Welsh Government

M4 Corridor around Newport

Environmental Statement Volume 3: Appendix 16.2

Baseline Water Environment Report

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1 Introduction

1.1 Overview

1.1.1 The Welsh Government proposes to build the M4 Corridor around Newport to address traffic related problems around Newport. This comprises a new three lane motorway to the south of Newport and associated Complementary Measures (the 'Scheme'). The new section of motorway would cross a complex area dominated by high ground in the east and west, low-lying coastal land of the Gwent Levels and industrial areas of south Newport.

1.1.2 An Environmental Impact Assessment (EIA) and Environmental Statement (ES) are required in support of the proposed Scheme. The Baseline Water Environment (BWE) Report provides a description of key aspects of the water environment within the proposed corridor of the new section of motorway. Through a review of all available data sources, the BWE Report characterises the hydrology, geology and hydrogeology encountered across the proposed route. The BWE Report also presents the baseline surface water and groundwater dataset that underpins the technical assessments required in support of the ES.

1.1.3 The BWE Report provides the context for the consideration of possible land contamination issues within the proposed corridor, as described in the Land Contamination Assessment (LCA) Report in (Appendix 11.1 of the ES). The BWE does not however provide a detailed description and/or assessment of potential contaminated land sites identified along the route.

1.2 Objectives and Deliverables

1.2.1 The objective of the BWE Report is to provide the overarching description of the water environment relevant to the Scheme that will enable the Design Manual for Road and Bridges (DMRB) sensitivity / value of key receptors to be defined and against which the magnitude and significance of possible effects can be assessed as part of the ES. This approach includes the development and presentation of a hydrogeological conceptual model for the entire length of the new section of motorway that defines the relationship between each element of the water environment and associated controlled water receptors.

1.2.2 The BWE Report also provides the quantitative dataset that underpins all technical assessments required in support of the assessment of potential effects on the water environment, most notably the DMRB water quality assessments of the impact of routine highway drainage on the receiving surface waters (using the Highways Agency Water Risk Assessment Tool (HAWRAT)) and accidental spillages. As such the BWE report underpins ES Chapter 16: Road Drainage and the Water Environment (ES Volume 1).

1.2.3 The baseline characterisation of the system is summarised in Section 6 and presented in the series of drawings and cross section developed for the new section of motorway, and the supporting datasets. The location of potentially contaminated sites identified along the new section of motorway is shown within Figures 5 to Figure 9. The BWE Report does not however present the detailed assessment associated with potential Contaminated Land (CL) sites, which are discussed in the Land Contamination Assessment Report (LCAR) and its associated technical appendices (Appendix 11.1 of the ES).

1.2.4 The BWE Report does not characterise ground gas conditions along the new section of motorway associated with either natural soils or the CL sites. A full assessment of the occurrence and risks associated with ground gas is however provided in the LCAR (Appendix 11.1 of the ES) and considered as part of ES Chapter 11: Geology and Soils (ES Volume 1).

1.3 General Approach

Study Area

1.3.1 The proposed corridor of the new section of motorway extends approximately 23 kilometres from west to east, crossing land with variable geology, hydrogeology and hydrology. The baseline characterisation of the Scheme focusses on a new section of motorway corridor with a nominal 250 metres radial width from the main highway alignment. The study area is shown in Figure 1. The study area does not include the area of Complementary Measures associated with the Scheme.

1.3.2 It has been necessary to consider a larger study area where effects have the potential to extend outside of the new section of motorway corridor and/or the understanding of baseline conditions is dependent of wider appreciation of conditions within the local system. This is most relevant to the consideration of continuous groundwater catchment areas that extend laterally outside of the study area, watercourses crossing potentially contaminated sites and/or major reens within the area of potential influence of the new section of motorway.

Subdivision of the New Section of Motorway

1.3.3 To simplify baseline characterisation of the study area, the new section of motorway has been subdivided into five sections. Each section shares broad characteristics and broadly corresponds to the principal highway drainage catchment areas defined for the proposed new section of motorway. A chainage reference system runs from west to east along the new section of motorway and the five sections include, from west to east:

- Castleton (Existing M4 Junction 29): Chainage 896 m to 6,600 m.
- Wentlooge Levels: Chainage 6,600 m to 7,980 m.
- New Bridged Section of Motorway (River Usk, River Ebbw and Alexandra Docks): Chainage 7,980 m to 11,400 m
- Caldicot Levels: Chainage 11,400 m to 19,650 m.
- Magor (Existing M4 Junction 23A): Chainage 19,650 m to 23,990 m.

1.3.4 A series of drawings that summaries the baseline environment for each of the above sections are provided in Figure 5 (1 to 5), Figure 6 (1 to 5), Figure 7 (1 to 5), Figure 8 (1 to 5) and Figure 9 (1 to 5), respectively. The description of the water environment within Section 6 of this report also uses these subdivisions, although the chainage references given above have not been used to subdivide the water quality monitoring dataset presented therein.

Baseline Characterisation Approach

1.3.5 The characterisation of baseline conditions along the corridor of the new section of motorway has been based on a review and synthesis of the following data sources relevant to the water environment.

- Historical reporting relating to the area, most notably the Preliminary Sources Study Report (PSSR) undertaken for the routes assessed at DMRB Stage 2 (Arup, 2014).
- Previous factual ground investigation data, and additional investigations local to the study area available in the archives of the British Geological Survey Results of historical ground investigations.
- Published geological information, principally from the British Geological Survey.
- Relevant scientific literature, most notably in relation to geology and water quality.
- Ordnance Survey data for the Scheme.
- Aerial photography provided by the Welsh Government.
- Datasets obtained from key stakeholders most notably Natural Resources Wales (NRW), the former Caldicot and Wentlooge Levels Inland Drainage Board (CWLIDB) and Newport City Council (NCC).
- Statutory and non-statutory consultation with key stakeholders, that includes land owners / tenants within the corridor of the new section of motorway.
- Environmental monitoring datasets collected for the site that relate to controlled waters (surface water and groundwater).
- The results of site walkover surveys undertaken in 2015.

1.3.6 The majority of the data sources identified above (with the exception of the quantitative datasets) are incorporated in to the GIS database developed for the project at Key Stage 2. This GIS system facilitates the management and visual presentation of the complex information sources relevant to the Scheme.

1.3.7 On the basis of the review of the baseline information sources a Conceptual Hydrogeological Model (CHM) is defined for the proposed Scheme. The CHM defines baseline characteristics of the system from which possible effects can be identified.

1.3.8 Surface water and groundwater monitoring data underpins the baseline characterisation of the water environment. Quantitative data has been obtained from the following sources.

- Completion of water monitoring, as outlined in the Water Monitoring Strategy (Annex L).
- The result of historical intrusive investigations and associated monitoring undertaken in support of the proposed Scheme.
- Recent and historical surface water quality monitoring undertaken within the corridor of the new section of motorway.

- Quantitative data collected by other organisations, most notably NRW but including other private companies (e.g. Tata Steel in the area around Llanwern).

1.3.9 Baseline conditions are defined by a statistical description of the quantitative dataset and high level water quality screening assessment. By screening observed water quality data against appropriate Assessment Criteria (AC) an evaluation of baseline quality can be made.

1.4 Subsequent Report Structure

1.4.1 The report has been subdivided into the following section:

- Section 2: Background – Provides a summary of the relevant background to baseline characterisation and assessment effects presented in the report, including the principal data sources;
- Section 3: Geology and Ground Conditions – Provides an outline description of the geology an general ground conditions identified along the new section of motorway;
- Section 4: Hydrology & Topography – Provides a summary of all information relevant to the baseline characterisation of the hydrology of the Scheme;
- Section 5: Hydrogeology - Provides a summary of all information relevant to the baseline characterisation of the hydrogeology of the Scheme;
- Section 6: Summary of Baseline Conditions of Section– Provides summary of the conceptual model for the Scheme that synthesizes all data sources that relate to the baseline water environment along the corridor of the new section of motorway and relates to the conceptual cross sections provided in Figure 5.4, Figure 6.4, Figure 7.4, Figure 8.4 and Figure 9.4.

2 Background

2.1 Legislation & Regulatory Framework

2.1.1 There has been considerable development in the legislation that relates to the consideration of the water environment. The principal legislation regarding the protection of specific water resources, water quality standards and related policy relevant to the Scheme are set out in the following primary European legislation:

- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive).
- Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration (daughter to 2000/60/EC) (Groundwater Daughter Directive).
- Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013, amending Directives 2000/60/EC and 2008/105/EC as regards priority substances in the field of water policy.
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wildlife and fauna (the Habitats Directive.

2.1.2 The implementation of the Water Framework Directive (WFD) has resulted in the repeal and/or replacement of other European legislation of relevance to consideration of the water environment. Most notably, these include the following.

- The Groundwater Directive (80/68/EEC), repealed in 2013.
- The Dangerous Substances Directive (76/464/EEC), repealed in 2013.
- The Freshwater Fish Directive (2006/44/EC) repealed in 2013.
- The EC Shellfish Waters Directive (2006/113/EEC) repealed in 2013.

2.1.3 European legislation is implemented in the UK through specific Regulations. The Welsh Government is responsible for all aspects of water policy in Wales. Management and enforcement of water policy is the responsibility of Natural Resources Wales (NRW). The following national legislation is relevant.

- Environmental Protection Act (1990).
- The Water Resources Act (1991).
- Water Industry Act (1991) (as amended).
- Environment Act (1995).
- The Water Supply (Water Quality) Regulations 2000 (as amended).
- Water Act (2003).
- Water Environment (Water Framework Directive) (England and Wales) Regulations 2003.
- Groundwater (England and Wales) Regulations (2009).
- The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009.

- Water Industry Act (1991) (Amendment) (England and Wales) Regulations (2009).
- Environmental Damage (Prevention and Remediation) Regulations (2009).
- The Environmental Permitting (England and Wales) Regulations 2010 (as amended).

16.1.1 The aim of water policy in Wales is to protect both public health and the environment by maintaining and improving the quality of natural waters. These include surface water bodies (e.g. rivers, streams, lakes, ponds) and groundwater.

16.1.2 To consider effects on water quality within the study area, it is necessary to have due regard to the methodologies and legislation that relate to the management of contaminated land within the UK. This includes the following.

- Part IIA of the Environment Protection Act (EPA) (1990).
- Contaminated Land (England) Regulations (2006).

2.2 Data Sources

Historical Reporting

2.2.1 Key reports that have informed the characterisation of the water environment include the following.

- The Preliminary Sources Study Report (PSSR) (Arup, 2014): Provides a desk study of available geotechnical data generally within a 150 m corridor of the route options presented in the Welsh Government's preferred strategy to address transport related problems on the M4 around Newport.
- Ground Investigation (Norwest Holst Soil Engineering Ltd., 1998).
- Preliminary Chemical Investigation (Exploration Associates, 2000).
- Ground Investigation Magor to Castleton – Second Preliminary Ground and Chemical Investigation (Norwest Holst, 2008).
- M4 Corridor around Newport – Factual Report on Ground Investigation (Geotechnical Engineering Limited, 2015).

2.2.2 A thorough data review and analysis has been undertaken using a number of software packages. Ground investigation, field monitoring and laboratory analytical data have been collated into a geotechnical data management system (HoleBASE SI) where data can be interrogated and exported in a number of useful formats/layouts.

Publicly Available Data Sources

2.2.3 The ground investigation data outlined above and other publically available dataset have been incorporated into a GIS database (hereinafter referred to QGIS). The QGIS database enables spatial and temporal analysis of available data and to gain an understanding of the geographic surrounding associated with analytical data of concern.

2.2.4 Publically available data used as part the baseline characterisation of the Scheme is presented in QGIS.

Geological Information

2.2.5 The principal sources of publicly available geological information relevant to the new section of motorway are produced by the British Geological Survey (BGS) and are summarised in Table 2.1. Geological datasets have been incorporated in to QGIS.

Table 2.1: Summary of Geological Data Sources

Source	Description
BGS Geology Viewer (http://mapapps.bgs.ac.uk/geologyofbritain)	BGS Online Resource: Geological Maps
BGS Lexicon of Named rock Units (http://www.bgs.ac.uk/lexicon)	BGS Online Resources: Geological Nomenclature
BGS GeoIndex (onshore) (http://mapapps2.bgs.ac.uk/geoindex/home.html)	BGS Online Resources: Geological Borehole Logs
Geological Maps (1:50,000 or 1:63,360 Scale)	Newport Sheet 249 Drift. Newport Sheet 249 Solid. Chepstow Sheet 250 Solid and Drift.
Geological memoirs	Geology of the South Wales Coalfield Part 1. The country around Newport. Explanation of One-inch Geological Sheet 249, New Series. Third Edition.

2.2.6 In addition to the geological information identified in Table 2.1, scientific literature relevant to the site has also been used and is referenced accordingly within the text.

QGIS Datasets

2.2.7 Publicly available data used as part the baseline characterisation of the corridor of the new section of motorway and presented in the QGIS is summarised in Table 2.2.

