26.50	1.50	1.50	Shale	
	Back fill to		25.00 -	Bento		
	Instal	50mm -	25.00m			
			23.00m	= Slotted		
			2.50 m	= Plain		

INSTALLATION DETAILS

Borehole



Diameter: 50mm Ø
Well Casing: 2.50 m
Well Screen: 23.00 m
Gravel: Supplied by Quarry m
Bentonite: 2.00 m
Gas Bung: 1 (No)
End Cap: 1 (No)
Cover Type: RAISED / FLUSH
Water Level: m
Remarks: Geo Wrap

QUANTITIES

Site Moves (No)	Casing m	Core Boxes 3 (No)	Fixed Plant		
Bore Moves (No)	Open Hole m	Core Liner 9.70 m			
Return Moves (No)	W. Samples m	SPT/CPT (No)	Standing Times (hrs)		
Security YES / NO	Corking [redacted] 9.70 m	Installation m	Breakdown (hrs)		

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

Signed by Apex:

Signed by Client: Date:

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Contract Name: Bryn Quarry

Contract No:

Date: 14.2.20

Sheet: 1 of 1 Working Day: 5.

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

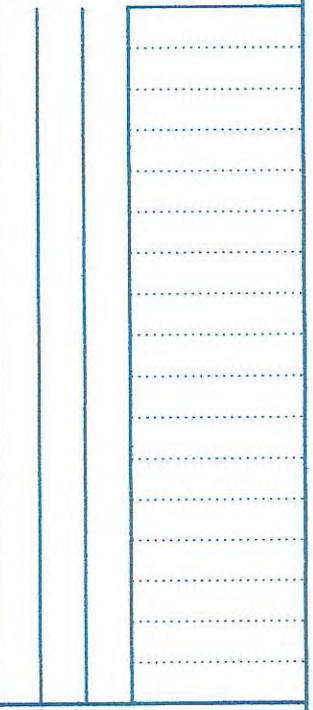
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
	Track	to BH 101	101	40 mins.		
BH 101						
	0.00	0.30	0.30		loose sub blast.	Case - 1.50m
	0.30	3.80	3.50		SS	
	3.80	5.00	1.20		Broken Ground.	
	5.00	17.90	12.90		SS	WS 20.00
	17.90	25.00	7.10		Shale	
	Flush	1 Hor				
	Instal	Failed	-15.00m	Ream	BH	
	"	"	-12.50m	"	"	
	Case -	4.50m	+	Ream	BH	
	Instal	Failed	-7.00m			
	Track	Back	to Wheel	Wash -	20 mins	

INSTALLATION DETAILS

Borehole



Diameter ..... Ø
Well Casing ..... m
Well Screen ..... m
Gravel ..... m
Bentonite ..... m
Gas Bung ..... (No)
End Cap ..... (No)
Cover Type RAISED / FLUSH
Water Level ..... m
Remarks .....

QUANTITIES

Site Moves ..... (No)	Casing ..... m	Core Boxes ..... (No)	Fixed Plant .....
Bore Moves ..... (No)	Open Hole ..... m	Core Liner ..... m	
Return Moves ..... (No)	W. Samples ..... m	SPT/CPT ..... (No)	Standing Times ..... (hrs)
Security YES / NO	Corking ..... m	Installation ..... m	Breakdown ..... (hrs)

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

Signed by Apex .....

Signed by Client ..... Date .....

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Contract Name: Bryn Quarry

Contract No:

Date: 17.2.20

Sheet 1 of 1 Working Day 6

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149

E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

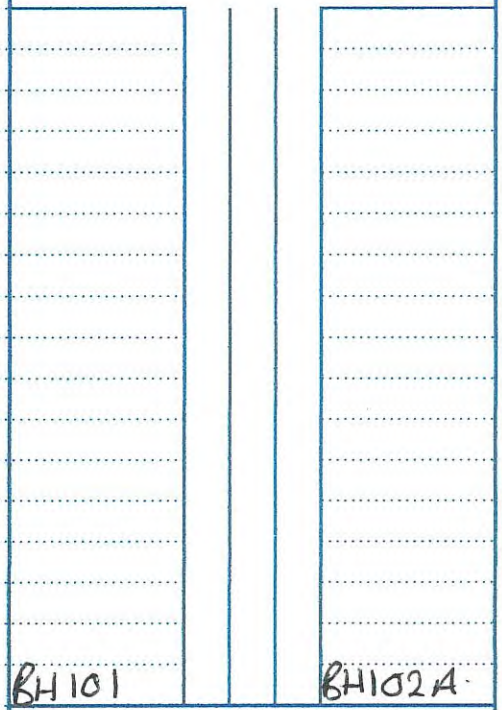
Drill Crew: B.Jones - D.Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
BH101	Advance Casing - 7.50m + Ream					TRACK TO B/H 20min
	Flush - 30mins					
	INS 50mm - 25.00m					
	Track to BH 102A					
BH102A	0.00	1.50	1.50		Tip	Case - 1.50m
	1.50	14.70	13.20		SST	WS - 15.50m
	14.70	25.00	10.30		Shale	
	INS 50mm - 25.00m					
	Track to Wheel Wash			30 Mins		

INSTALLATION DETAILS

Borehole



Diameter: 50mm Ø
Well Casing: 1.50 m
Well Screen: 24.00 m
Gravel: Supplied by Quarry m
Bentonite: 1.00 m
Gas Bung: 1 (No)
End Cap: 1 (No)
Cover Type: (RAISED) / FLUSH
Water Level: m
Remarks:

QUANTITIES

Site Moves (No)	Casing m	Core Boxes (No)	Fixed Plant
Bore Moves (No)	Open Hole m	Core Liner m	
Return Moves (No)	W. Samples m	SPT/CPT (No)	Standing Times (hrs)
Security YES / NO	Corking m	Installation m	Breakdown (hrs)

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

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Contract Name: Bryn Quarry

Contract No:

Date: 18.2.20

Sheet: 1 of 1 Working Day: 7

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

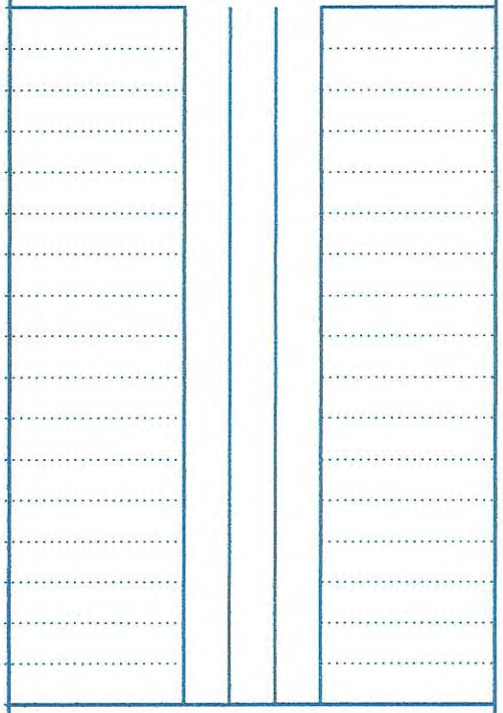
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 809

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
	Track	to Next position	-		30 Mins	
BH104A		Dig trial pit -	1.20m.			
	0.00	1.70	1.70		Tip - Builders Rubble	Case - 4.50m
	1.70	4.00	2.30		Peat	
	4.00	5.50	1.50		Boulder Clay	
	5.50	7.00	1.50		SS	
	Stop,	Move	BH due	to services issue		
BH104A	x2	Dig trial Pit.	1.20m			
	0.00	1.30	1.30		Builders Rubble	Case - 3.00m
	1.30	2.50	0.70		Peat - Clay	
	2.50	27.00	24.50		SS Shale Bands	
	Pull Rods					
	Pull off	BH + track to	Secure location	- 40Mins		

INSTALLATION DETAILS

Borehole



Diameter: Ø
Well Casing: m
Well Screen: m
Gravel: m
Bentonite: m
Gas Bung: (No)
End Cap: (No)
Cover Type: RAISED / FLUSH
Water Level: m
Remarks:

QUANTITIES

Site Moves: (No)	Casing: m	Core Boxes: (No)	Fixed Plant:
Bore Moves: (No)	Open Hole: m	Core Liner: m	
Return Moves: (No)	W. Samples: m	SPT/CPT: (No)	Standing Times: (hrs)
Security: YES / NO	Corking: m	Installation: m	Breakdown: 2 1/2 underground services issue (hrs)

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

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Contract Name Bryn Quarry

Contract No

Date 19.2.20

Sheet 1 of 1 Working Day 8

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client Bryn Aggregates

Order No

Drill Crew B. Jones - D. Leech

Rig Type Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
	Track back to BH 104A + set up on position					
	27.00	30.00	3.00		Shale	
	Flush	30 mins				
	Back fill - 27.00m - Bento					
	Instal 50mm pipe - 27.00m					
	Recce next two BH Positions with engineer = 80 mins					
	Tract to BH 111 = 1Hr					
	Scan for services + Dig inspection pit = 45 mins					
	Set up on BH					
BH111						
	0.00	1.20	1.20		Fill - Peat	case - 3.00m
	1.20	2.50	1.30		Clay	
	2.50	3.00	0.50		SS	
Run 1	3.00	4.40	1.40	1.40	SS	
Run 2	4.40	5.60	1.20	1.20	SS	

INSTALLATION DETAILS

Borehole

Diameter ..... Ø
Well Casing ..... m
Well Screen ..... m
Gravel ..... m
Bentonite ..... m
Gas Bung ..... (No)
End Cap ..... (No)
Cover Type RAISED / FLUSH
Water Level ..... m
Remarks .....