Table 2.2: Summary of Datasets Presented in QGIS

Dataset & Description	Source	Comments
OS MasterMap 1:1,250 Mapping	Ordnance Survey	
1:25,000 Mapping (with Contours)	Ordnance Survey	
High Resolution Aerial Photography	NM Group commissioned by ARUP in 2014	Coverage of the new section of motorway and existing M4
Environmental Designations (SSSI, SPA, SAC, NNR, LNR, Ramsar)	Natural Resources Wales	Other designations such as National Parks not relevant to the project area
Watercourse Name / ID	Natural Resources Wales	
Water Framework Directive water bodies and catchment areas	Natural Resources Wales	2013 datasets.
Surface Water Monitoring Locations	Natural Resources Wales (Ongoing), Titan Environmental Surveys Limited (2008), Geotechnical Engineering Limited (2015), RPS (Ongoing	
Groundwater Monitoring Locations	Natural Resources Wales, BGS, Exploration Associates (2000 & 2002),Norwest Holst (2007) and Geotechnical Engineering Limited (2015)	
Groundwater and Surface Water Abstraction Licenses	Natural Resources Wales	
Discharge Consents	Natural Resources Wales	
Source Protection Zones	Natural Resources Wales	None in the project area
Pollution Events	Natural Resources Wales	
Aquifer Designations	Natural Resources Wales	
Landfill Sites (Active and Historical)	Natural Resources Wales	
Potential Area of Land Contamination	ARUP (2014)	
Watercourse / Reen ID	Caldicot and Wentlooge Internal Drainage Board	
Internal Sluices	Caldicot and Wentlooge Internal Drainage Board	
Tidal Flaps	Caldicot and Wentlooge Internal Drainage Board	
Hydrogeological Site Visit Information to Assess Groundwater Usage	ARUP, 2008	
Bedrock & Superficial Geology	BGS	
Regionally Important Geological Sites (RIGs)	NCC Database for 2011-2016 LDA	Based on BGS Audit of RIGs (BGS, 2003)
JNCC Geological Conservation Review (GCR) Sites	Taken from JNCC website	NGRs for GCR sites in South Wales within OS tile ST (31).

Consultation

2.2.8 A statutory consultation process was undertaken as part of the EIA process in July 2015. A summary of the responses with statutory and non-statutory consultation is provided in ES Chapter 16: Road Drainage and the Water Environment (ES Volume 1).

2.2.9 In addition to statutory consultation, formal and informal discussion has been undertaken with key stakeholders as part of these works. These include the following.

- *Natural Resources Wales*: Detailed discussion regarding water quality assessment criteria to be applied to discharges within the Gwent Levels (Annex A) and application of the Water Framework Directive (WFD) within the Gwent Levels and to be used in general screening assessments.
- *Natural Resource Wales*: Discussion regarding aquifer status and designation of key geological units identified within the corridor of the new section of motorway (Annex B).
- *Natural Resources Wales, British Geological Survey and Local Planning Authorities*: Discussion regarding important geological site within the corridor of the new section of motorway, including RIGS.
- Landowner discussion to identify water use within the Gwent Levels.
- Tata Steel: Consultation regarding drainage, water management and consented discharge (including water quality monitoring).

Field Studies

2.2.10 A number of site walkovers were undertaken in 2015 by RPS as part of environmental monitoring undertaken in support of the Scheme.

Environmental Monitoring Data

2.2.11 Surface water and groundwater monitoring data underpins the baseline characterisation and assessment of effects on the water environment. Quantitative data has been obtained from the following sources:

- completion of water monitoring, as outlined in the Water Monitoring Strategy (Annex L);
- the result of historical intrusive investigations and associated monitoring undertaken in support of the proposed Scheme;
- recent and historical surface water quality monitoring undertaken within the corridor of the new section of motorway; and
- quantitative data collected by other organisations, most notably NRW but including other private companies (e.g. Tata Steel in the area around Llanwern).

2.2.12 Surface water quality monitoring data has been collected within the Gwent Levels in three phases, with the baseline characterisation and assessment of effects giving particular reliance on the latter:

- Titan Environmental Surveys Limited (TESL, 2008) – 22 Monitoring Locations, typically 4 Rounds (2007 / 2008);
- Supplementary Ground Investigation for the Welsh Government (Geotechnical Engineering Limited, 2015) – 10 Monitoring Locations, 3 Rounds (2015);
- Water Monitoring (Annex L) – Four Quarterly Rounds.

2.3 Baseline Period

2.3.1 The BWE defines the pre-construction/enabling works baseline water environment. The baseline period is therefore January 2016, when the final monitoring round for the Scheme was undertaken (see Monitoring Strategy Report provided in Annex L).

2.4 Baseline Study Area

2.4.1 The baseline characterisation and supporting technical assessments focus on a corridor situated along the route of the proposed new section of motorway. A nominal corridor of 250 metres radial width from the footprint of the new section of motorway has been used and is shown in Figure 5 (1 to 5) to Figure 9 (1 to 5). A larger area has been considered where effects have the potential to extend outside of this corridor and/or the understanding of baseline conditions is dependent of wider appreciation of conditions within the system. This is most relevant to the consideration of groundwater catchment areas considered to be in hydraulic continuity with the new section of motorway and/or watercourses crossing potentially contaminated sites.

2.5 Baseline Water Quality Characterisation

2.5.1 Baseline water quality has been defined by a statistical description of the quantitative dataset and high level water quality screening assessment. The methodology used for this description and screening assessment is summarised below.

Water Quality Summary Statistics

2.5.2 The water quality dataset (groundwater and surface water) is first described by tabulated summary statistics that include:

- number of analyses;
- number of analyses that exceed the laboratory limit of detection (also expressed as a percentage of analyses);
- concentration range;
- arithmetic mean concentration; and
- monitoring location with maximum concentration.

Water Quality Screening Assessment

2.5.3 Preliminary evaluation of surface water and groundwater quality data typically involves a screening assessment that compares observed water quality data with appropriate water quality Assessment Criteria (AC). The selection of AC depends on the conceptual model developed for the site and in particular the nature and sensitivity of controlled water receptors for which active pollutant linkages are considered likely to exist. Two sources of statutory and non-statutory water quality AC are typically used for the purpose of such screening assessments:

- Environmental Quality Standards (EQSs) defined for the protection of the ecology of surface water environments; or

- Drinking Water Standards (DWS) defined on the basis of health for water intended for human consumption.

2.5.4 A summary of all water quality AC used in this assessment is provided in Annex C.

Environmental Quality Standards

2.5.5 The most up to date summary of EQSs relevant to consideration of the surface water environment, that includes inland waters (i.e. fresh water) and other waters, (i.e. transitional or coastal) is provided in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015 (herein after referred to at the WFD Directions 2015) and summarised in Annex C of this appendix.

2.5.6 The WFD Directions identify EQSs that have been defined for 44 Priority Substances (PS) and Other Pollutants (OPs) under the Water Framework Directive (Directive 2000/60/EC) through Annex II of Directive 2013/39/EU that amends the EQS Directive (2008/105/EC). These EQS include those defined for Priority Hazardous Substances considered the most harmful, as identified in the in H1 Annex D1: Assessment of hazardous pollutants within surface water discharges (EA, 2014), herein after referred to as the H1 Annex D1 guidance, and presented in Annex C of this appendix.

2.5.7 In addition to Priority Substances, the statutory limits for defining “high” or “good” chemical status of surface waters (rivers) under the WFD have also been used as water quality AC in this assessment. These standards relate to ‘general physico-chemical’ parameters that include Dissolved Oxygen (DO), Biological Oxygen Demand (BOD), ammonia and phosphorous and are summarised in the Part 1 of Schedule 3 of WFD Directions 2015. These EQS are included in Annex C of this appendix and update those previously presented Part 3 of The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010; and H1 Annex D1 Guidance (EA, 2014).

2.5.8 Part 2 of Schedule 3 of WFD Directions 2015 also defines EQSs for 29 Specific Pollutants (SPs), an increase on the 20 substances identified in The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010. Many SPs were previously categorised as “List 2” under the Dangerous Substances Directive (DSD) and were identified by an indicative list under Annex 8 of the WFD.

2.5.9 The UK Technical Advisory Group (UKTAG) on the WFD has undertaken an extensive review of water quality standards derived for specific pollutants under the WFD, most notably in their reports dated 2008 and 2012 (WFD UKTAG, 2008 and WFD UKTAG, 2012a). The result of the review undertaken by WFD UKTAG is reported in Water Framework Directive implementation in England and Wales: new and updated standards to protect the water environment (DEFRA, 2014) to inform interested parties of the details of new and updated environmental standards to be used in the second cycle of Water Framework Directive (2000/60/EC) river basin management planning process in England and Wales. The report summarises the review of standards for a total of 30 specific pollutants and recommends:

- the adoption of new Predicted No Effect Concentrations (PNECs) as EQSs for 26 specific pollutant; and
- the retention of existing standards for the remaining 4 pollutants.

2.5.10 As such new PNECs currently remain non-statutory, but are included as EQS for some parameters in the WFD Directions 2015. The PNECs have therefore been used as AC in this assessment and are included in Annex C.

2.5.11 The PNECs for bio-available copper and zinc are dependent on the pH, Dissolved Organic Carbon (DOC) of the water body under consideration. For the purpose of this assessment a site-specific "screening" PNEC for bio-available copper and zinc within the Gwent Levels have been determined using an average pH, DOC and calcium for the second monitoring round undertaken by RPS in July 2015. The M-BAT software package has been used to back calculate these PNEC criteria by incrementally increasing the concentration of copper and zinc to a point immediately before the bioavailability concentration for the respective metal exceeds the EQS. The calculation assumes no other metals are present in the water body. The results for this calculation are presented in Table 2.3 below.

Table 2.3: Copper and Zinc PNECs for use as Assessment Criteria

	pH	DOC (mg/l)	Ca (mg/l)	Previous screening criteria (based on Hardness)	Site Specific PNEC (ug l-1)	Bioavailable Concentration (ug l-1)	Screening Criteria (ug/l)
Copper	7.52	9.83	53.74	10	43.9	1.0	43.5
Zinc				75	41.7	10.9	41.5

2.5.12 EQSs for 12 Other Substances (OS) are not included in the WFD Directions 2015, but have been identified in Part 6 of The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010 and included in H1 Annex D1: Assessment of hazardous pollutants within surface water discharges (EA, 2014). These substances have EQS prescribed in the Surface Waters (Dangerous Substances) (Classification) Regulations 1998 as List 2, but were carried forward as specific pollutants under the review by WFD UKTAG (WFD UKTAG, 2012b). These OS are however included in Annex C.

2.5.13 Similarly the H1 Annex D1 Guidance (EA, 2014) also identifies substances with "operational EQS" that were principally identified as "List 2" for the DSD, that are not included in the WFD Directions 2015 but have been included in Annex C as part of these works.

2.5.14 From a regulatory perspective there is a requirements to prevent deterioration of surface water bodies and to achieve EQS for hazardous pollutants outlined above, there is also a requirement to aim to "progressively reduce" discharges of priority substances, and to "cease and phase out" discharges of priority hazardous substances.

Drinking Water Standards

2.5.15 The UK DWS used in as AC in this assessment are those defined in The Water Supply (Water Quality) Regulations 2000 (as amended). These DWS are summarised in Annex C.

2.5.16 WFD Threshold Values for groundwater drinking water protected areas and the general quality of groundwater bodies are prescribed in Schedule 5 the WFD Directions 2015. However, these "*threshold values may only be used as part of assessing the status of groundwater bodies and not as part of site specific investigations*" and have not therefore been used in the screening assessment presented herein.

2.5.17 Additional water quality "guideline values" have been developed by the World Health Organisation (WHO) for chemicals considered to be of health significance in drinking-water, although these have not been used as AC in this assessment owing to their non-statutory nature.

2.6 Baseline Water Environment Summary

2.6.1 On the basis of the available data, augmented by additional monitoring, the baseline hydrology, geology, hydrogeology and water quality within the study area has been characterised. This characterisation is summarised in Section 6 in terms of a Conceptual Hydrogeological Model (CHM). This is supported by the series of drawings, provided in Figure 6 to Figure 9, which include a conceptual Hydrogeological cross section for each section of the proposed new section of motorway.

3 Geology and Ground Conditions

3.1 Data Sources

3.1.1 The geology underlying the corridor of the new section of motorway has been determined from publically available data sources, augmented by the results of intrusive investigations and reporting previously undertaken. The British Geological Survey (BGS) have provided the key sources of geological information, most notably:

- BGS Geology Viewer (http://mapapps.bgs.ac.uk/geologyofbritain/home.html);
- BGS Lexicon of Named Rock Units (http://www.bgs.ac.uk/lexicon);
- Published 1:50,000, 1:63,000 and 1:10,000 scale BGS maps of the area.

3.1.2 The geological description provided herein has reference to key literature regarding the local geology (as referenced in the text) and discusses the descriptions provided in other reports produced in support of the proposed Scheme, most notably the PSSR (Arup, 2014). It is noted that there has been a small change in the nomenclature relative to the PSSR, principally in relation to the recent superficial geology. This difference relates to stratigraphic terminology, on the basis of entries in the BGS Lexicon of Named Rock Units, and does not represent any conceptual difference in the geological sequence and structure along the corridor of the new section of motorway.

3.2 General Stratigraphy

3.2.1 The general geological sequence encountered along the corridor of the new section of motorway is summarised in Table 3.1.

Table 3.1: General Stratigraphy

Geological Period	Supergroup	Group	Subgroup / Formation
Quaternary	-	-	Glacial Till (GT)
			Alluvium (ALV)
	-	-	Head (HD)
	-	-	River Terrace Deposits (RTD)
			Tidal Flat Deposits (TFD)
	-	-	Glaciofluvial Deposits (GFD)
Triassic	-	Mercia Mudstone Group (MMG)	
		-	Mercia Mudstone (marginal facies) (MMMF)
Carboniferous	Carboniferous Limestone	Pembroke Limestone Group	Gulley Oolite Formation (GOF)
			Blackrock Limestone subgroup (BRL)
		Avon Group (AVG)	
Devonian	Old Red Sandstone	Upper Old Red Sandstone Group	Tintern Sandstone (TSF)
			Quartz Conglomerate (QZ)
		Lower Old Red Sandstone Group	Brownstone Formation (BWF)
			St Maughans Formation (SMF)
Silurian			Raglan Mudstone Formation (RMF)

3.2.2 The bedrock geology is broadly consistent with that previously presented although there have been some minor changes with respect to designation of Group, sub Group and Formation status of each unit. Again the terms presented in Table 5.1 reflect those of the BGS Lexicon of Named Rock Units. There are two principal differences between the stratigraphy outlined in Table 3.1 and that presented in earlier reporting.