QUANTITIES

Site Moves ..... (No)	Casing ..... m	Core Boxes ..... (No)	Fixed Plant		
Bore Moves ..... (No)	Open Hole ..... m	Core Liner ..... m			
Return Moves ..... (No)	W. Samples ..... m	SPT/CPT ..... (No)	Standing Times ..... (hrs)		
Security YES / NO	Corking ..... m	Installation ..... m	Breakdown ..... (hrs)		

British Drilling Association

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Contract Name: Bryn Quarry

Contract No:

Date: 20.2.20

Sheet: 1 of 1 Working Day: 9

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

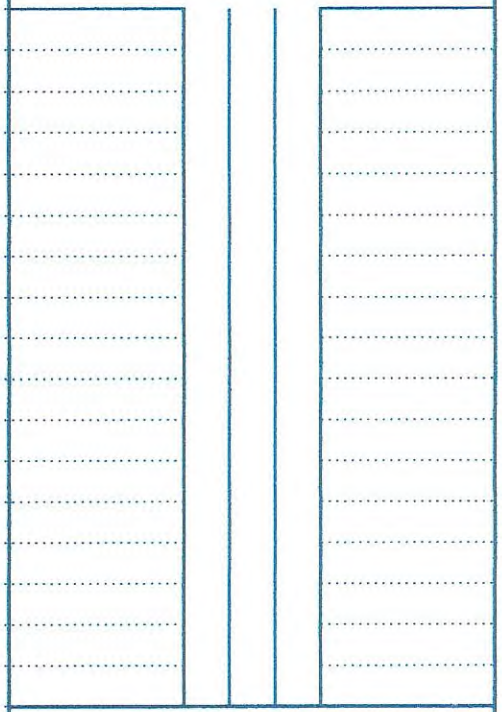
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
RN° 3	5.60	7.20	1.60	1.60	SS	
RN° 4	7.20	8.70	1.50	1.50	SS WS	
RN° 5	8.70	10.20	1.50	1.50	SS	
RN° 6	10.20	10.90	0.70	0.70	SS	
RN° 7	10.90	12.50	1.60	1.60	SS	
RN° 8	12.50	14.10	1.60	1.60	SS	
RN° 9	14.10	15.60	1.50	1.50	SS	
RN° 10	15.60	17.10	1.50	1.50	SS	
RN° 11	17.10	18.60	1.50	1.50	SS	
RN° 12	18.60	20.10	1.50	1.50	SS	

INSTALLATION DETAILS

Borehole



Diameter ..... Ø
Well Casing ..... m
Well Screen ..... m
Gravel ..... m
Bentonite ..... m
Gas Bung ..... (No)
End Cap ..... (No)
Cover Type RAISED / FLUSH
Water Level ..... m
Remarks .....

QUANTITIES

Site Moves ..... (No)
Bore Moves ..... (No)
Return Moves ..... (No)
Security YES / NO

Casing ..... m
Open Hole ..... m
W. Samples ..... m
Corking ..... m

Core Boxes ..... (No)
Core Liner ..... m
SPT/CPT ..... (No)
Installation ..... m

Fixed Plant .....
Standing Times 45 mins to and from BH to secure location ..... (hrs)
Breakdown ..... (hrs)

Certificate No: 08750A

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Contract Name: Bryn Quarry

Contract No:

Date: 21.2.20

Sheet: 1 of 1 Working Day: 10

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

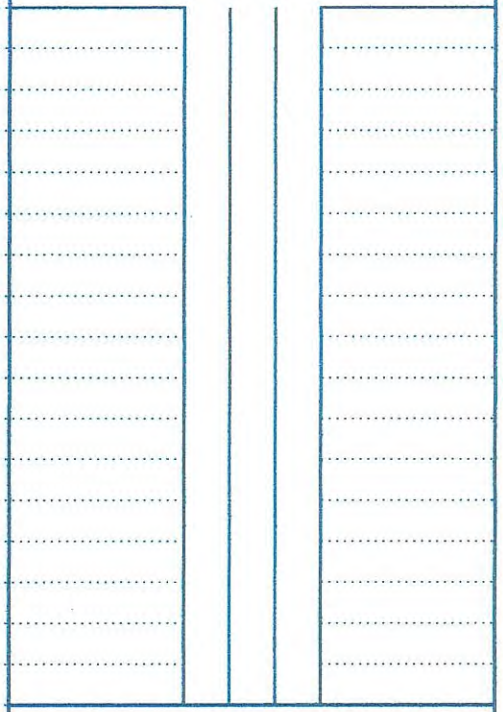
Drill Crew: B. Jones - D. Leech

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
RN° 13	20.10	21.60	1.50	1.50	SS	
RN° 14	21.60	22.50	0.90	0.90	SS	
RN° 15	22.50	24.00	1.50	1.50	SS	
RN° 16	24.00	25.50	1.50	1.50	SS	
RN° 17	25.50	27.00	1.50	1.50	SS	
RN° 18	27.00	28.50	1.50	1.50	SS	
RN° 19	28.50	30.00	1.50	1.50	SS	
RN° 20	30.00	31.50	1.50	1.50	SS - Shale	

INSTALLATION DETAILS

Borehole



Diameter ..... Ø
Well Casing ..... m
Well Screen ..... m
Gravel ..... m
Bentonite ..... m
Gas Bung ..... (No)
End Cap ..... (No)
Cover Type RAISED / FLUSH
Water Level ..... m
Remarks

QUANTITIES

Site Moves ..... (No)
Bore Moves ..... (No)
Return Moves ..... (No)
Security YES / NO

Casing ..... m
Open Hole ..... m
W. Samples ..... m
Corking ..... m

Core Boxes ..... (No)
Core Liner ..... m
SPT/CPT ..... (No)
Installation ..... m

Fixed Plant .....
Standing Times ..... (hrs)
Breakdown ..... (hrs)

45 Mins Tracking to and from BH

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

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Contract Name: Bryn Quarry

Contract No:

Date: 24.2.20

Sheet: 1 of 1 Working Day: 11

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client: Bryn Aggregates

Order No:

Drill Crew: B. Jones - C. Smith.

Rig Type: Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
RN° 21	31.50	33.00	1.50	1.50	SHALE	
	Back fill - 30.00m With Bento					
	INS - 30.00m = 50mm.					
Move -	BH 112		(25mins	Track)	Cat scan + [redacted] inspection pit	
	0.00	0.80	0.80		TS-clay	case 1.50m
	0.80	1.50	0.70		SS	
RN° 1	1.50	3.00	1.50	1.50	SS WS	
RN° 2	3.00	4.50	1.50	1.50	SS	
RN° 3	4.50	6.00	1.50	1.50	SS	
RN° 4	6.00	7.50	1.60	1.50	SS	
RN° 5	7.50	8.80	1.30	1.30	SS	

INSTALLATION DETAILS

Borehole

Diameter: 50mm Ø
Well Casing: 3.00 m
Well Screen: 27.00 m
Gravel: Supplied by Quarry m
Bentonite: 3.00 m
Gas Bung: 1 (No)
End Cap: 1 (No)
Cover Type: (RAISED) / FLUSH
Water Level: m
Remarks: Geo Wrap

QUANTITIES

Site Moves (No)	Casing m	Core Boxes (No)	Fixed Plant
Bore Moves (No)	Open Hole m	Core Liner m	
Return Moves (No)	W. Samples m	SPT/CPT (No)	Standing Times: Track to BH 111 = 45mn (hrs)
Security YES / NO	Corking m	Installation m	Breakdown: Track from BH 112 = 30 mins (hrs)

British Drilling Association

Certificate No: 08750A

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Signed by Client: Date:

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Contract Name Bryn Quarry

Contract No

Date 25.02.20

Sheet 1 of 1 Working Day 12

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client Bryn Aggregates

Order No

Drill Crew B. Jones - A. Rees

Rig Type Klemm 802

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
RN° 6	8.80	9.90	1.10	1.10	SS	
RN° 7	9.90	11.40	1.50	1.50	SS	
RN° 8	11.40	12.90	1.50	1.50	SS soft clay band	
RN° 9	12.90	13.60	0.70	0.70	SS	
RN° 10	13.60	14.10	0.50	0.50	SS	
RN° 11	14.10	15.60	1.50	1.50	SS	
RN° 12	15.60	17.10	1.50	1.50	SS SHALE	
RN° 18	17.10	18.60	1.50	1.50	SH	
	Backfill	- 15.00M = Bento				
	Instal	- 15.00M = 50MM				

INSTALLATION DETAILS

Borehole

Diameter 50MM Ø
Well Casing 1.50 m
Well Screen 14.00 m
Gravel supplied by Quarry m
Bentonite 4.00 m
Gas Bung 1 (No)
End Cap 1 (No)
Cover Type (RAISED) / FLUSH
Water Level m
Remarks Geo Wep

QUANTITIES

Site Moves (No)
Bore Moves (No)
Return Moves (No)
Security YES / NO

Casing m
Open Hole m
W. Samples m
Corking m

Core Boxes (No)
Core Liner m
SPT/CPT (No)
Installation m

Fixed Plant

Standing Times 30 min Track to Rig (hrs)
Breakdown 40 min Track to secure location (hrs)

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

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Signed by Client Date

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Contract Name Bryn Quarry

Contract No

Date 26.2.20

Sheet 1 of 1 Working Day 13

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149
E-mail: admin@apex-drilling.com

Client Bryn Aggregates

Order No

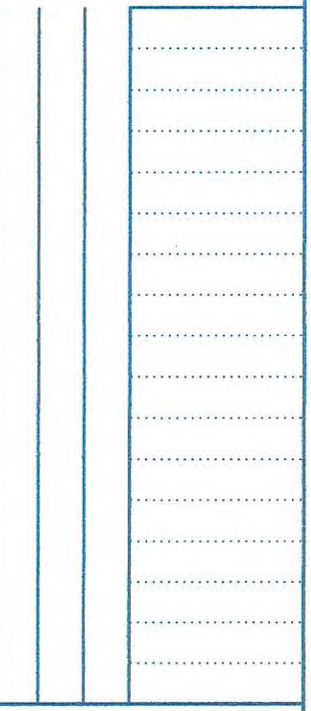
Drill Crew B. Jones - A Rees

Rig Type Klemm 807

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason
	Extra	BH location added to			plan SS Thickness at entrance	
BH1A	0.00	0.60	0.60		[redacted] Top Soils cat scan +	inspection pit
	0.60	1.00	0.40		WSS	
	1.00	11.00	10.00		SS	
	11.00	14.00	3.00		SHALE	
	Back fill, plug at rock head					
	De-Mob					

INSTALLATION DETAILS

Borehole



Diameter ..... Ø
Well Casing ..... m
Well Screen ..... m
Gravel ..... m
Bentonite ..... m
Gas Bung ..... (No)
End Cap ..... (No)
Cover Type RAISED / FLUSH
Water Level ..... m
Remarks .....