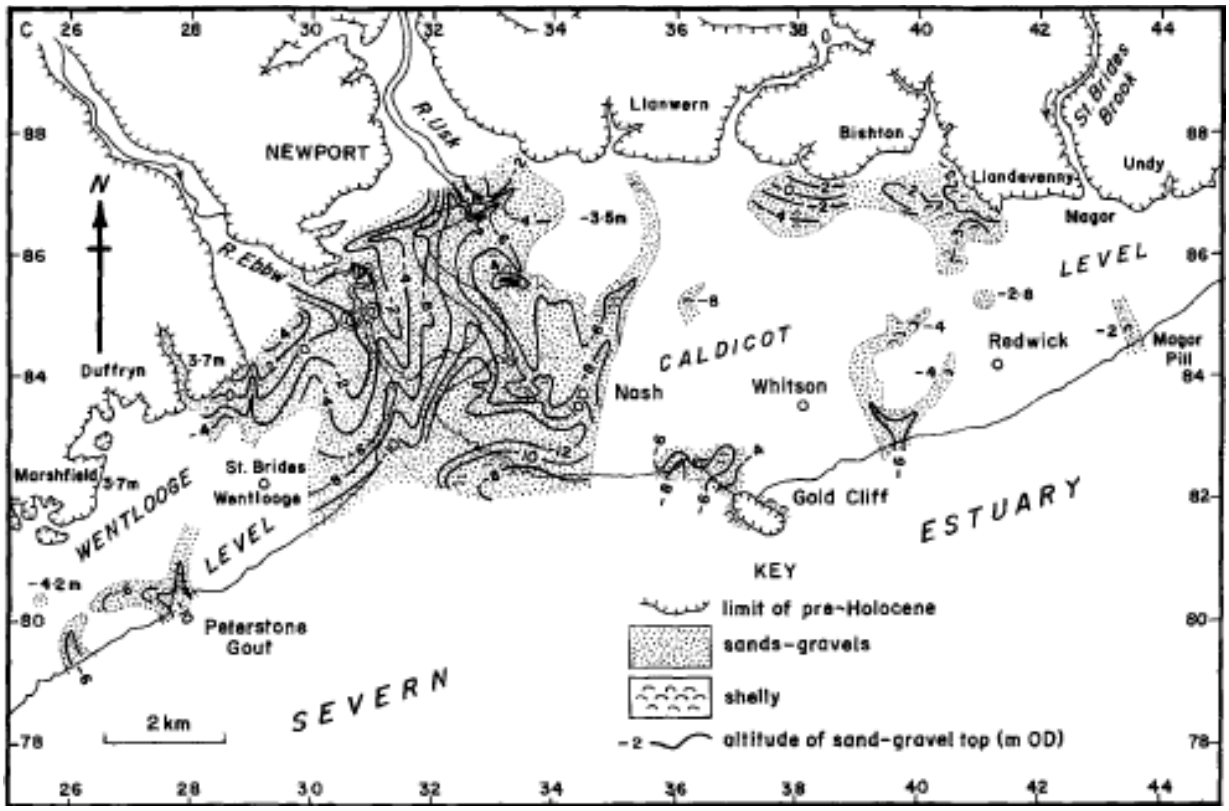
- The absence of Estuarine Alluvium, which is now an obsolete term that has been replaced by Tidal Flat Deposits.
- The addition of Glaciofluvial Deposits with respect to the geological sequence observed within the Gwent Levels.

3.3 Superficial Geology

3.3.1 The superficial geology encountered within the corridor of the new section of motorway is shown in Figure 5.1 to Figure 9.1. The superficial deposits are principally of Quaternary age and dominated by the sequence of deposits contained within the Gwent Levels. On higher ground situated outside of the Gwent Levels the Quaternary sequence is dominated by glacial till and more recent fluvial (i.e. river terrace deposits and alluvium) or head deposits. These superficial deposits have a poorly constrained relationship with the Quaternary sequence within the Gwent Levels themselves.

3.3.2 The detailed stratigraphy of the Gwent Levels sequence is described by Allen (2001). The geology is dominated by Holocene deposits that comprise alternating estuarine silts and peats (basal and intercalated) that are typically 10-15 m thick. Beneath much of the Wentlooge Levels and Caldicot Levels this sequence directly overlies a relatively continuous platform in the underlying bedrock with an elevation of between -7.5 mOD and -5 mOD that declines gently towards the Severn Estuary. In the central region of the corridor around Newport, the bedrock platform is incised by valleys associated with the River Ebbw and River Usk. These valleys have been infilled with Pleistocene valley gravels and some sands that are occasionally capped by head deposits. These gravels directly underlie the Holocene estuarine sequence. The Pleistocene valley gravel extend to the west and east, beneath the Wentlooge Levels and Caldicot Levels respectively, as shown in Inset 3.1.

Inset 3.1: Distribution of concealed Pleistocene valley gravels associated with the River Ebbw and River Usk (includes contours on their upper surface) (taken from Allen 2001)



3.3.3 This general sequence is described below with respect to recent terminology of the BGS (lexicon) summarised in Table 3.1.

Alluvium (ALV)

3.3.4 Recent fluvial deposits that are contained within the non-tidal valleys of principal watercourses are termed alluvium (ALV). The alluvium is of highly variable composition and extent, but typically comprises silty clay, with layers of silt, sand, peat and basal gravel.

Head (HD)

3.3.5 Head is a poorly sorted and poorly stratified deposit formed mostly by solifluction and/or hillwash and soil creep. Head essentially comprises sand and gravel, locally with lenses of silt, clay or peat and organic material. Small areas of localised head deposits are identified along the corridor of the new section of motorway and are also expected in places beneath the Gwent Levels.

River Terrace Deposits (RTD)

3.3.6 Isolated outcrops of River Terrace Deposits are present along the inland margin of the Tidal Flat Deposits of the Gwent Levels. The subcrop pattern of the RTD is not proven, but these deposits are generally restricted to areas of higher elevation situated outside of the Gwent Levels. The RTDs comprise sand and gravel units, locally with lenses of silt, clay or peat and are of fluvial origin.

Glacial Till (GT)

3.3.7 Glacial Till caps bedrock to the north of the Gwent Levels along much of the local area, particularly in the west of the corridor of the new section of motorway. GT has been previously termed Moranic Drift and is described as being "*highly variable from stiff, gravelly, silty clay to predominantly unconsolidated and unsorted gravels*".

Tidal Flat Deposits (TFD)

3.3.8 The majority of the corridor of the new section of motorway crosses the Gwent Levels which is underlain by Tidal Flat Deposits (TFDs) of Holocene age. The BGS consider that the TFDs typically comprise soft silty clay, with layers of sand, gravel and peat and represent deposit laid down within the tidal zone, although these areas are now reclaimed through the construction of sea defences. The TFDs have historically been termed estuarine alluvium, although this is now an obsolete lithostratigraphic term (see BGS lexicon). For the purpose of this study the TFD are considered to be equivalent to the Holocene estuarine deposits of Allen (2001) described above.

Glaciofluvial Deposits (GFD)

3.3.9 Glaciofluvial Deposits (GFD) have been identified at outcrop in localised areas along the inland margin of the TFD in the west of the new section of motorway. The GFD comprise sand and gravel, locally with lenses of silt, clay or organic material and are thought to be of glaciofluvial origin and sometimes occurring as sheet deposits.

3.3.10 For the purpose of this study it has been assumed that the GFD defined by the BGS are equivalent to the Pleistocene sand and gravel deposits described by Allen (2001) that immediately underlie the silty clays (and peats) of the Holocene TFDs. It should be noted that historical geological cross-sections presented in the PSSR identify the concealed granular deposits situated beneath the estuarine alluvium as "*deep (granular) fluvial alluvium*" (Arup, 2014). Conversely, other authors have suggested that these granular deposits are the basal unit of that estuarine alluvium sequence (i.e. the TFD) (e.g. Andrews et al., 1984). In light of this uncertainty these granular deposits have been termed GFD, reflecting the significant lithological and hydrogeological difference of the unit relative to other deposits within the expected stratigraphic sequence, most notably the overlying silt and clay of the TFD.

3.3.11 Although not proven, continuity between the concealed GFD on the Gwent Levels and the superficial deposits situated inland from Levels is not generally expected.

3.4 Bedrock Geology

3.4.1 The solid geology present beneath the corridor of the new section of motorway consists of bedrock of Silurian, Devonian, Carboniferous and Triassic age.

3.4.2 Areas of high elevation at the eastern end of the new section of motorway is dominated by Carboniferous strata, principally limestone units of the Avon Group and Pembroke Limestone Group, the latter including the Black Rock Limestone Formation and Gully Oolite Formation.

3.4.3 The majority of the route is situated above Triassic bedrock comprising Mercia Mudstone (formerly Keuper Marl). Localised areas of the Mercia Mudstone marginal facies are encountered in the east around the Carboniferous limestone high ground.

3.4.4 The western section of the new section of motorway is situated on older bedrock that includes Devonian St Maughans Formation and Silurian Raglan Mudstone formation. Other Devonian units (i.e. the Brownstone Formation and Tintern Sandstone Formation) are also encountered along the proposed route. The general description for each of the key lithological units encountered within the corridor of the new section of motorway is provided in Table 3.2. These descriptions were taken from the BGS Lexicon of Named Rock Units.

Table 3.2: BGS Lithological Descriptions

Unit (Reference)	BGS Lithological Description
Mercia Mudstone Group (MMG)	Dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas. Thin beds of gypsum/anhydrite widespread; sandstones are also present.
Mercia Mudstone marginal facies (MMMF)	Variable, typically consisting of conglomerate and/or breccia with clasts derived locally from rocks lying immediately below the unconformable base of these deposits.
Gully Oolite Formation (GOF)	Medium- to thick-bedded, pale grey, oolitic grainstone with subordinate beds of fine-grained skeletal packstones. Cross-laminated and cross-bedded, some burrowing. Locally dolomitized
Black Rock Limestone subgroup (BRL)	Thin- to thick-bedded, dark grey to black, foetid, fine- to coarse-grained skeletal [mainly crinoid] packstones with subordinate thin beds of shaly argillaceous skeletal packstone and mudstone. Widespread burrowing.
Avon Group (AG)	Interbedded grey mudstones and thin- to medium-bedded skeletal packstones with one to several thick units of ooidal and skeletal grainstones. Thin units of calcite mudstone and mudstone locally present. Sparse thin ironstones.
Tintern Sandstone Formation (TSF)	Buff-yellow sandstone with local lenticles of pebbles and subordinate marl partings.
Brownstone Formation (BWF)	Red, brown and purple fluvial sandstones with red mudstone interbeds
St Maughans Formation (SMF)	Interbedded purple, brown and green sandstones and red mudstones with intraformational conglomerates containing calcrete clasts
Raglan Mudstone Formation (RMF)	Red mudstones and silty mudstones with calcretes and sandstones

3.4.5 The distribution of the key bedrock units along the corridor of the new section of motorway is described in detail below.

3.5 Detailed Geology along New Motorway Corridor

3.5.1 The geological sequence expected along the corridor of the new section of motorway from west to east, is summarised in Table 3.3 and shown in the five sections provided in Figure 5.1 to Figure 9.1.

Table 3.3: Expected Geological Sequence along Corridor of New Section of Motorway

Location	Expected Geology	Unit Thickness Range (m)	Description
Castleton Ch0+910 to 3+600	GT	Absent to 8 m	Variable deposit but tend to be soft to firm, occasionally stiff sandy slightly gravelly CLAY with occasional cobbles. Variable thickness but typically between 0.3 and 2.5 m.
	SMF	30 m (max proven)	Typically weak thinly to medium sub horizontally bedded MUDSTONE. Bedding generally dipping 5o to 15o to the south east with localised areas up to 30o. Upper 2 m to 5 m completely weathered to highly weathered beyond which becoming moderately to slightly weathered. Shear planes following bedding surfaces noted within occasional boreholes throughout the junction location.
Coedkernew Ch3+600 to 4+700	RTD	2.5 m to 4.5 m	Generally firm, occasionally soft sandy slightly gravelly CLAY (occasionally encountered as a clayey silty sand or gravel).
	SMF	14 m (max proven)	As per Castleton description.
Wentlooge Levels Ch4+700 to 8+500	TFD	7 m to 8.5 m (0.5 to 3 m)	Typically 2 m desiccated crust (firm to stiff silty slightly sandy CLAY) overlying very soft to soft grey silty CLAY. Peat encountered as discontinuous bands that may have been disturbed by depositional processes associated with the estuarine alluvium.
	GFD	<1 m to 7 m	Granular deposits generally encountered as medium dense and dense grey slightly sandy fine to coarse gravel with cobbles. The deposit is typically 4 m in thickness.
	MMG	27 m (max proven)	Upper surface stiff to very stiff slightly sandy gravelly CLAY becoming highly weathered to moderately weathered, weak MUDSTONE for depths of between 2 m to 20 m overlying moderately weathered to slightly weathered MUDSTONE. The mudstone was recorded to be fractured with a range of discontinuity angles and numerous zones of non-intact core.
Newport Docks Ch8+550 to 9+100	Made Ground	-	-
	Docksway Landfill	Up to 30 m of waste	Active landfill adjacent to alignment – engineered clay basal liner and bunds. Partial capping completed. Waste comprises household and industrial.