QUANTITIES

Site Moves	(No)	Casing	m	Core Boxes	(No)	Fixed Plant	
Bore Moves	(No)	Open Hole	m	Core Liner	m		
Return Moves	(No)	W. Samples	m	SPT/CPT	(No)	Standing Times	(hrs)
Security YES / NO		Corking	m	Installation	m	Breakdown	(hrs)

BRITISH DRILLING ASSOCIATION

Certificate No: 08750A

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Signed by Client ..... Date .....

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Appendix C

Surface Water Monitoring Baseline Data and Analysis Table

NOTE: Surface water monitoring data is taken from the available monitoring points over the period May 2020 – July 2024.

NOTE:#DIV/0! & #NUM! Indicates where no Concentrations have been recorded above Laboratory Level of Detection for a particular determinant or where there isnt' enough data >LoD for Mean, Standard Deviation and 95%ile to be calculated.

SW1		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	67.0	219.0	138.8	42.3	195.2	152.7
Ammonia	$mg.l^{-1}$ as N	0.0	2.2	0.2	0.6	1.1	0.2
BOD	$mg.l^{-1}$ O_2	0.5	5.1	2.0	1.2	4.1	2.2
COD	$mg.l^{-1}$ O_2	11.0	82.0	43.9	17.5	74.3	48.3
Chloride	$mg.l^{-1}$	11.8	38.2	21.7	6.7	34.8	23.9
Conductivity	$\mu S.cm^{-1}$	7.7	14.3	9.6	1.7	12.4	10.6
Dissolved Oxygen	$mg.l^{-1}$ O_2	279.0	654.0	450.9	115.1	637.2	496.0
Fluoride	$mg.l^{-1}$	0.1	0.2	0.1	0.1	0.2	0.1
Nitrate	$mg.l^{-1}$	4.2	39.8	18.2	11.3	35.8	20.0
pH	pH units	6.3	8.5	7.2	0.5	8.1	7.9
Sulphate	$mg.l^{-1}$	9.3	122.0	56.9	36.0	120.6	62.6
Sulphide	$mg.l^{-1}$	0.1	0.1	0.1	0.0	0.1	0.1
Total Sulphur	$mg.l^{-1}$	5.0	40.6	20.5	11.8	40.2	22.5
Suspended Solids	$mg.l^{-1}$	5.0	732.0	127.5	217.0	641.7	140.2
Total Organic Carbon	$mg.l^{-1}$ C	4.0	48.8	26.3	12.8	48.5	28.9
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	26.8	579.0	190.4	148.4	443.9	209.4
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.5	4.3	2.1	0.8	3.5	2.3
Boron *(Dissolved)*	$\mu g.l^{-1}$	27.0	104.0	57.3	21.1	88.0	63.0
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.9	0.9	0.9	0.0	0.9	1.0
Calcium *(Dissolved)*	$mg.l^{-1}$	37.9	89.5	56.8	17.1	87.4	62.5
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.7	10.3	5.2	3.6	9.8	5.7
Copper *(Dissolved)*	$\mu g.l^{-1}$	3.4	37.8	11.5	11.5	32.9	12.6
Iron *(Dissolved)*	$\mu g.l^{-1}$	23.3	625.0	182.6	165.1	489.2	200.9
Lead *(Dissolved)*	$\mu g.l^{-1}$	7.0	50.6	18.3	16.3	43.0	20.2
Magnesium *(Dissolved)*	$mg.l^{-1}$	7.8	17.1	11.6	2.7	15.6	12.8
Manganese *(Dissolved)*	$\mu g.l^{-1}$	3.8	90.0	26.0	20.7	61.5	28.6
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.1	1.8	0.5	0.7	1.5	0.5
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.7	4.7	3.1	1.1	4.5	3.4
Phosphorus	mg.l-1	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Potassium *(Dissolved)*	$mg.l^{-1}$	11.2	27.3	18.6	4.8	26.1	20.4
Sodium *(Dissolved)*	$mg.l^{-1}$	10.6	21.6	14.6	2.8	19.4	16.1
Zinc *(Dissolved)*	$\mu g.l^{-1}$	3.3	38.4	13.7	11.5	32.2	15.1
Phosphate total	$mg.l^{-1}$	0.3	0.4	0.4	0.1	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Acenaphthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	#DIV/0!

SW2		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	**$mg.l^{-1}$ HCO_3**	24.6	45.1	37.0	5.9	44.3	49.6
Ammonia	**$mg.l^{-1}$ as N**	0.01	0.2	0.1	0.1	0.2	0.2
BOD	**$mg.l^{-1}$ O_2**	0.7	7.1	2.7	1.9	5.9	7.8
COD	**$mg.l^{-1}$ O_2**	3	43	20.6	14.3	41.4	47.3
Chloride	**$mg.l^{-1}$**	9.7	24.2	17.4	5.4	23.7	26.6
Conductivity	**$\mu S.cm^{-1}$**	6.2	12.2	9.7	1.6	11.9	13.4
Dissolved Oxygen	**$mg.l^{-1}$ O_2**	134	263	184.6	44.3	258.6	289.3
Fluoride	**$mg.l^{-1}$**	0.04	0.33	0.1	0.1	0.3	0.4
Nitrate	**$mg.l^{-1}$**	0.68	20.4	8.4	6.5	19.1	22.4
pH	**pH units**	6.2	8.2	6.9	0.6	7.8	9.0
Sulphate	**$mg.l^{-1}$**	4.8	30.7	15.3	7.6	27.5	33.8
Sulphide	**$mg.l^{-1}$**	0.57	0.57	0.6	0.0	0.6	0.6
Total Sulphur	**$mg.l^{-1}$**	3.8	18.9	7.9	4.5	15.4	20.8
Suspended Solids	**$mg.l^{-1}$**	5.2	1672	406.6	588.9	1475.7	1839.2
Total Organic Carbon	**$mg.l^{-1}$ C**	1.7	44.2	21.2	11.4	38.9	48.6
Aluminium *(Dissolved)*	**$\mu g.l^{-1}$**	17.5	248	91.8	86.6	247.6	272.8
Arsenic *(Dissolved)*	**$\mu g.l^{-1}$**	0.27	7.1	1.5	2.3	5.2	7.8
Boron *(Dissolved)*	**$\mu g.l^{-1}$**	12.1	69.5	28.5	18.2	59.1	76.5
Cadmium *(Dissolved)*	**$\mu g.l^{-1}$**	0.2	1.7	1.0	0.8	1.6	1.9
Calcium *(Dissolved)*	**$mg.l^{-1}$**	12.9	33.6	20.3	6.3	31.2	37.0
Chromium *(Dissolved)*	**$\mu g.l^{-1}$**	1.8	8.3	4.3	2.9	7.7	9.1
Copper *(Dissolved)*	**$\mu g.l^{-1}$**	2.1	43.8	12.6	15.0	39.3	48.2
Iron *(Dissolved)*	**$\mu g.l^{-1}$**	9.3	1200	301.3	375.5	931.6	1320.0
Lead *(Dissolved)*	**$\mu g.l^{-1}$**	5	9.6	6.8	2.0	9.2	10.6
Magnesium *(Dissolved)*	**$mg.l^{-1}$**	4	9.4	5.5	1.6	8.3	10.3
Manganese *(Dissolved)*	**$\mu g.l^{-1}$**	2.8	59.6	18.1	18.4	48.7	65.6
Mercury *(Dissolved)*	**$\mu g.l^{-1}$**	0.13	0.2	0.2	0.0	0.2	0.2
Nickel *(Dissolved)*	**$\mu g.l^{-1}$**	2.2	4.4	3.4	0.9	4.3	4.8
Phosphorus	**mg.l-1**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Potassium *(Dissolved)*	**$mg.l^{-1}$**	3.2	7	4.5	1.3	6.6	7.7
Sodium *(Dissolved)*	**$mg.l^{-1}$**	7.6	16.7	11.0	2.4	14.9	18.4
Zinc *(Dissolved)*	**$\mu g.l^{-1}$**	2.2	36.4	19.6	11.1	34.2	40.0
Phosphate total	**$mg.l^{-1}$**	0.3	0.5	0.4	0.1	0.5	0.6
Total TPH >C6-C40	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Polycyclic Aromatic Hydrocarbon (Total)	**$\mu g.l^{-2}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluoranthene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	**$\mu g.l^{-2}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	**$\mu g.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	**$mg.l^{-1}$**	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0

SW4		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	118.0	228.0	164.0	22.1	201.7	250.8
Ammonia	$mg.l^{-1}$ as N	0.0	0.4	0.1	0.1	0.3	0.5
BOD	$mg.l^{-1}$ O_2	0.5	5.8	2.6	1.4	5.7	6.4
COD	$mg.l^{-1}$ O_2	2.0	38.0	13.7	9.7	34.4	41.8
Chloride	$mg.l^{-1}$	11.2	20.9	14.2	2.2	19.0	23.0
Conductivity	$\mu S.cm^{-1}$	3.2	540.0	30.5	107.9	368.1	594.0
Dissolved Oxygen	$mg.l^{-1}$ O_2	6.9	581.0	457.8	137.8	571.1	639.1
Fluoride	$mg.l^{-1}$	0.1	0.2	0.1	0.0	0.2	0.3
Nitrate	$mg.l^{-1}$	0.1	6.6	1.4	1.4	4.5	7.3
pH	pH units	5.5	8.0	6.6	0.4	7.5	8.8
Sulphate	$mg.l^{-1}$	31.9	662.0	118.3	86.3	157.6	728.2
Sulphide	$mg.l^{-1}$	0.1	149.0	49.9	70.1	134.1	163.9
Total Sulphur	$mg.l^{-1}$	21.7	221.0	42.5	31.3	95.6	243.1
Suspended Solids	$mg.l^{-1}$	1.6	85.5	13.2	18.2	77.8	94.1
Total Organic Carbon	$mg.l^{-1}$ C	2.5	116.0	24.5	20.5	76.5	127.6
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	3.3	269.0	25.8	57.6	238.5	295.9
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.2	1.0	0.4	0.3	0.9	1.1
Boron *(Dissolved)*	$\mu g.l^{-1}$	5.4	68.2	28.3	12.7	58.9	75.0
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.1	1.3	0.5	0.5	1.2	1.4
Calcium *(Dissolved)*	$mg.l^{-1}$	37.1	140.0	55.5	14.4	66.2	154.0
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.2	8.8	2.6	1.8	6.0	9.7
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	20.4	3.6	4.7	10.4	22.4
Iron *(Dissolved)*	$\mu g.l^{-1}$	2.9	373.0	46.1	77.0	300.1	410.3
Lead *(Dissolved)*	$\mu g.l^{-1}$	1.1	22.7	8.6	5.3	18.0	25.0
Magnesium *(Dissolved)*	$mg.l^{-1}$	19.3	60.6	27.8	6.2	34.2	66.7
Manganese *(Dissolved)*	$\mu g.l^{-1}$	7.0	1430.0	243.6	256.4	846.0	1573.0
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.1	10.0	2.0	3.3	7.6	11.0
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.8	7.5	3.6	1.5	7.3	8.3
Phosphorus	mg.l-1	0.4	0.4	0.4	0.0	#NUM!	0.4
Potassium *(Dissolved)*	$mg.l^{-1}$	6.7	99.0	11.7	13.2	12.5	108.9
Sodium *(Dissolved)*	$mg.l^{-1}$	6.4	29.7	10.0	3.5	15.1	32.7
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.5	72.3	11.6	16.1	72.3	79.5
Phosphate total	$mg.l^{-1}$	0.3	0.6	0.4	0.1	0.5	0.6
Total TPH >C6-C40	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.6	0.6	0.6	0.0	#NUM!	0.7
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

SW5		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	114	269	171.1	34.4	244.3	295.9
Ammonia	$mg.l^{-1}$ as N	0.03	4.4	85.8	0.9	3.4	4.8
BOD	$mg.l^{-1}$ O_2	0.4	39.5	2.1	6.2	12.8	43.5
COD	$mg.l^{-1}$ O_2	2	198	12.0	30.5	54.4	217.8
Chloride	$mg.l^{-1}$	1.3	37.5	19.9	6.2	34.5	41.3
Conductivity	$\mu S.cm^{-1}$	3.7	426	24.1	84.9	332.5	468.6
Dissolved Oxygen	$mg.l^{-1}$ O_2	8.3	827	251.8	147.6	782.8	909.7
Fluoride	$mg.l^{-1}$	0.07	0.49	246.4	0.1	0.3	0.5
Nitrate	$mg.l^{-1}$	0.16	19.2	2.4	5.0	17.4	21.1
pH	pH units	6.7	8.5	6.2	0.4	8.4	9.4
Sulphate	$mg.l^{-1}$	39.1	250	51.3	37.9	197.3	275.0
Sulphide	$mg.l^{-1}$	0.07	172	94.5	86.0	163.4	189.2
Total Sulphur	$mg.l^{-1}$	17.3	160	39.7	24.2	95.0	176.0
Suspended Solids	$mg.l^{-1}$	1.5	344	33.9	53.7	80.4	378.4
Total Organic Carbon	$mg.l^{-1}$ C	1.2	344	31.5	51.6	76.7	378.4
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	0.62	1080	60.1	189.2	481.5	1188.0
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.25	2.2	48.5	0.5	2.0	2.4
Boron *(Dissolved)*	$\mu g.l^{-1}$	7.7	109	21.9	18.4	85.7	119.9
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.093	3.3	37.6	1.5	3.0	3.6
Calcium *(Dissolved)*	$mg.l^{-1}$	35.9	149	57.1	24.8	128.4	163.9
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1	11.7	45.3	3.4	11.6	12.9
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	34.7	4.1	7.1	29.6	38.2
Iron *(Dissolved)*	$\mu g.l^{-1}$	1.5	1119	96.1	236.0	690.6	1230.9
Lead *(Dissolved)*	$\mu g.l^{-1}$	1.3	52.3	114.2	11.6	26.1	57.5
Magnesium *(Dissolved)*	$mg.l^{-1}$	13.5	77.8	21.1	10.3	39.2	85.6
Manganese *(Dissolved)*	$\mu g.l^{-1}$	1.3	1142	121.2	261.8	794.9	1256.2
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.05	16.4	199.2	7.1	14.0	18.0
Nickel *(Dissolved)*	$\mu g.l^{-1}$	2	21.8	5.6	4.2	19.3	24.0
Phosphorus	mg.l-1	0.4	0.4	5.6	0.0	0.4	0.4
Potassium *(Dissolved)*	$mg.l^{-1}$	5.1	31.8	10.3	6.3	28.9	35.0
Sodium *(Dissolved)*	$mg.l^{-1}$	8.2	30.7	12.2	4.8	25.8	33.8
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.4	29	12.3	8.1	23.7	31.9
Phosphate total	$mg.l^{-1}$	0.4	0.4	6.4	0.0	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0.38	0.38	0.4	0.0	0.4	0.4
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0	0	0.4	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0

SWDis		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	99.3	263	157.2	32.0	208.7	289.3
Ammonia	$mg.l^{-1}$ as N	0.01	2	0.3	0.5	1.8	2.2
BOD	$mg.l^{-1}$ O_2	0.4	13	2.3	2.1	6.0	14.3
COD	$mg.l^{-1}$ O_2	2	46	15.0	12.7	44.7	50.6
Chloride	$mg.l^{-1}$	6.3	33.8	17.8	4.9	30.6	37.18
Conductivity	$\mu S.cm^{-1}$	0.8	418	28.5	86.1	351.4	459.8
Dissolved Oxygen	$mg.l^{-1}$ O_2	8.8	809	434.8	139.9	657.3	889.9
Fluoride	$mg.l^{-1}$	0.07	0.37	0.2	0.1	0.3	0.407
Nitrate	$mg.l^{-1}$	0.26	40.4	5.1	7.3	20.7	44.44
pH	pH units	6.7	8.3	7.3	0.3	7.9	9.13
Sulphate	$mg.l^{-1}$	14.5	288	93.1	49.8	221.6	316.8
Sulphide	$mg.l^{-1}$	0.51	149	74.8	105.0	141.6	163.9
Total Sulphur	$mg.l^{-1}$	15.2	128	35.3	23.0	101.0	140.8
Suspended Solids	$mg.l^{-1}$	2.8	156	22.6	37.8	153.8	171.6
Total Organic Carbon	$mg.l^{-1}$ C	0.2	116	23.8	19.3	50.1	127.6
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	0.29	319	38.9	67.5	201.2	350.9
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.22	2.9	0.6	0.7	2.8	3.2
Boron *(Dissolved)*	$\mu g.l^{-1}$	7.8	85.4	34.7	17.0	75.9	93.9
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.13	5.6	2.3	2.9	5.2	6.16
Calcium *(Dissolved)*	$mg.l^{-1}$	32.7	137	57.5	27.1	121.0	150.7
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1	10	3.6	3.2	9.1	11
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	27.9	4.5	6.3	26.6	30.7
Iron *(Dissolved)*	$\mu g.l^{-1}$	0.9	1230	152.2	256.1	804.1	1353
Lead *(Dissolved)*	$\mu g.l^{-1}$	5.2	17.9	8.4	4.0	16.2	19.7
Magnesium *(Dissolved)*	$mg.l^{-1}$	15.6	59.3	23.5	7.4	37.0	65.2
Manganese *(Dissolved)*	$\mu g.l^{-1}$	3.8	1490	374.7	423.3	1303.0	1639
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.06	7.8	1.6	2.9	6.2	8.6
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.7	24	6.2	5.5	23.3	26.4
Phosphorus	mg.l-1	0.3	0.3	0.3	#DIV/0!	0.3	0.3
Potassium *(Dissolved)*	$mg.l^{-1}$	4.1	19.3	7.5	3.6	17.6	21.2
Sodium *(Dissolved)*	$mg.l^{-1}$	7.3	27.2	12.9	4.7	26.5	29.9
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.2	34.1	7.5	8.4	33.4	37.5
Phosphate total	$mg.l^{-1}$	0.3	0.4	0.4	0.1	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Naphthalene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Acenaphthylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Acenaphthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Fluorene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Phenanthrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benza(a)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Chrysene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(a)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Total PAHs	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Sulphide	$mg.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0