Location	Expected Geology	Unit Thickness Range (m)	Description
	Alexandra Docks	0 to 6 m	Variable – both cohesive and granular varieties.
	Stephenson Street Ind. Estate	0 to 1.5 m	
	Solutia Chem. Works	1 to 2.5 m	
	TFD	7 to 16 m (Absent to 1.5 m)	As per Wentlooge Levels description
	GFD	Absent to 8m	As per Wentlooge Levels description
	MMG	37 m (max proven)	As per Wentlooge Levels description
Caldicot Levels Ch11+800 to 20+100	Made Ground – Llanwern Steelworks	0.5 m to 11.5 m	Lagoon fill encountered as slightly clayey, gravelly slightly sandy SILT with gravel of sand and clinker. Bund walls comprised of clinker and slag. Reed bed comprised of gravelly clay. For information on the Green Moor Historical Landfill including Elver Pill Reen (both to the east of Llanwern Steeworks).
	TFD	3 to 12 m	Generally as per Wentlooge Levels description with the exception of the peat deposits. Peat encountered as a layer up to 2 m in thickness within the Estuarine Alluvium between Ch12+800 to Ch19+300. To the west of which the peat occurs as lenses. Peat identified at ground surface locally around Ch19+300 to Ch20+100 varying between 2 m to 6 m in thickness.
	GFD	Absent to 4.5 m	As per Wentlooge Levels description – generally encountered from Ch11+800 to the west of the Llanwern Steelworks.
	MMG	23 m (max proven)	As per Wentlooge Levels description
Magor Ch20+150 to 24+590	RTD	<2 m	As per Coedkernew description.
	HD	Absent to 3 m	Encountered as soft to firm, occasionally stiff silty sandy slightly gravelly CLAY. Typically the deposits overlie bedrock to the north of Magor and Undy.
	ALV	Up to 7 m	Cohesive alluvium encountered as very soft to soft sandy slightly gravelly CLAY of variable thickness associated with St Brides Brook. The deposit was found to overlie bedrock (Marginal Facies of the Mercia Mudstone Group).
	TSF	-	Moderately weak to moderately strong SANDSTONE, slightly to moderately weathered. Predicted to occur in a narrow area to the west of Magor outcropping near the railway crossing.

Location	Expected Geology	Unit Thickness Range (m)	Description
	MMMF	-	Variable lithology – mudstone, sandstone, dolomite, conglomerate and limestone. Towards the west of Magor mudstone initially predominates but the proportion of limestone increases to the east. Towards the west of Magor limestone and conglomerate predominate but mudstone and sandstone increase towards the eastern end. Most commonly described as a moderately strong to strong thinly to thickly bedded dolomite or limestone. In general the deposit is highly weathered within the top 3 m below which it is moderately to slightly weathered.
	Carboniferous Limestone	-	Strong thinly to thickly sub horizontally bedded LIMESTONE or DOLOMITE, moderately weathered becoming slightly weathered. The material forms the solid geology below the existing M4 north of Magor.

3.5.2 Figure 5.4 to Figure 9.4 provide the geological cross section for each subsection of the proposed route corridor. These cross sections are based on geological logs for boreholes installed along the corridor of the new section of motorway, within the context of the expected geology summarised in Table 5.4.

3.6 Designated Features

3.6.1 Following consultation with the BGS, NRW, NCC and MCC it has been concluded that there are no designated sites of geological or geomorphological interest within the study area. This includes SSSIs, JNCC Geological Conservation Review (GCR) sites, or Regionally Important Geological or Geomorphological (RIG) sites within the study area. The only areas of exposed geology identified along the new section of motorway are situated in areas of existing road cutting around elevated area at the eastern and western end of the new section of motorway.

3.7 Geology and Potential Contaminated Land Sites

3.7.1 Forty three potential contaminated land sites (CL sites) were identified in the vicinity of the new section of motorway during preliminary works and were described within the PSSR (Arup, 2014). Supplementary ground investigation works were undertaken in 2015 on behalf of the Welsh Government that principally focussed on these areas of possible contamination. These works included the collection of additional soil, groundwater and ground gas data.

3.7.2 Each of the potential CL sites and the additional dataset has been reviewed and is reported in the Contaminated Land Assessment (Appendix 11.1 of the ES). Of the original 43 CL sites, 27 were subject more detailed review. This included an appraisal of the Conceptual Site Model (CSM) derived for each site which in turn was dependant on the geological and hydrogeological data gathered for each.

The detailed geology for each CL site is therefore included in the Contaminated Land Report for each site that appended the Contaminated Land Assessment.

4 Hydrology and Topography

4.1 General Setting

Overview

4.1.1 The proposed route for the new section of motorway would cross three distinct topographic zones:

- High elevation, Devonian hills in the West around Castleton (J29) (elevation of up to c. 60 mAOD);
- Low-lying, flat coastal plain of Gwent Levels (elevation of below 10 mAOD); and
- High elevation Carboniferous hills in the East around Magor (J23A) (elevation of up to c. 60 mAOD).

4.1.2 In its mid-section the route would cross the River Ebbw and River Usk which discharge into the Severn Estuary, to the south of Newport. The proposed alignment would also cross the Alexandra Docks, between the Rivers Usk and Ebbw. To the west and east of the new bridged section of motorway are the Wentlooge Levels and Caldicot Levels respectively. Only in the vicinity of Newport and Llanwern are the Gwent Levels extensively developed.

4.1.3 On the basis of the topography, land use and drainage, the proposed new section of motorway has been divided for the purposes of this report into the five subsections identified in Section 1.3, namely Castleton, Wentlooge Levels, New Bridged Section of Motorway, Caldicot Levels and Magor.

4.1.4 Land use within the study area is discussed in greater detailed in ES Chapters 9 and 15 (ES Volume 1), with a brief summary provided below.

Castleton

4.1.5 The Castleton area is characterised by undulating land that runs along the edge of the Wentlooge Level and encompasses the settlements of Castleton and Marshfield and other small developments associated with the major roads, the A48 (M), M4 and A48). The principal land uses include farmland, urban development and the existing highways (i.e. A48/M4 motorway).

Wentlooge Levels

4.1.6 The reclaimed land of the Wentlooge Levels is primarily used for agriculture with pastures, marshy grassland and limited arable uses. It also contains a number of remnant orchards that were once a more typical landscape feature. This section is also crossed by railway lines and overhead power cables.

New Bridged Section of Motorway

4.1.7 The new bridged section of motorway would be located in an area dominated by the Dockside Landfill and various industries around the Alexandra Docks. Some vacant and derelict land is evident.

Caldicot Levels

4.1.8 The Caldicot Levels are dominated by the former Llanwern steel works (now Tata steel) in the centre of the site and the Solutia chemical works in the west. This subsection also includes the Whitson electricity substation in the centre of the site, which is associated with an extensive network of overhead power lines. Elsewhere the reclaimed marshes are used for agricultural land uses and nature conservation.

Magor

4.1.9 This subsection is dominated by the urban areas of Magor and Undy, the exiting M4 motorway and associated highways and is bordered to the south by the South Wales to London Mainline. To the north of the existing M4, gently undulating rural farmland dominates.

4.2 Gwent Levels

4.2.1 As shown in Figure 1, approximately two thirds of the proposed new section of motorway alignment would cross the Gwent Levels. The Gwent Levels are an area of flat, reclaimed coastal marshes that extend up to the Severn Estuary and comprise the Wentlooge Levels and Caldicot Levels to the west and east of the River Usk Crossing respectively. The Gwent Levels are low-lying with an elevation typically of between 5 – 6 mAOD.

4.2.2 In the Caldicot Levels, approximately 0.5 km of the proposed new section of motorway is situated on, or adjacent to, land owned and operated by Tata Steel that forms part of the former Llanwern site. Ground conditions along this important section of the new motorway are described in greater detail in the CL reports for that area.

Environmental Designations

4.2.3 The Gwent Levels are almost entirely designated as Sites of Special Scientific Interest (SSSI), that include (from west to east):

- St Brides SSSI;
- Nash and Goldcliff SSSI;
- Whitson SSSI;
- Redwick and Llandevenny SSSI; and
- Magor and Undy SSSI.

4.2.4 The Gwent Levels extend up to the Severn Estuary that is designated at a national and international level.

Drainage System

4.2.5 The Gwent Levels are a rainfall dominated system that conveys surface runoff to the Severn Estuary, principally through the complex network of tide locked freshwater drains, locally known as reens. The Gwent Levels are drained by a hierarchy of water drainage features that include the following.

- Field Grips - Small gullies which run parallel to each other through agricultural land. They are the primary conveyers of water on the levels, channelling water to the greater network of ditches.
- Field Ditches - Enclose most parcels of land on the levels. They convey water to the larger reens in an area. Responsibility for the maintenance of field ditches rests with the riparian land owners.
- IDB Reens - typically larger than field ditches, they provide a network of strategically important watercourses in terms of the management of the levels and in turn flow into EA maintained main rivers.

4.2.6 The names of the main reens within the Gwent Levels are summarized in the plans provided in Annex N and shown in Figure 5.3 to Figure 9.3.

4.2.7 The Gwent Levels are also crossed by 'NRW watercourses'. These watercourse are also shown in Figure 5.3 to Figure 9.3 and include, from west to east:

- Ponty Cwcw Reen;
- Sea Wall Reen;
- River Ebbw;
- River Usk;
- Monks Ditch;
- Hundred Perches Reen / Middle Road Reen Diversion;
- Petty Reen; and
- St Brides Brook.

4.2.8 All principal watercourses situated within the route corridor, including those crossed by the proposed alignment are summarised in Section 5.4.

4.2.9 The Gwent Levels are largely under the management of the former Caldicot and Wentlooge Levels Internal Drainage Board (CWLIDB) although this is now forms part of the NRW. Exceptions include the following.

- Historical "NRW" Watercourses.
- The system under the management of Tata Steel, situated to immediately south of the A4810, that crosses the former Llanwern site.

4.2.10 The water level within the Gwent Levels is controlled by a series of tidal sluice gates situated along the Severn Estuary, River Usk and River Ebbw, and c. 200 internal sluices. The distribution of level and flow control structures is shown in Figure 5.3 to Figure 9.3.

4.2.11 The former CWLIDB maintain agreed summer and winter "penning levels" within the system as described in their Water Level Management Plan (CWLIDB, 1995). The change to low winter penning levels occurs in October, with water levels raised to the high summer penning levels in July. In addition to maintaining water levels through the system of sluice gates, the CWLIDB also undertake an annual programme of dredging and clearance of the main reens.

4.2.12 Gradients are extremely shallow, hence flow within the reen system is typically sluggish. Field observations during water quality monitoring in 2015 confirmed

that the during the summer months the reen system is characterised by extremely low flow and apparently stagnant areas. During the winter and spring, lower levels are maintained to facilitate elevated flows to convey flood waters to the Estuary

4.2.13 Surface water flow data for watercourses within the Gwent Levels is not collected by NRW. No quantitative flow data for the reen system has been obtained for the production of the BWE Report, although flow estimates have been calculated as part of the Flood Consequence Assessment produced for the proposed Scheme (Appendix 16.1 of the ES).

Tidal Effects

4.2.14 The water levels with the Gwent Levels being maintained by tidal sluice gates and internal sluices throughout the system as shown in Figure 5.3 to Figure 9.3. No tidal effects are therefore observed in the reen system located within the corridor of the new section of motorway.

General Water Quality in the Gwent Levels

4.2.15 The water quality within the Gwent Levels is described in detail in Section 4.4.

4.2.16 Typically water quality within the reen system of the Gwent Level is considered to reflect the low flow and significant organic loading associated with the site setting. During the summer months, natural organic degradation results in significant nutrient enrichment of waters within the reen system. The high productivity and low/absent flow also result in low Dissolved Oxygen, and elevated BOD concentrations compared to other “typical” river systems characterised by free flowing waters.

4.2.17 Although drainage from the existing road system is discharged to main watercourses, the reen system is generally considered to be characterised by the general absence of heavy metals and other anthropogenic organic contaminants.

4.2.18 Chloride and conductivity measurements within the Gwent Levels are tabulated in Annex D and described in Section 4.4. The reen system is shown to contain freshwater with a chloride concentration typically below 100 mg/l and commonly below 50 mg/l. Notable exceptions are location 17.2 and 17.3 (Figure 2 of Annex L) and location SW05. Location SW05 is situated within the central area of the Tata Steel land area, towards the southern boundary, and has a mean chloride concentration of 260 mg/l. Location 17.2 and 17.3 are small reens adjacent to (but outside of) the Tata steel site and are characterised by a concentration of 248 mg/l and 785 mg/l in March 2015.

Water Use by Riparian Land Owners

4.2.19 Typically riparian land owners require the Gwent Levels to be drained for enable agricultural use and stock grazing. Surface water use within the Gwent Levels is therefore largely restricted to stock watering, with no NRW abstraction licences issued within the Gwent Levels of the study areas.

4.3 Principal Watercourses

4.3.1 The new section of motorway would cross two principal watercourses, namely the River Usk and River Ebbw. These two estuaries are subject to extremely large tidal fluctuations that commonly exceed 6 m and are characterised by saline waters.

4.4 Alexandra Docks

4.4.1 The new section of motorway would cross the Alexandra Docks in Newport. The docks are managed by Associated British Ports and include the North and South dock that cover a total area of proximately 525,000 m^2.

4.4.2 Navigation in and out of the dock is facilitated via lock gates located at the south west corner, directly into the River Usk. The water level within the dock is maintained at c. 12.9 m Chart Datum (CD) which is around the level of a mean high water spring tide within the Usk Estuary. Between lock operations the water level within the dock is maintained by pumping.

4.4.3 There are no significant surface water inflows to the dock. The principal components of the water budget for the dock are therefore considered to be:

- direct rainfall to the dock
- runoff from the dockside catchment area (including consented discharges from peripheral land users);
- evaporation;
- leakage through lock gates;
- net transfer during gate operation; and
- compensation pumping by ABP to maintain levels in the dock.

4.4.4 The water contained in the Alexandra Dock is expected to be saline, albeit more dilute than encountered in the estuary of the River Usk to which it is connected. The water quality in the dock is expected to reflect that of the Usk Estuary, consented discharges and surface water dilution.

4.5 Tata Steel / Llanwern

4.5.1 Tata Steel currently operate a consent that permits a dry weather daily discharge of 28,000 m^3 of water to the Severn Estuary (environmental permit reference EPR/BR9715IB). This includes surface water runoff (both onsite and offsite), treated effluents and also runoff from urban areas to the north of the Llanwern site. The area of Tata steel water management is principally situated between the A4810 and the Caldicot Levels, as shown in Figure 8.3, immediately south of the East-West ditch which the key watercourse associated with the system. As shown in Figure 8.3, this area includes two areas effluent treatment areas (Reed Bed 1 and Reed Bed 2); associated discharge pond; a large interceptor; and a large area for temporary material storage / stockpiling.