SWUp		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	59.2	493	134.3	100.9	462.2	542.3
Ammonia	$mg.l^{-1}$ as N	0.01	15.5	1.2	3.0	10.9	17.05
BOD	$mg.l^{-1}$ O_2	0.6	41.3	6.8	7.9	29.5	45.43
COD	$mg.l^{-1}$ O_2	2	154	38.3	33.9	150.8	169.4
Chloride	$mg.l^{-1}$	8.1	1048	49.4	176.7	351.8	1152.8
Conductivity	$\mu S.cm^{-1}$	0.1	536	36.6	110.9	440.8	589.6
Dissolved Oxygen	$mg.l^{-1}$ O_2	1.1	3035	413.8	525.2	1856.9	3338.5
Fluoride	$mg.l^{-1}$	0.07	0.39	0.1	0.1	0.4	0.429
Nitrate	$mg.l^{-1}$	0.22	28.7	6.5	6.5	23.2	31.57
pH	pH units	6.6	8.7	7.6	0.4	8.6	9.57
Sulphate	$mg.l^{-1}$	5.5	528	66.4	102.4	348.8	580.8
Sulphide	$mg.l^{-1}$	0.06	0.52	0.3	0.2	0.5	0.572
Total Sulphur	$mg.l^{-1}$	3.3	46.1	11.7	9.0	36.7	50.71
Suspended Solids	$mg.l^{-1}$	2.4	54	17.1	16.1	52.0	59.4
Total Organic Carbon	$mg.l^{-1}$ C	1.4	82.2	23.4	16.6	62.7	90.42
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	2.3	384	63.2	79.0	303.0	422.4
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.23	7.9	1.4	1.7	6.9	8.69
Boron *(Dissolved)*	$\mu g.l^{-1}$	12.8	247	37.0	42.5	163.3	271.7
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.12	1.8	1.0	0.8	1.7	1.98
Calcium *(Dissolved)*	$mg.l^{-1}$	20.5	464	55.3	80.0	291.1	510.4
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.1	9.3	3.3	2.9	9.3	10.23
Copper *(Dissolved)*	$\mu g.l^{-1}$	1	81	12.6	18.8	69.8	89.1
Iron *(Dissolved)*	$\mu g.l^{-1}$	4	1060	139.9	193.3	599.4	1166
Lead *(Dissolved)*	$\mu g.l^{-1}$	5.5	65.8	12.6	15.7	35.7	72.38
Magnesium *(Dissolved)*	$mg.l^{-1}$	4.8	28.5	12.2	6.8	28.2	31.35
Manganese *(Dissolved)*	$\mu g.l^{-1}$	1.3	1300	97.4	239.3	824.2	1430
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.07	0.53	0.2	0.2	0.5	0.583
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.9	35	6.7	8.2	18.6	38.5
Phosphorus	mg.l-1	1	3.4	2.2	1.2	3.3	3.74
Potassium *(Dissolved)*	$mg.l^{-1}$	3.4	52.6	11.1	10.9	39.6	57.86
Sodium *(Dissolved)*	$mg.l^{-1}$	3.3	433	29.3	74.8	226.5	476.3
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.7	153	20.9	32.6	147.5	168.3
Phosphate total	$mg.l^{-1}$	0.2	0.6	0.4	0.2	0.6	0.66
Total TPH >C6-C40	$\mu g.l^{-1}$	180	180	180.0	0.0	180.0	198
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Naphthalene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Acenaphthylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Acenaphthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Fluorene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Phenanthrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benza(a)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Chrysene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(a)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Total PAHs	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0
Sulphide	$mg.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0

SWDown		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	127	432	238.2	78.1	410	475.2
Ammonia	$mg.l^{-1}$ as N	0.01	3.6	0.5	0.7	2.5	4.0
BOD	$mg.l^{-1}$ O_2	0.4	9.8	3.5	2.2	8.3	10.8
COD	$mg.l^{-1}$ O_2	2	58	22.9	14.9	53.3	63.8
Chloride	$mg.l^{-1}$	9.6	85.9	32.2	17.9	74.5	94.5
Conductivity	$\mu S.cm^{-1}$	4.8	752	38.4	135.9	369.1	827.2
Dissolved Oxygen	$mg.l^{-1}$ O_2	8.1	1193	632.7	249.0	1097.6	1312.3
Fluoride	$mg.l^{-1}$	0.07	0.48	0.2	0.1	0.4	0.5
Nitrate	$mg.l^{-1}$	0.35	22.5	6.4	5.9	21.3	24.8
pH	pH units	6.5	8.8	7.9	0.4	8.5	9.7
Sulphate	$mg.l^{-1}$	33.9	1120	138.4	153.4	270.0	1232.0
Sulphide	$mg.l^{-1}$	197	197	197.0	0.0	#NUM!	216.7
Total Sulphur	$mg.l^{-1}$	20.8	375	49.2	54.3	114.3	412.5
Suspended Solids	$mg.l^{-1}$	1.2	441	38.6	69.6	177.3	485.1
Total Organic Carbon	$mg.l^{-1}$ C	1.7	107	26.7	20.7	66.7	117.7
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	0.64	572	70.4	129.7	460.1	629.2
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.29	4.3	1.0	0.8	2.6	4.7
Boron *(Dissolved)*	$\mu g.l^{-1}$	19.9	167	76.3	36.8	153.9	183.7
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.13	1.1	0.6	0.5	1.1	1.2
Calcium *(Dissolved)*	$mg.l^{-1}$	48.6	176	88.0	32.8	166.2	193.6
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1	8.9	3.5	2.7	8.9	9.8
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	48.2	7.3	11.9	42.3	53.0
Iron *(Dissolved)*	$\mu g.l^{-1}$	2.4	638	116.3	179.1	587.0	701.8
Lead *(Dissolved)*	$\mu g.l^{-1}$	0.97	42.1	10.9	10.0	42.1	46.3
Magnesium *(Dissolved)*	$mg.l^{-1}$	12.8	104	26.2	13.1	40.3	114.4
Manganese *(Dissolved)*	$\mu g.l^{-1}$	1.2	506	89.6	118.1	448.0	556.6
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.05	21.6	4.1	7.9	16.8	23.8
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.3	14.2	4.4	3.2	13.9	15.6
Phosphorus	mg.l-1	0.4	0.4	0.4	0.0	#NUM!	0.4
Potassium *(Dissolved)*	$mg.l^{-1}$	7.6	44	15.8	7.6	32.4	48.4
Sodium *(Dissolved)*	$mg.l^{-1}$	8.6	49.3	22.3	10.3	47.0	54.2
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.2	42.1	14.1	13.5	39.3	46.3
Phosphate total	$mg.l^{-1}$	0.3	0.4	0.4	0.0	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0.35	0.35	0.4	0.0	0.4	0.4
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0	0	#DIV/0!	#DIV/0!	#NUM!	0.0

Appendix D

Groundwater Monitoring Baseline Data and Analysis Table

NOTE: Surface water monitoring data is taken from the available monitoring points over the period May 2020 – July 2024.

NOTE:#DIV/0! & #NUM! Indicates where no Concentrations have been recorded above Laboratory Level of Detection for a particular determinant or where there isnt' enough data >LoD for Mean, Standard Deviation and 95%ile to be calculated.

BH101A		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	107.0	399.0	223.0	54.4	285.7	438.9
Ammonia	$mg.l^{-1}$ as N	0.0	0.2	0.1	0.0	0.2	0.2
BOD	$mg.l^{-1}$ O_2	0.6	7.3	3.5	1.9	6.4	8.0
COD	$mg.l^{-1}$ O_2	2.0	52.0	14.1	12.5	36.3	57.2
Chloride	$mg.l^{-1}$	5.2	63.2	32.2	14.8	51.4	69.5
Conductivity	$\mu S.cm^{-1}$	168.0	845.0	582.2	169.0	807.7	929.5
Dissolved Oxygen	$mg.l^{-1}$ O_2	0.7	10.3	4.8	3.3	10.0	11.3
Fluoride	$mg.l^{-1}$	0.1	0.2	0.1	0.1	0.2	0.3
Nitrate	$mg.l^{-1}$	0.1	21.6	4.3	5.3	14.4	23.8
pH	pH units	5.5	7.8	6.7	0.4	7.4	8.6
Sulphate	$mg.l^{-1}$	31.4	192.0	94.3	45.0	175.2	211.2
Sulphide	$mg.l^{-1}$	0.1	0.1	0.1	0.0	0.1	0.1
Total Sulphur	$mg.l^{-1}$	10.5	359.0	41.7	53.0	64.0	394.9
Suspended Solids	$mg.l^{-1}$	N/A	N/A	N/A	N/A	N/A	#VALUE!
Total Organic Carbon	$mg.l^{-1}$ C	4.4	134.0	31.1	20.7	57.6	147.4
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	2.7	810.0	105.3	182.9	471.6	891.0
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.2	1.7	0.5	0.4	1.5	1.9
Boron *(Dissolved)*	$\mu g.l^{-1}$	14.8	364.0	46.2	48.1	56.6	400.4
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.1	1.6	0.9	0.6	1.5	1.8
Calcium *(Dissolved)*	$mg.l^{-1}$	0.2	123.0	66.2	22.1	98.8	135.3
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.1	8.2	3.0	2.0	7.4	9.0
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	26.8	4.5	6.7	21.1	29.5
Iron *(Dissolved)*	$\mu g.l^{-1}$	1.8	1218.0	149.4	273.5	729.5	1339.8
Lead *(Dissolved)*	$\mu g.l^{-1}$	4.5	58.1	12.3	13.0	38.4	63.9
Magnesium *(Dissolved)*	$mg.l^{-1}$	11.9	59.5	33.3	12.8	50.9	65.5
Manganese *(Dissolved)*	$\mu g.l^{-1}$	1.0	910.0	280.0	246.4	713.0	1001.0
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.1	0.1	0.1	0.0	0.1	0.1
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.5	12.9	4.2	2.1	6.2	14.2
Phosphorus	mg.l-1	0.5	0.5	0.5	0.0	0.5	0.6
Potassium *(Dissolved)*	$mg.l^{-1}$	0.5	15.8	7.7	2.8	12.9	17.4
Sodium *(Dissolved)*	$mg.l^{-1}$	0.2	25.4	11.3	3.3	15.0	27.9
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.7	126.0	23.4	33.1	97.1	138.6
Phosphate total	$mg.l^{-1}$	0.2	0.5	0.3	0.1	0.5	0.6
Total TPH >C6-C40	$\mu g.l^{-1}$	0.3	0.3	0.3	0.0	0.3	0.3
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	N/A	N/A	N/A	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Acenaphthene	$\mu g.l^{-1}$	0.8	0.8	0.8	0.0	0.8	0.9
Fluorene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Anthracene	$\mu g.l^{-1}$	1.5	1.5	1.5	0.0	1.5	1.7
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	2.3	2.3	2.3	0.0	2.3	2.5
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	N/A	N/A	N/A	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	2.1	2.1	2.1	0.0	2.1	2.3
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	2.1	2.1	2.1	0.0	2.1	2.3
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	N/A	N/A	N/A	0.0