4.5.2 The system is operated to maintain the lowest water levels within the local rea, thus ensuring that no water leaves flows from the Llanwern/ Tata site to the surrounding reen system. During time of high rainfall, flood water has been

known to flow onto the Tata Site and is processed through their water management system.

4.5.3 Waters within these areas are generally circulated around the system and discharged via the two reed beds, through the interceptor, to the outfall reen. The East-West ditch is the principal receiving water course that ultimately flows through the interceptor. Water is discharged from a single point into the north-south discharge reen. This reen is c. 2 m deep and flows up to the pumping station where water is pumped to the outfall within the Severn Estuary

4.5.4 The water quality at the point of discharge is controlled by the consent:

- pH - 6 to 12;
- Surface oil - none specified;
- Total hydrocarbon oil - 5 mg/l;
- Suspended solids - 100 mg/l;
- Dissolved iron - 10 mg/l;
- Total chromium - 0.2 mg/l;
- Dissolved nickel - 0.2 mg/l;
- Zinc - 2 mg/l;
- Copper - 0.1 mg/l;
- Lead - 0.8 mg/l;
- Cadmium - 0.05 mg/l;
- Mercury - 0.05 mg/l; and
- Ammoniacal nitrogen - none specified.

4.5.5 Tata steel monitoring water quality at the discharge point. Surface water quality was monitored at 10 locations around the Tata steel water management area at the points shown in Figure 8.5.

4.6 Key Water Features within the New Section of Motorway Corridor

Summary

4.6.1 The water features located within the corridor of the proposed new section of motorway, including those watercourses crossed by the alignment, are shown in Figures 5.3, 6.3, 7.3, 8.3 and 9.3. Those features the new section of motorway crosses or comes in close proximity to are summarised in Table 4.1.

Table 4.1 Summary of Surface Watercourses

Chainage (km +m)	Name	Management	Additional Notes
Section 1: Castleton			
5,100 – 5,300	Nantymoor Reen	Former IDB	Reen crosses and runs parallel to the new section of motorway between 5,100 – 5,300 before flowing eastwards.
5,600 – 5,700	SDR East Reen New	Former IDB	New section of motorway intersects the reen and subsequently joins Percoed Reen at the point of intersection
5,600 – 5,700	Percoed Reen	Former IDB	Surrounding Percoed Reen, a number of other IDB reens and field drains join this reen. Flowing southwest.
Section 2: Wentlooge Levels			
6,800 – 6,900	Morfa Gronw Reen	Former IDB	Connected with Percoed Reen
7,700 – 7,800	Old Dairy Reen	Former IDB	Connects with Pontycwcw Reen (NRW Reen)
7,900 – 8,000	Pontycwcw Reen	NRW	Multiple branch reens associated with Pontycwcw Reen.
8,400 – 8,500	Sea Wall Reen	NRW	Connected with Pontycwcw Reen.
Section 3: New Bridge Section of Motorway			
c. 8,500	River Ebbw	NRW	-
c. 9,600	Alexandra Docks	BAP	-
c. 10,100	River Usk	NRW	-
Section 4: Caldicot Levels			
12,300 – 12,400	Lakes Reen	Former IDB	Joins Julians Reen south of new section of motorway.
13,000	Julians Reen	Former IDB and NRW	Large reen that is joined by a number of other reens and field drains as it flows South. Becomes NRW main reen south of new section of motorway.
14,300 – 14,400	Ellen Reen	Former IDB	Alignment intersects Ellen Reen just south of head of Ellen Reen.
14,700	Middle Reen	Former IDB	Short reen. Joins Blackwall reen just south of new section of motorway.
14,900	Blackwall Reen	Former IDB	Joins Ellen Reen south of new section of motorway
14,900 – 15,000	Monks Ditch	NRW	Intersected by new section of motorwayand associated junction.
16,600	Elever Pill Reen	NRW	Head of Elever Pill Reen just north of new section of motorway.
17,900	Middle Road Reen Diversion	NRW	Joins from 100 Perches Reen and Greenmoor Reen. Intersected by new section of motorwayand associated junction.
18,450	Cock Street Greenmoor Reen	Former IDB	Possibly joins Rush Wall South Reen south of new section of motorway.
19,300	Petty Reen	NRW	
Section 5: Magor			
19,700	Stutwall East Reen & Bareland Street Reen East	Former IDB	Joins Blackwall West Reen

Water Framework Directive Status of Watercourses

4.6.2 The WFD waterbodies crossed by the proposed new section of motorway are shown in Figure 2 and summarised in Table 4.2 below. The information included in Table 4.2 is based upon 2009 River Basin Management Plan.

4.6.3 Of the riverine and transitional water bodies all are currently classed as 'moderate potential' with the exception of the unnamed tributary between the source to the confluence of the River Ebbw (ID: GB109056026780), which is classed as currently 'good potential'.

4.6.4 All the groundwater bodies have been assigned current good potential with an expected objective of both 'good overall' and 'good quantitative' status by 2015.

Table 4.2a: WFD Water Bodies – Riverine

Water Body Name and ID	Water Body Length (km) / Area (km2) and Hydro-morphological Designation	Current Overall Status / Potential	Current Ecological / Quantitative Status / Potential and Certainty1	Current Chemical Status / Potential and Certainty	Protected Area Designations	Status Objective and Justification if not 'Good' by 2015
Riverine Water Bodies						
Mill Reen - source to the R Severn Estuary (GB109056026860)	Length N/A Artificial	Moderate Potential	Moderate Potential (Certainty N/A) Supporting Conditions: Mitigation Measures – Moderate Quantity and Dynamics of Flow – Supports Good	Does Not Require Assessment	Habitats Directive	Good Overall Status by 2027 Good Ecological Potential by 2027 Justifications: Disproportionately Expensive Technically Infeasible
Monks Ditch - Wainbridge to mouth (GB109056026810)	Length N/A Artificial	Moderate Potential	Moderate Potential (Very Certain) Supporting Conditions: Mitigation Measures – Moderate Quantity and Dynamics of Flow – Supports Good	Does Not Require Assessment	Habitats Directive	Good Overall Status by 2027 Good Ecological Potential by 2027 Justifications: Disproportionately Expensive Technically Infeasible
Monks Ditch - source to Wainbridge (GB109056026850)	Length N/A Artificial	Moderate Potential	Moderate Potential (Certainty N/A) Supporting Conditions: Mitigation Measures – Moderate Quantity and Dynamics of Flow – Supports Good	Does Not Require Assessment	None	Good Overall Status by 2027 Good Ecological Potential by 2027 Justifications: Technically Infeasible
Broadway Reen - source to R Severn Estuary (GB109056073370)	Length N/A Artificial	Moderate Potential	Moderate Potential (Very Certain) Supporting Conditions: Mitigation Measures – Moderate Quantity and Dynamics of Flow – Supports Good	Does Not Require Assessment	Habitats Directive	Good Overall Status by 2027 Good Ecological Potential by 2027 Justifications: Disproportionately Expensive Technically Infeasible
Ebbw R – conf Ebbw Fach R to Maes-glas (GB109056026910)	Length N/A Heavily Modified Water Body	Moderate Potential	Moderate Potential (Uncertain - WoE2) Supporting Conditions: Mitigation Measures – Moderate Quantity and Dynamics of Flow – Supports Good	Fail (Quite Certain)	Freshwater Fish Directive	Good Overall Status by 2027 Good Ecological Potential by 2027 Good Chemical Status by 2027 Justifications: Disproportionately Expensive Technically Infeasible
Unnamed trib - source to conf Ebbw R (GB109056026780)	Length N/A Artificial	Good Potential	Good Potential (Certainty N/A) Supporting Conditions: Mitigation Measures – Good Quantity and Dynamics of Flow – Supports Good	Does Not Require Assessment	None	Good Overall Status by 2015 Good Ecological Potential by 2015 Justifications: None

[1] For both Riverine and Transitional water bodies, Ecological Status/Potential is measured whereas for Groundwater bodies Quantitative Status is measured.
[2] Weight of Evidence (WoE) – This notation is used where multiple elements are classed as 'Uncertain', however the data supporting these elements may all point to the same conclusion and therefore the current status/potential is classed as 'Uncertain' overall due to the 'Weight of Evidence' (Environment Agency, 2009).

Table 4.2b WFD Water Bodies – Transitional

Water Body Name and ID	Water Body Length (km) / Area (km2) and Hydro-morphological Designation	Current Overall Status / Potential	Current Ecological / Quantitative Status / Potential and Certainty3	Current Chemical Status / Potential and Certainty	Protected Area Designations	Status Objective and Justification if not 'Good' by 2015
Transitional Water Bodies						
Usk (GB530905415404)	Area N/A Heavily Modified Water Body	Moderate Potential	Moderate Potential (Certainty N/A) Supporting Conditions: Mitigation Measures – Moderate Tidal Regime and Freshwater Flow – Supports Good	Good Status	Freshwater Fish Directive Habitats Directive Birds Directive	Good Overall Status by 2027 Good Ecological Potential by 2027 Good Chemical Status by 2015 Justifications: Technically Infeasible
Severn Lower (GB530905415401)	Area N/A Heavily Modified Water Body	Moderate Potential	Moderate Potential (Uncertain) Supporting Conditions: Mitigation Measures – Moderate NOT IN PLACE	Good Status	Bathing Water Directive Freshwater Fish Directive Birds Directive Urban Waste Water Treatment Directive	Good Overall Status by 2027 Good Ecological Potential by 2027 Good Chemical Status by 2015 Justifications: Disproportionately Expensive Technically Infeasible

[3] For both Riverine and Transitional water bodies, Ecological Status/Potential is measured whereas for Groundwater bodies Quantitative Status is measured.

Table 4.2c: WFD Water Bodies – Groundwater

Water Body Name and ID	Water Body Length (km) / Area (km2) and Hydro-morphological Designation	Current Overall Status / Potential	Current Ecological / Quantitative Status / Potential and Certainty4	Current Chemical Status / Potential and Certainty	Protected Area Designations	Status Objective and Justification if not 'Good' by 2015
Groundwater Bodies						
Usk and Wye Southern Carboniferous Limestone (GB40901G206300)	Area N/A No Hydro-morphological Designation	Good Status	Good Status (Low Certainty) Quantitative Elements: Impact on Wetlands – Good (Low) Impact on Surface Waters – Good (Low) Saline intrusion – Good (Low) Water Balance – Good (High)	Good Status (Low Certainty) Chemical Elements: DrWPA Test – Good (Low) Chemical Test – Good (Low) Impact on Wetlands – Good (Low) Impact on Surface Waters – Good (Low) Saline Intrusion – Good (Low)	Drinking Water Directive Nitrates Directive	Good Overall Status by 2015 Good Quantitative Status by 2015 Good Chemical Status by 2015 Justifications: None
Usk Devonian Old Red Sandstone (GB40902G201700)	Area N/A No Hydro-morphological Designation	Good Status	Good Status (Low Certainty) Quantitative Elements: Impact on Wetlands – Good (Low) Impact on Surface Waters – Good (High) Saline intrusion – Good (High) Water Balance – Good (High)	Good Status (Low Certainty) Chemical Elements: DrWPA Test – Good (High) Chemical Test – Good (High) Impact on Wetlands – Good (Low) Impact on Surface Waters – Good (High) Saline Intrusion – Good (High)	Drinking Water Directive Nitrates Directive	Good Overall Status by 2015 Good Quantitative Status by 2015 Good Chemical Status by 2015 Justifications: None
SE Valleys Southern Devonian Old Red Sandstone and Triassic Mercia Mudstone (GB40902G201500)	Area N/A No Hydro-morphological Designation	Good Status	Good Status (High Certainty) Quantitative Elements: Impact on Wetlands – Good (High) Impact on Surface Waters – Good (High) Saline intrusion – Good (High) Water Balance – Good (High)	Good Status (Low Certainty) Chemical Elements: DrWPA Test – Good (Low) Chemical Test – Good (Low) Impact on Wetlands – Good (Low) Impact on Surface Waters – Good (Low) Saline Intrusion – Good (High)	Drinking Water Directive	Good Overall Status by 2015 Good Quantitative Status by 2015 Good Chemical Status by 2015 Justifications: None

[4] For both Riverine and Transitional water bodies, Ecological Status/Potential is measured whereas for Groundwater bodies Quantitative Status is measured.

4.6.5 For the purpose of the WFD the Gwent Levels waterbodies are defined as artificial, heavily modified waterbodies. This means that water quality criteria are not used as part of the routine classification of these waterbodies. In addition, environmental quality standards specific to an environment such as the Gwent Levels (a lowland, grazing marsh, drainage system) have not been drawn up.

4.6.6 The status of these water bodies are therefore based on ecology rather than chemical quality elements. The watercourse monitored by NRW are typically characterised by "moderate" status, although good status is to be achieved by 2027.

4.7 Surface Water Monitoring

4.7.1 An understanding of baseline water quality is required to enable the assessment of direct effects on the water environment that may arise from the proposed development during the construction and operational phase. The principal objective of the BWE Report is to provide a surface water dataset that characterises baseline water conditions within the system in sufficient detail to allow:

- the characterisation of general baseline variability within the reen and surface water system, including in the vicinity of key contaminated land sites and proposed WTAs identified on, or near the new section of motorway;
- an assessment of effects relating to highway construction and highway operation within the Environmental Statement; and
- the delivery of DMRB compliant assessments for impacts from routine runoff of surface waters on the water environment (using the Highways Agency Water Risk Assessment Tool (HAWRAT)) and other bespoke approaches should these be required.

4.7.2 The source of surface water monitoring data is summarised below.

Third Party Monitoring in the Gwent Levels

4.7.3 Surface water quality monitoring data has been collected within the Gwent Levels in three phases:

- Titan Environmental Surveys Limited (TESL, 2008) – 22 Monitoring Locations, typically 4 Rounds (2007 / 2008);
- Supplementary Ground Investigation for the Welsh Government (Geotechnical Engineering Limited, 2015) – 10 Monitoring Locations, 3 Rounds (2015); and
- Water Monitoring provided in Annex L – Four Quarterly Rounds.