BH102A		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	61.0	287.0	153.5	54.7	256.0	315.7
Ammonia	$mg.l^{-1}$ as N	0.0	0.5	0.1	0.1	0.3	0.6
BOD	$mg.l^{-1}$ O_2	0.5	8.7	3.5	2.0	7.0	9.6
COD	$mg.l^{-1}$ O_2	2.0	146.0	16.4	22.6	45.8	160.6
Chloride	$mg.l^{-1}$	8.8	49.5	24.2	7.6	41.8	54.5
Conductivity	$\mu S.cm^{-1}$	0.8	561.0	26.4	104.6	275.4	617.1
Dissolved Oxygen	$mg.l^{-1}$ O_2	5.6	701.0	476.0	135.4	684.9	771.1
Fluoride	$mg.l^{-1}$	0.0	0.3	0.1	0.1	0.2	0.3
Nitrate	$mg.l^{-1}$	1.9	91.0	15.9	17.2	58.9	100.1
pH	pH units	5.9	7.9	6.6	0.4	7.7	8.7
Sulphate	$mg.l^{-1}$	31.4	225.0	85.1	39.9	170.6	247.5
Sulphide	$mg.l^{-1}$	0.1	0.1	0.1	0.0	0.1	0.1
Total Sulphur	$mg.l^{-1}$	10.5	120.0	30.8	19.6	72.9	132.0
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	2.9	79.3	25.3	16.6	66.8	87.2
Aluminium ***(Dissolved)***	$\mu g.l^{-1}$	1.3	1099.0	117.1	215.2	720.8	1208.9
Arsenic ***(Dissolved)***	$\mu g.l^{-1}$	0.2	0.9	0.4	0.2	0.9	1.0
Boron ***(Dissolved)***	$\mu g.l^{-1}$	13.9	263.0	44.9	34.3	79.5	289.3
Cadmium ***(Dissolved)***	$\mu g.l^{-1}$	0.1	1.4	0.5	0.5	1.3	1.5
Calcium ***(Dissolved)***	$mg.l^{-1}$	0.2	94.4	52.0	15.9	85.4	103.8
Chromium ***(Dissolved)***	$\mu g.l^{-1}$	1.0	7.8	2.4	1.8	7.6	8.6
Copper ***(Dissolved)***	$\mu g.l^{-1}$	0.8	31.7	3.7	5.6	20.0	34.9
Iron ***(Dissolved)***	$\mu g.l^{-1}$	3.1	2730.0	242.6	498.3	1418.7	3003.0
Lead ***(Dissolved)***	$\mu g.l^{-1}$	4.9	48.2	10.4	9.8	20.7	53.0
Magnesium ***(Dissolved)***	$mg.l^{-1}$	15.1	52.5	24.4	6.1	33.7	57.8
Manganese ***(Dissolved)***	$\mu g.l^{-1}$	1.0	6000.0	466.4	861.3	1055.5	6600.0
Mercury ***(Dissolved)***	$\mu g.l^{-1}$	0.1	2.4	0.7	1.0	2.1	2.6
Nickel ***(Dissolved)***	$\mu g.l^{-1}$	1.5	14.8	5.7	3.0	12.4	16.3
Phosphorus	mg.l-1	0.4	0.4	0.4	0.0	0.4	0.4
Potassium ***(Dissolved)***	$mg.l^{-1}$	0.5	28.1	10.8	4.2	18.5	30.9
Sodium ***(Dissolved)***	$mg.l^{-1}$	0.2	27.8	14.6	4.3	23.2	30.6
Zinc ***(Dissolved)***	$\mu g.l^{-1}$	1.2	46.5	8.9	10.8	44.9	51.2
Phosphate total	$mg.l^{-1}$	0.2	0.4	0.3	0.1	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0.3	180.0	135.1	77.8	180.0	198.0
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.8	0.8	0.8	0.0	#NUM!	0.9
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	1.3	1.3	1.3	0.0	#NUM!	1.4
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

BH103		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	35.9	410.0	120.6	58.3	248.0	451.0
Ammonia	$mg.l^{-1}$ as N	0.0	1.2	0.2	0.2	0.8	1.3
BOD	$mg.l^{-1}$ O_2	0.5	17.7	3.9	3.0	8.9	19.5
COD	$mg.l^{-1}$ O_2	3.0	51.0	20.0	13.0	45.0	56.1
Chloride	$mg.l^{-1}$	8.9	46.5	20.5	9.2	40.8	51.2
Conductivity	$\mu S.cm^{-1}$	0.7	408.0	19.3	71.9	177.0	448.8
Dissolved Oxygen	$mg.l^{-1}$ O_2	2.6	658.0	302.5	126.5	553.4	723.8
Fluoride	$mg.l^{-1}$	0.1	0.4	0.1	0.1	0.3	0.4
Nitrate	$mg.l^{-1}$	0.2	21.4	5.7	5.0	18.9	23.5
pH	pH units	5.4	7.8	6.4	0.4	7.5	8.6
Sulphate	$mg.l^{-1}$	12.8	109.0	37.2	18.2	75.1	119.9
Sulphide	$mg.l^{-1}$	0.1	0.1	0.1	0.0	0.1	0.1
Total Sulphur	$mg.l^{-1}$	6.1	38.4	13.0	7.2	34.7	42.2
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	1.0	106.0	28.6	18.8	65.1	116.6
Aluminium ***(Dissolved)***	$\mu g.l^{-1}$	1.9	1822.0	145.8	307.7	800.9	2004.2
Arsenic ***(Dissolved)***	$\mu g.l^{-1}$	0.3	2.7	0.5	0.4	1.6	3.0
Boron ***(Dissolved)***	$\mu g.l^{-1}$	5.8	224.0	28.7	30.4	48.2	246.4
Cadmium ***(Dissolved)***	$\mu g.l^{-1}$	0.1	1.7	0.3	0.5	1.4	1.9
Calcium ***(Dissolved)***	$mg.l^{-1}$	10.1	71.9	30.9	11.3	50.1	79.1
Chromium ***(Dissolved)***	$\mu g.l^{-1}$	1.1	5.8	2.4	1.0	5.1	6.4
Copper ***(Dissolved)***	$\mu g.l^{-1}$	1.0	64.2	7.0	12.6	40.7	70.6
Iron ***(Dissolved)***	$\mu g.l^{-1}$	1.3	1969.0	188.8	422.1	1628.8	2165.9
Lead ***(Dissolved)***	$\mu g.l^{-1}$	4.1	9.4	6.5	1.9	9.4	10.3
Magnesium ***(Dissolved)***	$mg.l^{-1}$	4.8	30.2	15.1	5.3	25.3	33.2
Manganese ***(Dissolved)***	$\mu g.l^{-1}$	2.8	23500.0	2978.6	3281.7	6550.8	25850.0
Mercury ***(Dissolved)***	$\mu g.l^{-1}$	0.1	0.7	0.3	0.3	0.7	0.8
Nickel ***(Dissolved)***	$\mu g.l^{-1}$	2.2	19.6	6.3	3.0	12.0	21.6
Phosphorus	mg.l-1	0.5	0.5	0.5	0.0	0.5	0.6
Potassium ***(Dissolved)***	$mg.l^{-1}$	1.5	9.7	3.9	1.7	7.3	10.7
Sodium ***(Dissolved)***	$mg.l^{-1}$	5.0	23.4	13.5	4.2	23.2	25.7
Zinc ***(Dissolved)***	$\mu g.l^{-1}$	2.4	32.6	10.9	8.6	30.9	35.9
Phosphate total	$mg.l^{-1}$	0.3	0.4	0.4	0.0	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0.4	0.4	0.4	0.0	0.4	0.4
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.9	0.9	0.9	0.0	#NUM!	0.9
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	1.2	1.2	1.2	0.0	1.2	1.3
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