4.7.4 The date of each monitoring round undertaken for all three monitoring phases is summarised in Table 4.3.

Table 4.3 Date of Surface Water Monitoring Rounds

Survey Reference	Monitoring Round Reference	Date(s)	Note
RPS(2015 & 2016) (Annex L)	Q1	26th May - 5th June 2015	Summer Penning Levels
	Q2	28th - 31st July 2015	
	Q3	13th - 15th October 2015	Winter Penning Levels
	Q4	26th - 29th January 2016	
Titan Environmental Services Ltd	1	5th - 11th December 2007	-
	2	17th - 19th March 2008	-
	3	23rd - 25th June 2008	-
	4	24th - 25th September 2008	-
Supplementary Ground Investigation (Geotechnical Engineering Limited, 2015)	1	1st April 2015	-
	2	15th April 2015	-
	3	22nd April 2015	-

4.7.5 Titan Environmental Surveys Ltd was commissioned to undertake a baseline surface water quality monitoring programme in 2007 & 2008. These locations are shown in Figure 5.3, Figure 6.3 Figure 7.3, Figure 8.3 and Figure 9.3. The monitoring programme comprised twenty two locations, hereinafter referred to as the "Titan" monitoring locations. Titan monitoring locations were monitored on four occasions over a 12-month period between December 2007 (Winter) and late September 2008 (Autumn). The resulting dataset defined seasonal variability of water quality within the Gwent Levels that was described in their final report (Titan Environmental Surveys, 2008).

4.7.6 The rationale behind the most recent monitoring undertaken by RPS in 2015 and 2016 is described in the Water and Soil Gas Monitoring Strategy (RPS, 2015a), but conforms to NRW /CCW protocols.

4.7.7 The monitoring undertaken on behalf of the WG has focused on the drainage system around the Tata steel site and includes the main watercourses, internal drains and ditches, a number of NRW watercourses and some reens external to the system managed by Tata steel.

4.7.8 The location of all surface water monitoring points is shown in Figure 5.3, Figure 6.3 Figure 7.3, Figure 8.3 and Figure 9.35.3.

NRW Monitoring

4.7.9 NRW undertakes routine monitoring on main rivers in Wales, principally to fulfil their statutory duties under the WFD that include:

- prevent the deterioration in the status of water bodies;
- ensure all bodies of surface water and groundwater to achieve good status by 2015; and
- ensure discharges of priority hazardous substances (the most toxic substances discharged to water) must cease by 2020.

4.7.10 NRW undertake routine water quality monitoring of the main reens and water courses within the Gwent Levels. The location of these monitoring points is shown on Figure 5.3 to Figure 9.3.

4.7.11 NRW monitoring data has been provided to RPS (Annex E) and for the purpose of the baseline characterisation presented the data for collected for the following locations has been reviewed:

- Broadway Reen;
- Haws Reen;
- Seven locations within the “Newport Wetlands” (part of the Caldicot Levels);
- Windmill Pill Reen;
- three locations on Monks Ditch; and
- River Usk, downstream of the Transporter Bridge.

4.7.12 As it has been agreed that there will be no direct drainage discharges from the Scheme to the River Usk, the collection of additional monitoring data for these watercourses will be collected.

4.8 Baseline Water Quality: Gwent Levels

Monitoring Network

4.8.1 A total of 72 monitoring locations have been sampled in the 3 phases of monitoring investigation and summarised in Table 4.3. The location of each monitoring point is shown in Figure 5.3 to Figure 9.3, relative to the location of proposed Water Treatment Areas and NRW surface water monitoring points for which water quality data has been collected.

4.8.2 The most recent monitoring programme (i.e. Water Monitoring provided in Annex L) has initially focused on those reens that will receive highway discharge from proposed WTAs, major reens crossed by the new section of motorway and reens situated in close proximity to key contaminated land sites. The monitoring network was modified throughout the annual monitoring period, in response to changes in highway design and results of further assessment of ground conditions along the scheme. A number of monitoring locations have not therefore been monitored in all rounds, reflecting the changes in the location of WTA discharge points during the monitoring period. A summary of the monitoring undertaken is provided in Annex N.

Analytical Suite

4.8.3 Surface water samples taken from each monitoring point have been subject to analysis for a wide variety of parameters (if appropriate for that location), that can typically be subdivided into the following four groups:

- general parameters associated with defining water quality within surface water bodies, including WFD parameters;
- parameters historically monitored by CCW for which water quality trigger levels have been defined;
- general contaminants of concern associated with routine highway run-off, that include heavy metals and hydrocarbons; and

- site-specific contaminants of concern defined for contaminated land sites that have plausible pollutant linkage with the surrounding watercourses and/or there is possible evidence of such effects.

4.8.4 The detailed analytical suite for each phase of monitoring does differ, but typically includes:

- Alkalinity &/or hardness;
- Biological Oxygen Demand (BOD), Dissolved Oxygen (DO), Electrical Conductivity, Total Suspended Solids (TSS);
- Nitrogen Compounds (e.g. Total Ammoniacal Nitrogen, Total Oxidised Nitrogen (TON), Nitrate (NO_3), Nitrite (NO_2));
- Phosphorous;
- Major ions (Sulphate, chloride, calcium);
- Heavy Metals (including zinc, lead, cadmium , chromium, nickel and copper);
- Total Petroleum Hydrocarbons (including total oils and greases); and
- Polycyclic Aromatic Hydrocarbons (PAHs).
- In addition the following organic parameters have been analysed on occasions:
- Volatile Organic Compounds (VOCs)
- Semi-volatile Organic Hydrocarbons (SVOCs);
- Polychlorinated biphenyls (PCBs);
- Dioxins & Furans; and
- Organotin compounds.

4.8.5 The entire surface water dataset is tabulated in Annex G. This Annex includes the summary data table and water quality screening assessment table, as described below.

Water Quality Summary Statistics

4.8.6 The entire water quality dataset available at the time of writing has been used to define baseline water quality. This includes all data from Titan Environmental Surveys Limited (TESL, 2008) and Supplementary Ground Investigation data for the Welsh Government (Hyder, 2015) and data for Q1, Q2, Q3 and Q4 of the most recent monitoring programme (Annex L).

4.8.7 A total of 44 inorganic parameters (including physical parameters and heavy metals) have been monitored in surface water within the Gwent Levels. Up to 197 samples have been subject to analysis for inorganic parameters. The full data screening is provided in Annex G with the summary data for inorganic parameters provided in Table 4.4.

Table 4.4: Surface Water Quality Data Summary – Inorganic Parameters

Parameter	Unit	No. Analyses	Analyses Above LOD		Concentration	
			No.	*%'age of Analyses*	*Range*	*Mean**
General Parameters						
pH	pH Units	164	164	100.0%	6.77 - 12	7.81
Electrical Conductivity	uS/cm	83	83	100.0%	206 - 1164	533.29
Alkalinity	mg CaCO3/l	81	81	100.0%	55 - 1500	306.95
Total Hardness (as CaCO3)	mg/l	92	92	100.0%	100 - 565	246.40
Total Suspended Solids	mg/l	168	148	88.1%	2 - 714	48.79
Biological Oxygen Demand	mg/l	168	81	48.2%	1 - 45	2.92
Dissolved Oxygen	mg/l	168	159	94.6%	0.33 - 14.6	6.31
Dissolved Oxygen (saturation)	%	81	79	97.5%	3.5 - 139.3	55.87
Calcium (dissolved, filtered)	mg/l	163	163	100.0%	2.8 - 152	60.08
Calcium (total, unfiltered)	mg/l	45	45	100.0%	26.7 - 135	58.44
Chloride	mg/l	197	197	100.0%	3 - 785	41.59
Cyanide	mg/l	29	0	None > LOD	None > LOD	None > LOD
Ammoniacal Nitrogen (as N)	mg/l	197	141	71.6%	0.034 - 2.48	0.26
Total Oxidised Nitrogen (as N)	mg/l	168	99	58.9%	0.123 - 15.7	1.48
Nitrate (as NO3)	mg/l	163	108	66.3%	0.316 - 69.551	6.71
Nitrite (as NO2)	mg/l	163	34	20.9%	0.05 - 0.612	0.03
Sulphate	mg/l	168	150	89.3%	3.6 - 114	27.49
Total Organic Carbon (dissolved)	mg/l	51	47	92.2%	4.26 - 24.8	9.49
Orthophosphate (as P)	mg/l	138	98	71.0%	0.0303 - 4.2	0.36
Phosphorus (dissolved, filtered)	ug/l	23	23	100.0%	35.1 - 1040	254.94
Phosphorus (total, unfiltered)	ug/l	51	51	100.0%	24.3 - 2030	482.30
Metals (dissolved, filtered)**						
Arsenic	ug/l	80	74	92.5%	0.253 - 6.9	1.79
Boron	ug/l	29	29	100.0%	24 - 1300	519.48
Cadmium	ug/l	111	8	7.2%	0.097 - 2.9	0.05
Chromium	ug/l	192	101	52.6%	0.446 - 18	1.94
Copper	ug/l	192	83	43.2%	0.852 - 19	1.43
Lead	ug/l	192	91	47.4%	0.02 - 27	0.94
Mercury	ug/l	80	5	6.3%	0.0256 - 2.5	0.07
Nickel	ug/l	192	110	57.3%	0.644 - 15	1.31
Selenium	ug/l	80	49	61.3%	0.47 - 6.22	0.89
Zinc	ug/l	111	105	94.6%	0.451 - 30.7	3.76
Magnesium	mg/l	116	116	100.0%	1.1 - 35	15.68
Iron	mg/l	12	9	75.0%	0.0574 - 1.3	0.25

**Mean concentration assumes any analysis <LOD are equivalent to a concentration of zero*

*** Dissolved concentrations are presented here. Total concentrations are presented within the full dataset (Annex G)*

4.8.8 The inorganic chemistry of the reen system can generally be considered to be characterised by:

- Neutral to mildly alkaline pH, with the exception of location SW05 which is characterised by a pH of 12. This assessment is based on laboratory measurements from the Titan and Supplementary Ground Investigation monitoring rounds;
- Moderate dissolved oxygen concentration, that only occasionally approaches saturation;
- Freshwater chemistry of moderate mineralisation in terms of alkalinity, hardness and major ion chemistry (e.g. calcium, chloride and sulphate);
- Common presence of key nutrients in oxidised and reduced forms;
- Routine presence of the dissolved metals arsenic, boron and zinc (i.e. > 92% of samples); Less frequent occurrence of the metals chromium, copper, nickel, selenium and lead (typically > 43 to < 61.5% of samples); and the infrequent occurrence of cadmium and mercury (7.2 and 6.3% of samples analysed respectively).

4.8.9 The majority of samples have been analysed for organic compounds however the suite of analysis is variable between monitoring programmes. The summary statistics are provided in in *Table 4.5*.

4.8.10 A total of c. 166 organic parameters were analysed in surface water samples, including TPH fractions, BTEX compounds, VOCs and SVOCs. With the exception of the occasional occurrences of PAH, TPH (particularly longer chain hydrocarbons) and phenols, as well as single occurrences of toluene, 4-isopropyltoluene and isophorone; no organic contaminants were found in surface waters. It can therefore be concluded that water within the reen system is typically free from contamination by organic substances.

Table 4.5: Surface Water Quality Data Summary – Organic Parameters

Parameter	Unit	No. Analyses	Analyses Above LOD		Concentration	
			No.	*%'age of Analyses*	*Range*	*Mean**
Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	ug/l	195	21	10.8%	13 - 501	19.15
TPH >C6-C8	ug/l	83	0	None > LOD	None > LOD	None > LOD
TPH >C8-C10	ug/l	83	0	None > LOD	None > LOD	None > LOD
TPH >C10-C16	ug/l	83	1	1.2%	28	Single Analysis
TPH >C16-C24	ug/l	83	9	10.8%	21 - 169	9.06
TPH >C24-C40	ug/l	83	15	18.1%	51 - 284	26.51
Total Aliphatic Hydrocarbons	ug/l	84	4	4.8%	23 - 287	5.55
Aliphatics >C5-C6	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C6-C8	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C8-C10	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C10-C12	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C12-C16	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C16-C21	ug/l	84	2	2.4%	11 - 18	0.35
Aliphatics >C21-C35	ug/l	84	4	4.8%	23 - 269	5.20
Aliphatics >C35-C44	ug/l	29	0	None > LOD	None > LOD	None > LOD
Total Aromatic Hydrocarbons	ug/l	84	5	6.0%	13 - 214	5.37
Aromatics >EC5-EC7	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC7-EC8	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC8-EC10	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC10-EC12	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC12-EC16	ug/l	84	1	1.2%	11	Single Analysis
Aromatics >EC16-EC21	ug/l	84	2	2.4%	10 - 21	0.37
Aromatics >EC21-EC35	ug/l	84	5	6.0%	13 - 204	4.87
Aromatics >EC35-EC44	ug/l	29	0	None > LOD	None > LOD	None > LOD
GRO >C5-C12	ug/l	58	0	None > LOD	None > LOD	None > LOD
NVM, light petroleum extract	mg/l	81	17	21.0%	5 - 29	2.32
TPH / Oil & Greases	mg/l	24	1	4.2%	2.24	Single Analysis
Other Organic Compounds						
PAH (Total Detected USEPA 16)	ug/l	116	7	6.0%	0.603 - 17.2	0.33
Chrysene	ug/l	116	12	10.3%	0.0141 - 1.85	0.03
Fluoranthene	ug/l	116	13	11.2%	0.0188 - 2.24	0.04
Pyrene	ug/l	116	15	12.9%	0.0155 - 1.88	0.03
Benzo(a)anthracene	ug/l	116	8	6.9%	0.02 - 1.09	0.02
Phenanthrene	ug/l	116	10	8.6%	0.0235 - 0.949	0.02
Acenaphthene	ug/l	116	12	10.3%	0.0151 - 0.13	0.01
Acenaphthylene	ug/l	116	3	2.6%	0.0121 - 0.0601	0.00
Benzo(a)pyrene	ug/l	116	14	12.1%	0.0099 - 1.56	0.03
Benzo(b)fluoranthene	ug/l	116	9	7.8%	0.0362 - 2.83	0.05
Benzo(g,h,i)perylene	ug/l	116	10	8.6%	0.0199 - 1.57	0.03
Fluorene	ug/l	116	8	6.9%	0.0175 - 0.0858	0.00
Indeno(1,2,3-cd)pyrene	ug/l	116	9	7.8%	0.0141 - 1.43	0.02
Naphthalene	ug/l	116	2	1.7%	0.318 - 6.02	0.05
Anthracene	ug/l	116	4	3.4%	0.0203 - 0.125	0.00
Benzo(k)fluoranthene	ug/l	116	6	5.2%	0.0393 - 1.09	0.02
Dibenzo(a,h)anthracene	ug/l	116	6	5.2%	0.0164 - 0.367	0.01
Toluene	ug/l	88	1	1.1%	1.07	Single Analysis
4-Isopropyltoluene	ug/l	31	1	3.2%	31.9	Single Analysis
Isophorone	ug/l	31	1	3.2%	1.59	Single Analysis
Phenols	mg/l	30	3	10.0%	0.03 - 11.1	0.38

**Mean concentration assumes any analysis <LOD are equivalent to a concentration of zero*

Water Quality Screening Assessment

4.8.11 To provide an indication of the significance of the water quality data summarised in *Table 4.4* and *Table 4.5*, the dataset has been subject to a screening assessment. This screening assessment for the Gwent Levels is summarised in *Table 4.6*

Table 4.6: Water Quality Screening Assessment – All Parameters

Parameter	Unit	EQS	Analyses Above		Additional Notes	CCW TL	Analyses Above CCW TL	
			No.	%'age of Analyses			No.	%'age of Analyses
General Parameters								
pH	pH Units	9	4	2.4%	EQS exceedances identified south of Llanwern	8.5	19	11.6%
Electrical Conductivity	uS/cm	-	No EQS			2000	0	0.0%
Total Suspended Solids	mg/l	-	No EQS			250	8	4.8%
Biological Oxygen Demand	mg/l	5	26	15.5%	EQS to achieve "Good" Status under WFD	18	5	3.0%
Dissolved Oxygen	mg/l	-	No EQS			5	59	35.1%
Dissolved Oxygen (saturation)	%	60	42	51.9%	EQS to achieve "Good" Status under WFD	-	No TL	
Calcium (dissolved, filtered)	mg/l	-	No EQS			300	0	0.0%
Calcium (total, unfiltered)	mg/l	-	No EQS	0.0%		300	0	0.0%
Chloride	mg/l	250	2	1.0%		300	2	1.0%
Ammoniacal Nitrogen (as N)	mg/l	0.6	21	10.7%	EQS to achieve "Good" Status under WFD	1	10	5.1%
Total Oxidised Nitrogen (as N)	mg/l	-	No EQS			2	43	25.6%
Nitrate (as NO3)	mg/l	-	No EQS			1	99	60.7%
Nitrite (as NO2)	mg/l	-	No EQS			1	0	0.0%
Sulphate	mg/l	400	0	0.0%		300	0	0.0%
Orthophosphate (as P)	mg/l	0.12	70	50.7%	EQS to achieve "Good" Status under WFD	1	18	13.0%
Metals (dissolved, filtered)**								
Arsenic	ug/l	50	0	0.0%		-	No TL	
Boron	ug/l	2000	0	0.0%		-	No TL	
Cadmium	ug/l	0.15	5	4.5%		5	0	0.0%
Chromium	ug/l	3.4	30	15.6%	Cr concentrations have been screened against EQS for Cr VI	-	No TL	
Copper	ug/l	43.5	0	0.0%	Bioavailable	-	No TL	
Lead	ug/l	1.2	19	9.9%		250	0	0.0%
Mercury	ug/l	0.07	4	5.0%		-	No TL	
Nickel	ug/l	4	12	6.3%		100	0	0.0%
Zinc	ug/l	41.5	0	0.0%	Bioavailable plus ambient	1000	0	0.0%
Iron	mg/l	0.001	9	75.0%		-	No TL	
Organic Parameters								
Total Petroleum Hydrocarbons	ug/l	-	No EQS			2000	0	0.0%
Total Aliphatic Hydrocarbons	ug/l	-	No EQS			2000	0	0.0%
Total Aromatic Hydrocarbons	ug/l	-	No EQS			2000	0	0.0%
Benzo(a)pyrene	ug/l	0.00017	14	12.1%		-	No TL	
Benzo(b)fluoranthene	ug/l	0.017	9	7.8%		-	No TL	
Naphthalene	ug/l	2	1	0.9%		-	No TL	
Anthracene	ug/l	0.1	2	1.7%		-	No TL	
Benzo(k)fluoranthene	ug/l	0.017	6	5.2%		-	No TL	

*** Dissolved concentrations are presented here. Total concentrations are presented within the full dataset (Annex G)*

4.8.12 The water quality dataset has been screened against the most stringent freshwater EQS for inland waters and key observations include the following.

- A low dissolved oxygen concentration that often falls below the standard for "good" status under the WFD.
- The presence of nutrients at concentrations in excess of their respective EQS.
- Occasional presence of dissolved metals, most notably cadmium, chromium and lead in surface water, although they generally occur as spikes as opposed to routine occurrences in consecutive monitoring rounds.
- The more routine occurrence of iron, at concentrations that exceed its respective EQS in 75% of analyses.
- Occasional occurrence of PAHs at concentrations in excess of their respective EQS.

4.8.13 Unfiltered total concentrations of metals are generally higher than the dissolved concentrations reported above and exceedances of the equivalent dissolved EQS are more frequent. The full dataset including screening of total metals concentrations is provided within Annex G.

4.8.14 When the water quality dataset is screened against former-CCW Trigger Levels it can be seen that some general parameters (pH, TSS, BOD and DO) and nutrient concentrations do exceed the TLs, but metals and organic constituents do not. This indicates a general water quality status consistent with the hydrological setting of the system that is characterised by little flow and elevated nutrient concentrations

4.8.15 It can be concluded that baseline water quality of surface water bodies within the Gwent Levels are characterised by low DO and eutrophic conditions with the presence of some metals notably copper and zinc.

4.9 Baseline Quality: NRW Watercourses

Monitoring Network

4.9.1 NRW surface water quality monitor data has been obtained for the purpose of baseline characterisation. Data for the following NRW monitoring locations has been reviewed:

- Broadway Reen;
- Haws Reen;
- Seven locations within the "Newport Wetlands" that form part of the Caldicot Levels;
- Windmill Pill Reen;
- Three locations on Monks Ditch; and
- River Usk, downstream of the Transporter Bridge.

Analytical Suite

4.9.2 Water samples taken from reens have been analysed for the following parameters.

- General parameters including temperature, pH, EC and DO.
- Nutrients that include Nitrogen compounds and phosphate.
- Alkalinity and BOD.
- The metals copper and zinc.

4.9.3 Other selected metals and PAHs have also been analysed on occasions.

4.9.4 Water samples taken from the River Usk have been monitored principally for salinity, Dissolved Oxygen and metals that include cadmium, chromium, copper, lead, mercury, nickel and zinc. Analyses for iron, arsenic and DOC have been undertaken on occasions.

4.9.5 Water samples from Monks Ditch have been analysed for the following parameters.

- General parameters including temperature, pH, EC and DO.
- Alkalinty and BOD.
- Nitrogen compounds and phosphate.
- The copper and zinc.

4.9.6 The NRW data set is provided in Annex E. The water quality summary statistics and screening assessment are presented in Annex F and summarised below.

Water Quality Summary Statistics

4.9.7 The water quality statistics for NRW monitored reens, Monks Ditch and River Usk is presented in Table 4.7, Table 4.8 and Table 4.9. The water quality data for NRW reens combines the dataset for the following monitoring locations.

- Broadway Reen at Cidwelly Arch.
- Hawse Reen at Coast Road (ST2856 8163).
- Newport Wetlands: Point 1 (Nwt01), Point 10a (Nwt10a), Point 14 (Nwt14), Point 21 (Nwt21), Point 24 (Nwt24), Point 39 (Nwt39), Point 5 (Nwt05).
- North Of B4239 C/W Torwick Reen & Rhosog Fawr Reen.
- Windmill Pill.

Table 4.7: NRW Summary Data - Reens

Parameter	Unit	No of Analysis	Analyses Above LOD		Concentration	
			No.	% of Analysis	Range	Average
pH	pH Units	218	218	100.0%	6.87 - 8.93	7.601
Temperature of Water	degC	191	191	100.0%	1.3 - 20.8	11.411
Dissolved Oxygen	mg/l	186	186	100.0%	1.1 - 17.5	8.181
	%	190	190	100.0%	10.8 - 191.3	73.787
Conductivity (at 20 C)	uS/cm	27	27	100.0%	235 - 1460	448.074
Conductivity (at 25 C)	uS/cm	130	130	100.0%	122 - 4382	596.705
BOD	mg/l	96	92	95.8%	1 - 10.2	2.766
Alkalinity (as CaCO3)	mg/l	129	128	99.2%	93 - 345	185.638
Nitrogen, Total Oxidised as N	mg/l	217	136	62.7%	0.2 - 166	2.399
Nitrate as N	mg/l	213	147	69.0%	0.168 - 166	2.194
Nitrite as N	mg/l	217	129	59.4%	0.004 - 0.165	0.022
Ammoniacal Nitrogen as N	mg/l	193	151	78.2%	0.03 - 5.97	0.398
Ammonia un-ionised as N	mg/l	189	149	78.8%	0.00009 - 0.0414	0.003
Orthophosphate (as P)	mg/l	217	193	88.9%	0.02 - 1.21	0.273
Phosphorus (Total as P)	mg/l	18	18	100.0%	0.085 - 0.999	0.228
Copper	ug/l	66	55	83.3%	1.02 - 8.28	2.561
Zinc	ug/l	69	53	76.8%	5.2 - 49	16.590
Acenaphthene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Acenaphthylene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Aluminium	ug/l	3	3	100.0%	106 - 461	263.333
Arsenic	ug/l	3	3	100.0%	4.61 - 9.33	7.063
Benzo(a)Anthracene	ug/l	2	1	50.0%	0.0206	0.021
Benzo(a)Pyrene	ug/l	2	2	100.0%	0.0123 - 0.0366	0.024
Benzo(b)Fluoranthene	ug/l	2	2	100.0%	0.0232 - 0.0621	0.043
Benzo(e)Pyrene	ug/l	2	2	100.0%	0.0123 - 0.0377	0.025
Benzo(g,h,i)Perylene	ug/l	2	2	100.0%	0.0124 - 0.0386	0.026
Benzo(k)Fluoranthene	ug/l	2	1	50.0%	0.0251	0.025
Boron	ug/l	2	2	100.0%	197 - 230	213.500
Cadmium	ug/l	3	0	None > LOD	None > LOD	None > LOD
Chemical Oxygen Demand	mg/l	3	3	100.0%	16.7 - 41.6	27.733
Chloride	mg/l	12	12	100.0%	16.8 - 59.1	35.067
Chromium	ug/l	3	3	100.0%	0.94 - 1.73	1.447
Dibenzo(a,h)Anthracene	ug/l	2	1	50.0%	0.0174	0.017
Fluoranthene	ug/l	2	2	100.0%	0.0185 - 0.0333	0.026
Fluoranthene	ug/l	2	2	100.0%	0.0185 - 0.0333	0.026
Fluorene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Indeno(1,2,3-cd)pyrene	ug/l	2	2	100.0%	0.0125 - 0.0382	0.025
Lead	ug/l	3	1	33.3%	2.24	2.240
Naphthalene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Nickel	ug/l	3	3	100.0%	1.89 - 2.59	2.243
Nitrogen, Total as N	mg/l	7	7	100.0%	1.12 - 3.85	1.793
Perylene	ug/l	2	1	50.0%	0.0116	0.012
Pyrene	ug/l	2	2	100.0%	0.0152 - 0.0281	0.022
Salinity	ppt	3	0	None > LOD	None > LOD	None > LOD
Silica, reactive as SiO2	ug/l	3	3	100.0%	2.06 - 6.01	4.443
Solids, Suspended at 105 C	mg/l	12	8	66.7%	3.5 - 32	10.000

4.9.8 The water quality data for NRW reen monitoring confirm their freshwater nature, generally neutral pH, variable DO concentration, with the presence of some

nutrients. The routine presence of metals zinc and copper, albeit with generally low concentrations (with a mean concentration of 16.6 µg/l and 2.6 µg/l respectively). The observed water quality is consistent with that seen in project dataset described previously.

4.9.9 The summary statistics for Monks Ditch are presented in Table 4.8. The summary data for Monks Ditch combines the dataset for the following monitoring points: Monks Ditch at Whitson Arch (downstream point); Monks Ditch at Llanwern Road Bridge (upstream point); and Monks Ditch at the A4810 - B.S.C. Llanwern.