BH104A		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	115.0	1000.0	359.4	252.1	1052.0	1100.0
Ammonia	$mg.l^{-1}$ as N	0.0	1.0	0.4	0.3	3.1	1.1
BOD	$mg.l^{-1}$ O_2	0.8	12.1	4.3	2.4	11.5	13.3
COD	$mg.l^{-1}$ O_2	21.0	78.0	48.8	17.2	94.0	85.8
Chloride	$mg.l^{-1}$	9.0	33.0	16.5	5.0	40.4	36.3
Conductivity	$\mu S.cm^{-1}$	0.6	1075.0	101.7	281.1	374.5	1182.5
Dissolved Oxygen	$mg.l^{-1}$ O_2	1.8	1558.0	587.2	447.2	1610.9	1713.8
Fluoride	$mg.l^{-1}$	0.1	0.4	0.3	0.1	0.4	0.5
Nitrate	$mg.l^{-1}$	0.1	10.1	3.0	3.2	9.7	11.1
pH	pH units	5.9	7.8	7.0	0.5	7.8	8.6
Sulphate	$mg.l^{-1}$	20.5	234.0	58.1	49.3	257.7	257.4
Sulphide	$mg.l^{-1}$	0.1	0.5	0.3	0.2	0.5	0.6
Total Sulphur	$mg.l^{-1}$	6.8	31.0	14.8	7.5	95.0	34.1
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	9.3	206.0	54.8	50.6	190.3	226.6
Aluminium ***(Dissolved)***	$\mu g.l^{-1}$	2.6	2382.0	231.4	562.7	369.5	2620.2
Arsenic ***(Dissolved)***	$\mu g.l^{-1}$	0.4	5.4	1.2	1.1	5.3	5.9
Boron ***(Dissolved)***	$\mu g.l^{-1}$	24.8	250.0	98.9	72.6	226.3	275.0
Cadmium ***(Dissolved)***	$\mu g.l^{-1}$	0.9	1.1	1.0	0.1	1.2	1.2
Calcium ***(Dissolved)***	$mg.l^{-1}$	29.6	280.0	97.4	69.3	257.3	308.0
Chromium ***(Dissolved)***	$\mu g.l^{-1}$	1.2	3.3	2.3	0.9	3.4	3.6
Copper ***(Dissolved)***	$\mu g.l^{-1}$	0.9	34.8	7.4	9.8	28.8	38.3
Iron ***(Dissolved)***	$\mu g.l^{-1}$	22.9	17075.0	3540.4	4965.2	12560.0	18782.5
Lead ***(Dissolved)***	$\mu g.l^{-1}$	7.0	9.7	8.2	1.1	68.6	10.7
Magnesium ***(Dissolved)***	$mg.l^{-1}$	7.0	47.3	15.8	9.7	41.8	52.0
Manganese ***(Dissolved)***	$\mu g.l^{-1}$	2.5	3300.0	930.0	828.8	3165.0	3630.0
Mercury ***(Dissolved)***	$\mu g.l^{-1}$	0.3	2.9	1.6	1.3	2.3	3.2
Nickel ***(Dissolved)***	$\mu g.l^{-1}$	1.6	5.5	3.8	1.2	12.6	6.1
Phosphorus	mg.l-1	0.4	0.4	0.4	0.0	0.4	0.4
Potassium ***(Dissolved)***	$mg.l^{-1}$	5.1	76.5	21.1	17.7	75.5	84.2
Sodium ***(Dissolved)***	$mg.l^{-1}$	6.6	33.0	12.9	6.2	33.3	36.3
Zinc ***(Dissolved)***	$\mu g.l^{-1}$	3.0	32.0	9.1	7.2	33.5	35.2
Phosphate total	$mg.l^{-1}$	0.3	0.5	0.4	0.1	0.5	0.6
Total TPH >C6-C40	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

BH110		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	57.0	238.0	112.7	27.2	1052.0	261.8
Ammonia	$mg.l^{-1}$ as N	0.0	0.3	0.1	0.0	3.1	0.3
BOD	$mg.l^{-1}$ O_2	0.3	13.2	3.6	2.5	11.5	14.5
COD	$mg.l^{-1}$ O_2	2.0	55.0	16.4	13.9	94.0	60.5
Chloride	$mg.l^{-1}$	4.6	38.8	18.1	4.8	40.4	42.7
Conductivity	$\mu S.cm^{-1}$	0.5	274.0	15.7	53.9	374.5	301.4
Dissolved Oxygen	$mg.l^{-1}$ O_2	3.5	667.0	252.5	89.1	1610.9	733.7
Fluoride	$mg.l^{-1}$	0.1	0.4	0.2	0.1	0.4	0.5
Nitrate	$mg.l^{-1}$	0.1	27.0	2.1	5.2	9.7	29.7
pH	pH units	5.5	7.9	6.4	0.5	7.8	8.7
Sulphate	$mg.l^{-1}$	7.0	104.0	23.7	12.8	257.7	114.4
Sulphide	$mg.l^{-1}$	0.1	0.1	0.1	0.0	#NUM!	0.1
Total Sulphur	$mg.l^{-1}$	5.0	201.0	12.8	30.1	95.0	221.1
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	2.3	72.2	21.6	12.9	190.3	79.4
Aluminium ***(Dissolved)***	$\mu g.l^{-1}$	1.9	153.0	27.3	32.8	369.5	168.3
Arsenic ***(Dissolved)***	$\mu g.l^{-1}$	0.2	9.5	0.7	1.8	5.3	10.5
Boron ***(Dissolved)***	$\mu g.l^{-1}$	2.8	923.0	45.4	133.3	226.3	1015.3
Cadmium ***(Dissolved)***	$\mu g.l^{-1}$	0.1	1.0	0.5	0.3	1.2	1.1
Calcium ***(Dissolved)***	$mg.l^{-1}$	8.2	71.4	23.7	8.2	257.3	78.5
Chromium ***(Dissolved)***	$\mu g.l^{-1}$	1.0	12.6	2.2	2.3	3.4	13.9
Copper ***(Dissolved)***	$\mu g.l^{-1}$	0.8	5.9	2.2	1.4	28.8	6.5
Iron ***(Dissolved)***	$\mu g.l^{-1}$	1.0	3330.0	620.5	912.4	12560.0	3663.0
Lead ***(Dissolved)***	$\mu g.l^{-1}$	4.5	15.7	7.7	3.6	68.6	17.3
Magnesium ***(Dissolved)***	$mg.l^{-1}$	6.6	38.1	13.0	4.2	41.8	41.9
Manganese ***(Dissolved)***	$\mu g.l^{-1}$	16.6	3500.0	1668.6	616.6	3165.0	3850.0
Mercury ***(Dissolved)***	$\mu g.l^{-1}$	0.1	2.7	0.8	1.0	#NUM!	3.0
Nickel ***(Dissolved)***	$\mu g.l^{-1}$	1.0	7.9	4.2	1.7	12.6	8.7
Phosphorus	mg.l-1	0.4	0.4	0.4	0.0	#NUM!	0.4
Potassium ***(Dissolved)***	$mg.l^{-1}$	1.4	8.5	2.9	1.1	75.5	9.4
Sodium ***(Dissolved)***	$mg.l^{-1}$	1.5	15.0	11.8	1.9	33.3	16.5
Zinc ***(Dissolved)***	$\mu g.l^{-1}$	1.4	128.0	9.6	25.4	33.5	140.8
Phosphate total	$mg.l^{-1}$	0.2	8.4	2.3	3.5	0.5	9.2
Total TPH >C6-C40	$\mu g.l^{-1}$	0.3	35.0	26.3	15.0	0.4	38.5
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.6	0.6	0.6	0.0	#NUM!	0.7
Acenaphthene	$\mu g.l^{-1}$	0.3	0.3	0.3	0.0	#NUM!	0.3
Fluorene	$\mu g.l^{-1}$	0.7	0.7	0.7	0.0	#NUM!	0.8
Phenanthrene	$\mu g.l^{-1}$	0.7	1.1	0.9	0.2	#NUM!	1.2
Anthracene	$\mu g.l^{-1}$	0.3	1.3	0.9	0.4	#NUM!	1.4
Fluoranthene	$\mu g.l^{-1}$	0.6	1.2	0.9	0.3	#NUM!	1.3
Pyrene	$\mu g.l^{-1}$	0.5	1.0	0.8	0.2	#NUM!	1.1
Benza(a)anthracene	$\mu g.l^{-1}$	1.4	1.4	1.4	0.0	#NUM!	1.5
Chrysene	$\mu g.l^{-1}$	1.1	1.1	1.1	0.0	#NUM!	1.2
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	2.0	2.0	2.0	0.0	#NUM!	2.2
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	2.7	2.7	2.7	0.0	#NUM!	3.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

BH110A		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	10.9	126.0	64.4	32.8	124.3	138.6
Ammonia	$mg.l^{-1}$ as N	0.0	1.3	0.2	0.3	1.3	1.4
BOD	$mg.l^{-1}$ O_2	0.4	9.1	3.4	2.1	7.6	10.0
COD	$mg.l^{-1}$ O_2	3.0	89.0	31.8	20.1	77.5	97.9
Chloride	$mg.l^{-1}$	3.0	23.2	13.6	5.0	20.4	25.5
Conductivity	$\mu S.cm^{-1}$	0.4	222.0	12.9	39.9	111.6	244.2
Dissolved Oxygen	$mg.l^{-1}$ O_2	5.4	283.0	180.3	70.5	274.6	311.3
Fluoride	$mg.l^{-1}$	0.1	0.4	0.2	0.1	0.3	0.4
Nitrate	$mg.l^{-1}$	0.2	34.5	7.1	7.6	22.4	38.0
pH	pH units	5.2	7.7	6.2	0.5	7.3	8.5
Sulphate	$mg.l^{-1}$	4.9	365.0	25.6	50.6	39.1	401.5
Sulphide	$mg.l^{-1}$	0.1	0.6	0.3	0.2	0.5	0.6
Total Sulphur	$mg.l^{-1}$	2.5	14.6	6.2	2.8	13.4	16.1
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	2.3	91.5	27.6	18.4	68.7	100.7
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	7.9	1149.0	304.8	277.7	916.4	1263.9
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.3	197.0	6.1	30.2	5.7	216.7
Boron *(Dissolved)*	$\mu g.l^{-1}$	2.3	2660.0	88.0	407.2	132.9	2926.0
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.1	1.9	0.5	0.6	1.7	2.1
Calcium *(Dissolved)*	$mg.l^{-1}$	0.2	38.0	17.6	6.8	27.7	41.8
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.0	22.1	3.4	4.2	17.5	24.3
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	45.5	8.9	8.6	35.2	50.1
Iron *(Dissolved)*	$\mu g.l^{-1}$	7.6	5240.0	736.3	848.3	2440.0	5764.0
Lead *(Dissolved)*	$\mu g.l^{-1}$	0.7	10.5	5.7	2.7	9.4	11.6
Magnesium *(Dissolved)*	$mg.l^{-1}$	2.9	14.7	8.1	3.6	14.1	16.2
Manganese *(Dissolved)*	$\mu g.l^{-1}$	24.6	1360.0	387.3	386.4	1135.0	1496.0
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.1	0.7	0.2	0.2	#NUM!	0.8
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.2	20.1	8.3	4.3	17.5	22.1
Phosphorus	mg.l-1	0.5	0.5	0.5	0.0	0.5	0.6
Potassium *(Dissolved)*	$mg.l^{-1}$	0.6	5.7	3.1	0.9	4.8	6.3
Sodium *(Dissolved)*	$mg.l^{-1}$	0.3	16.7	10.9	3.0	15.9	18.4
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.7	40.0	12.9	9.5	38.7	44.0
Phosphate total	$mg.l^{-1}$	0.3	9.0	2.6	3.7	7.7	9.9
Total TPH >C6-C40	$\mu g.l^{-1}$	0.3	0.3	0.3	0.0	0.3	0.3
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	1.2	1.2	1.2	0.0	#NUM!	1.3
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

BH111		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	5.6	146.0	44.1	36.4	118.5	160.6
Ammonia	$mg.l^{-1}$ as N	0.0	0.2	0.1	0.1	0.2	0.2
BOD	$mg.l^{-1}$ O_2	0.6	6.3	2.9	1.8	6.3	6.9
COD	$mg.l^{-1}$ O_2	2.0	74.0	17.6	14.5	41.8	81.4
Chloride	$mg.l^{-1}$	1.0	25.3	16.4	4.3	25.0	27.8
Conductivity	$\mu S.cm^{-1}$	1.0	659.0	31.2	121.8	317.7	724.9
Dissolved Oxygen	$mg.l^{-1}$ O_2	8.1	1129.0	499.5	234.5	955.8	1241.9
Fluoride	$mg.l^{-1}$	0.1	0.3	0.1	0.1	0.2	0.3
Nitrate	$mg.l^{-1}$	0.3	32.0	4.2	5.4	14.0	35.2
pH	pH units	3.8	6.8	5.5	0.7	6.5	7.5
Sulphate	$mg.l^{-1}$	20.4	678.0	187.0	128.8	463.0	745.8
Sulphide	$mg.l^{-1}$	0.1	464.0	154.7	218.7	417.6	510.4
Total Sulphur	$mg.l^{-1}$	7.2	226.0	64.4	42.5	153.5	248.6
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	2.4	102.0	24.5	19.8	77.8	112.2
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	0.6	5600.0	1190.1	1534.5	5116.0	6160.0
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.2	131.0	5.3	23.8	70.1	144.1
Boron *(Dissolved)*	$\mu g.l^{-1}$	2.5	4254.0	137.8	607.9	164.0	4679.4
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	0.2	164.0	7.6	28.7	77.0	180.4
Calcium *(Dissolved)*	$mg.l^{-1}$	0.2	19914.0	462.5	2837.4	119.0	21905.4
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.1	18.4	5.2	4.0	15.0	20.2
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.9	27.0	4.0	4.9	18.4	29.7
Iron *(Dissolved)*	$\mu g.l^{-1}$	3.4	2580.0	162.1	406.5	825.4	2838.0
Lead *(Dissolved)*	$\mu g.l^{-1}$	2.8	20.6	7.8	4.7	18.9	22.7
Magnesium *(Dissolved)*	$mg.l^{-1}$	9.4	88.2	25.3	12.5	46.3	97.0
Manganese *(Dissolved)*	$\mu g.l^{-1}$	26.6	30100.0	10413.0	7199.3	23815.0	33110.0
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.1	4.6	1.0	1.8	3.7	5.1
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.3	237.0	82.6	58.3	204.3	260.7
Phosphorus	mg.l-1	0.4	0.4	0.4	0.0	0.4	0.4
Potassium *(Dissolved)*	$mg.l^{-1}$	0.5	15.4	3.7	2.1	6.9	16.9
Sodium *(Dissolved)*	$mg.l^{-1}$	0.2	33.1	14.3	4.8	22.3	36.4
Zinc *(Dissolved)*	$\mu g.l^{-1}$	1.4	172.0	67.6	42.7	163.8	189.2
Phosphate total	$mg.l^{-1}$	0.3	20.1	6.9	9.3	18.1	22.1
Total TPH >C6-C40	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	1.1	1.1	1.1	0.0	#NUM!	1.2
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Chrysene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(b)fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(k)fluoranthene	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(a)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benzo(ghi)perylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0

BH112		Min	Max	Mean	STDev	95%ile	Proposed Exceedance Limit (Max + 10%)
Alkalinity	$mg.l^{-1}$ HCO_3	66.1	160.0	109.2	22.5	157.9	176.0
Ammonia	$mg.l^{-1}$ as N	0.0	2.8	0.3	0.8	2.8	3.1
BOD	$mg.l^{-1}$ O_2	0.5	6.9	3.0	1.6	6.4	7.6
COD	$mg.l^{-1}$ O_2	5.0	153.0	22.6	30.2	128.5	168.3
Chloride	$mg.l^{-1}$	5.0	31.4	17.0	6.9	31.1	34.5
Conductivity	$\mu S.cm^{-1}$	2.0	11.0	6.5	2.7	10.7	12.1
Dissolved Oxygen	$mg.l^{-1}$ O_2	102.0	728.0	364.8	107.9	641.2	800.8
Fluoride	$mg.l^{-1}$	0.0	0.2	0.1	0.1	0.2	0.2
Nitrate	$mg.l^{-1}$	7.2	181.0	47.8	44.5	160.6	199.1
pH	pH units	5.6	7.5	6.4	0.4	7.4	8.3
Sulphate	$mg.l^{-1}$	3.3	29.0	16.7	5.6	28.2	31.9
Sulphide	$mg.l^{-1}$	0.1	18.5	9.3	9.2	17.6	20.4
Total Sulphur	$mg.l^{-1}$	4.2	9.9	5.9	1.8	9.8	10.9
Suspended Solids	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total Organic Carbon	$mg.l^{-1}$ C	1.7	69.0	25.1	15.7	63.1	75.9
Aluminium *(Dissolved)*	$\mu g.l^{-1}$	7.0	187.0	63.7	44.3	173.5	205.7
Arsenic *(Dissolved)*	$\mu g.l^{-1}$	0.2	1.8	0.5	0.5	1.7	2.0
Boron *(Dissolved)*	$\mu g.l^{-1}$	12.2	211.0	38.8	41.1	179.5	232.1
Cadmium *(Dissolved)*	$\mu g.l^{-1}$	1.0	1.9	1.5	0.5	1.9	2.1
Calcium *(Dissolved)*	$mg.l^{-1}$	0.2	327.0	48.5	56.8	234.8	359.7
Chromium *(Dissolved)*	$\mu g.l^{-1}$	1.0	8.2	3.9	2.5	7.8	9.0
Copper *(Dissolved)*	$\mu g.l^{-1}$	0.8	60.9	7.4	13.9	59.5	67.0
Iron *(Dissolved)*	$\mu g.l^{-1}$	1.3	65.2	25.7	22.4	65.1	71.7
Lead *(Dissolved)*	$\mu g.l^{-1}$	1.4	32.5	11.3	8.9	26.2	35.8
Magnesium *(Dissolved)*	$mg.l^{-1}$	6.0	35.9	13.4	6.3	31.8	39.5
Manganese *(Dissolved)*	$\mu g.l^{-1}$	1.6	732.0	188.5	212.8	696.8	805.2
Mercury *(Dissolved)*	$\mu g.l^{-1}$	0.1	8.0	4.7	3.4	7.8	8.8
Nickel *(Dissolved)*	$\mu g.l^{-1}$	1.8	4.8	3.1	0.9	4.4	5.3
Phosphorus	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Potassium *(Dissolved)*	$mg.l^{-1}$	0.5	15.6	8.4	2.8	14.8	17.2
Sodium *(Dissolved)*	$mg.l^{-1}$	0.2	26.1	13.6	4.7	24.0	28.7
Zinc *(Dissolved)*	$\mu g.l^{-1}$	2.9	56.5	12.5	13.3	39.7	62.2
Phosphate total	$mg.l^{-1}$	0.3	0.4	0.4	0.1	0.4	0.4
Total TPH >C6-C40	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Polycyclic Aromatic Hydrocarbon (Total)	$\mu g.l^{-2}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Naphthalene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthylene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Acenaphthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluorene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Phenanthrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Fluoranthene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Pyrene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Benza(a)anthracene	$\mu g.l^{-1}$	3.4	3.4	3.4	0.0	#NUM!	3.7
Chrysene	$\mu g.l^{-1}$	3.1	3.1	3.1	0.0	#NUM!	3.4
Benzo(b)fluoranthene	$\mu g.l^{-1}$	5.1	5.1	5.1	0.0	#NUM!	5.6
Benzo(k)fluoranthene	$\mu g.l^{-2}$	4.8	4.8	4.8	0.0	#NUM!	5.3
Benzo(a)pyrene	$\mu g.l^{-1}$	6.8	6.8	6.8	0.0	#NUM!	7.5
Indeno(123-cd)pyrene	$\mu g.l^{-1}$	6.3	6.3	6.3	0.0	#NUM!	6.9
Benzo(ghi)perylene	$\mu g.l^{-1}$	7.1	7.1	7.1	0.0	#NUM!	7.8
Dibenza(ah)anthracene	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Total PAHs	$\mu g.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0
Sulphide	$mg.l^{-1}$	0.0	0.0	#DIV/0!	#DIV/0!	#NUM!	0.0