Table 4.8: NRW Summary Data – Monks Ditch

Parameter	Unit	No of Analysis	Analyses Above LOD		Concentration	
			No.	% of Analysis	Range	Average
pH	pH Units	199	199	100.0%	7.25 - 8.94	7.931
Temperature	degC	199	199	100.0%	3.64 - 22.2	11.267
Dissolved Oxygen	mg/l	198	198	100.0%	2.45 - 17	10.514
	%	199	199	100.0%	24.6 - 172.4	95.304
Conductivity at 25 C	uS/cm	94	94	100.0%	106 - 693	431.243
Conductivity at 20 C	uS/cm	6	6	100.0%	370 - 547	429.333
TON (as N)	mg/l	197	195	99.0%	0.23 - 6.06	2.819
Nitrate (as N)	mg/l	196	195	99.5%	0.184 - 6.05	2.785
Nitrite as N	mg/l	197	190	96.4%	0.004 - 0.128	0.023
Ammoniacal Nitrogen (as N)	mg/l	197	131	66.5%	0.03 - 2.61	0.127
Ammonia un-ionised (as N)	mg/l	196	130	66.3%	0.00014 - 0.0246	0.002
Orthophosphate (as P)	mg/l	197	190	96.4%	0.021 - 0.44	0.081
BOD : 5 Day ATU	mg/l	134	94	70.1%	0.8 - 12.7	2.229
Alkalinity (as CaCO3)	mg/l	99	99	100.0%	85.6 - 334	160.389
Copper, Dissolved	ug/l	135	93	68.9%	1.01 - 7.08	2.207
Zinc	ug/l	135	103	76.3%	2.79 - 137	15.766

4.9.10 The water quality monitoring data for Monks Ditch confirms its freshwater status, with similar concentrations of nitrogen compounds, coper and zinc as seen in the reens generally. Dissolved oxygen concentrations are typically high and orthophosphate concentrations are low relative to the reens.

4.9.11 The summary statistics for the River Usk are presented in Table 4.9. The table combines the monitoring data for three sample locations, namely: 1000 m downstream of the Transporter Bridge; downstream of Nash Outfall; and upstream of Caerleon Road Bridge.

Table 4.9: NRW Summary Data – River Usk

Parameter	Unit	No of Analysis	Analyses Above LOD		Concentration	
			No.	% of Analysis	Range	Average
Salinity (In Situ)	ppt	149	149	100.0%	0.27 - 26.918	15.065
pH	pH Units	2	2	100.0%	7.65 - 8.07	7.860
Dissolved Oxygent	mg/l	53	53	100.0%	6.73 - 11.7	9.122
	%	53	53	100.0%	82.2 - 105.3	92.281
DOC	mg/l	9	9	100.0%	1.39 - 2.93	2.107
Arsenic, Dissolved	ug/l	7	3	42.9%	1.2 - 2.1	1.567
Cadmium, Dissolved	ug/l	104	34	32.7%	0.043 - 0.255	0.088
Chromium Hexavalent	ug/l	24	0	None > LOD	None > LOD	None > LOD
Chromium, Dissolved	ug/l	146	37	25.3%	0.261 - 23.3	1.871
Copper, Dissolved	ug/l	134	129	96.3%	0.094 - 14.2	2.134
Iron, Dissolved	ug/l	29	0	None > LOD	None > LOD	None > LOD
Lead, Dissolved	ug/l	190	170	89.5%	0.04 - 11.1	0.497
Mercury	ug/l	84	38	45.2%	0.01 - 0.713	0.090
Mercury, Dissolved	ug/l	37	3	8.1%	0.0114 - 0.029	0.018
Nickel, Dissolved	ug/l	190	181	95.3%	0.33 - 71.7	4.460
Vanadium	ug/l	7	0	None > LOD	None > LOD	None > LOD
Zinc, Dissolved	ug/l	132	131	99.2%	0.7 - 92.8	14.252

4.9.12 The water quality monitoring data for the River Usk is characterised by a high salinity, neutral pH and the presence of a variety of heavy metals most commonly nickel, lead and zinc. However other heavy metals are also observed less frequently and include mercury, chromium and cadmium (less than 50% of analyses).

Water Quality Screening Assessment

4.9.13 The water quality screening assessment for NRW watercourses is summarised in Table 4.10, Table 4.11 and Table 4.12.

4.9.14 For NRW reens the water quality is shown to exceed the former-CCW Trigger Levels for Nitrogen compounds and orthophospate. The Trigger Levels for metals are not exceeded.

Table 4.10: Water Quality Screening Assessment – NRW Dataset for Reens

Parameter	Unit	Screening Against EQS			Screening Against former-CCW Trigger Levels		
		EQS	No	%age of Analyses	former-CCW TL	No.	%age of Analyses
General Parameters							
Ammoniacal Nitrogen (as N)	mg/l	0.6	0	0.0%	1	13	6.74%
BOD	mg/l	5	0	0.0%	18	0	0.00%
Chloride	mg/l	250	0	0.0%	300	0	0.00%
Nitrate (as N)	mg/l		No EQS		1	73	34.27%
Nitrite (as N)	mg/l		No EQS		1	0	0.00%
TON (as N)	mg/l		No EQS		2	2	28.57%
Total Oxidised Nitrogen (as N)	mg/l		No EQS		2	18	8.29%
DO	%	60	0			No TL	
Orthophosphate (as P)	mg/l		No EQS		1	3	1.38%
Phosphorus, Total as P	mg/l	120	0			No TL	
Metals							
Cadmium	ug/l	0.15	None > LOD		5	None > LOD	
Copper	ug/l	43.5	0	0.0%		No TL	
Lead	ug/l	1.2	0		250	0	0.00%
Nickel	ug/l	4	0		100	0	0.00%
Zinc	ug/l	41.5	2	2.9%	1000	0	0.00%
Other Organic Compounds							
Benzo(a)Pyrene	ug/l	0.00017	0			No TL	
Benzo(b)Fluoranthene	ug/l	0.017	0			No TL	
Benzo(k)Fluoranthene	ug/l	0.017	0			No TL	
Fluoranthene	ug/l	0.0063	0			No TL	
Indeno(1,2,3-cd)pyrene	ug/l		No EQS		0	2	100.00%
Naphthalene	ug/l	2	None > LOD			No TL	
Dibenzo(a,h)Anthracene	ug/l		No EQS		0	1	50.00%
Fluoranthene	ug/l	0.0063	0			No TL	

4.9.15 The water quality dataset for Monks ditch covers a limited suite of parameters. The concentration of nitrate (and TON) identified in reens exceed the limit for those parameters. Copper remains below its calculated screening criteria, whilst Zinc is only exceeded in 2.9% of the analyses.

Table 4.11: Water Quality Screening Assessment – NRW Dataset for Monks Ditch

Parameter	Unit	Screening Against EQS			Screening Against former-CCW Trigger Levels		
		EQS	No	%age of Analyses	former-CCW TL	No.	%age of Analyses
General Parameters							
Ammonia (Un-ionised) as N	mg/l	0.6	0	0.0%	1	0	0.00%
Ammoniacal Nitrogen (as N)	mg/l	0.6	0	0.0%	1	1	0.51%
BOD	mg/l	5	0	0.0%	18	0	0.00%
Nitrate (as N)	mg/l		No EQS		1	185	94.39%
Nitrite (as N)	mg/l		No EQS		1	0	0.00%
Total Oxidised Nitrogen (as N)	mg/l		No EQS		2	166	84.26%
Orthophosphate (as P)	mg/l		No EQS		1	0	0.00%
Dissolved Oxygen	%	60	0			No TL	
pH	pH Units	6-9	0			No TL	
Metals							
Copper	ug/l	43.5	0	0.0%		No TL	
Zinc	ug/l	41.5	6	4.4%	1000	0	0.00%

4.9.16 The water quality dataset for the River Usk also covers a relatively small suite of parameters. No parameters measured exceed either EQS or former-CCW trigger levels, with the exception of zinc.

Table 4.12: Water Quality Screening Assessment – NRW Dataset for River Usk

Parameter	Unit	Screening Against EQS			Screening Against former-CCW Trigger Levels		
		EQS	No	%age of Analyses	former-CCW TL	No.	%age of Analyses
General Parameters							
Dissolved Oxygen	%	60	0			No TL	
pH	pH Units	6-9	0			No TL	
Dissolved Metals							
Arsenic, Dissolved	ug/l	50	0			No TL	
Cadmium, Dissolved	ug/l	0.15	0		5	0	0.00%
Chromium Hexavalent	ug/l	3.4	None > LOD			No TL	
Copper, Dissolved	ug/l	43.5	0	0.0%		No TL	
Iron, Dissolved	ug/l	1000	None > LOD			No TL	
Lead, Dissolved	ug/l	1.2	0		250	0	0.00%
Mercury, Dissolved	ug/l	0.07	0			No TL	
Nickel, Dissolved	ug/l	4	0		100	0	0.00%
Zinc, Dissolved	ug/l	41.5	8	6.1%	1000	0	0.00%

5 Hydrogeology

5.1 Overview

5.1.1 This section summarises the key aspects of the hydrogeology relevant to the Scheme. Following a high level review of available hydrogeological data and information, a Conceptual Hydrogeological Model is developed for the Scheme and presented for the five sections identified in Section 1.3.

5.2 Hydrogeological Status of Geological Units

5.2.1 The general hydrogeological status of each of the geological units identified within the corridor of the new section of motorway is summarised in Table 5.1. The table includes the NRW aquifer designation for each unit and associated BGS hydrogeological description.

5.2.2 Where Glaciofluvial Deposits are exposed at the ground surface along the inland boundary with the Gwent Levels they are designated a Secondary aquifer unit. However, NRW provide no formal aquifer designation for the Glaciofluvial Deposits identified below the Tidal Flat Deposits within central and western sections of the proposed alignment, where they form a laterally continuous, saturated, granular unit (see cross sections in Figure 6.4 and Figure 7.4).

5.2.3 The new section of motorway is predominantly underlain by argillaceous bedrock of the Mercia Mudstone Group or St Maughans Formation. NRW consider these geological units to be Secondary B or Secondary A aquifers, reflecting their generally low productivity.

5.2.4 The limestone bedrock of the Carboniferous Limestone Series and localised breccias / conglomerates of the marginal facies of the MMG are designated principal aquifer units. These geological units are of limited extent within study area, being largely restricted to east of the new section of motorway.

Table 5.1: Hydrogeological Status of Geological Units

Unit (Reference)	Aquifer Designation (NRW)	Hydrogeology (BGS)	General Hydrogeological Status	Pollutant Linkage Status
Made Ground (MG)	-	-	Depends on lithology	Potential Source
Head (HD)	Secondary (undifferentiated)	-	Depends on lithology	Site-specific
Glacial Till (GT)	Secondary (undifferentiated)	-	Aquitard	Site-specific
Alluvium (ALV)	Secondary A	-	Depends on lithology	Site-specific
River Terrace Deposits (RTD)	Secondary A	-	Aquifer	Receptor & Pathway
Tidal Flat Deposits (TFD)	Unproductive strata in east. No designation in west.	-	Aquitard	Pathway
Glaciofluvial Deposit (GFD)	Secondary A Not defined for GFD below TFD	-	Aquifer Unit	Receptor & Pathway
Mercia Mudstone Group (MMG)	Secondary B	Low productivity aquifer. Largely argillaceous sequence with occasional sandstones yielding less than 0.5 L/s can be highly mineralised.	Aquifer Unit	Receptor & Pathway
Mercia Mudstone marginal facies (MMMF)	Principal aquifer	Moderately productive aquifer. Locally important aquifer generally producing hard groundwater from solution enhanced joints.	Aquifer Unit	Receptor & Pathway
Gully Oolite Formation (GOF)	Principal aquifer	Moderately productive aquifer. Massive karstic limestone aquifer with rapid response to rainfall. Yields highly variable from dry to 40 L/s.	Aquifer Unit	Receptor & Pathway
Black Rock Limestone (BRL)				Receptor & Pathway
Avon Group (AG)				Receptor & Pathway
Tintern Sandstone Formation (TSF)	Principal aquifer	Low productivity aquifer. Indurated multi-layered aquifer with small local yields from secondary fractures	Aquifer Unit	Receptor & Pathway
Brownstone Formation (BWF)	Secondary A	Low productivity aquifer. Local sandstone and conglomerate aquifers yield small supplies	Aquifer Unit	Receptor & Pathway
St Maughans Formation (S MF)	Secondary A	Low productivity aquifer. Local sandstone and conglomerate aquifers yield small supplies.	Aquifer Unit	Receptor & Pathway
Raglan Mudstone Formation (RMF)	Secondary A	Low productivity aquifer. Highly indurated argillaceous rocks with limited groundwater.	Aquifer Unit	Receptor & Pathway

5.3 Water Framework Directive Groundwater Bodies

5.3.1 The new section of motorway crosses for WFD three groundwater bodies, namely:

- Usk and Wye Southern Carboniferous Limestone (GB40901G206300);
- Usk Devonian Old Red Sandstone (GB40902G201700); and
- SE Valleys Southern Devonian Old Red Sandstone and Triassic Mercia Mudstone (GB40902G201500)

5.3.2 The three WFD groundwater waterbodies are summarised within Table 4.2c. All the groundwater bodies have been assigned current good potential with an expected objective of both 'good overall' and 'good quantitative' status by 2015.

5.3.3 These groundwater bodies ultimately discharge to the "Lower Severn" estuary and/or River Usk that both constitute WFD transition Water bodies (GB530905415401 and GB530905415404 respectively)

5.3.4 The corridor of the new section of motorway also crosses an area of non-designated groundwater around the Llanwern site.

5.4 Groundwater Flow System

Occurrence and Levels

5.4.1 Groundwater occurrence (both strikes and rest water levels) has been recorded during the various intrusive site investigations and associated monitoring undertaken for the proposed Scheme. The entire groundwater level dataset available for the Scheme is provided in Annex I of this appendix. This dataset includes water level measurements taken following each phase of intrusive investigation and an additional round undertaken in October 2015. A detailed water level data provided for the Gwent Levels is provided in Figure 3, with schematic groundwater levels shown on the five conceptual cross-sections provided in Figure 5.4 to Figure 9.4.

5.4.2 The groundwater level dataset for the Gwent Levels provides some evidence of tidal effects groundwater (see Figure 3). Spot groundwater level measurements as presented in Annex I must therefore be treated with caution, particularly for boreholes situated in close proximity to the principal tidal waterbodies within the study area (i.e. the River Usk and River Ebbw).

5.4.3 Groundwater has been encountered in bedrock along the entire alignment of the new section of motorway. Groundwater is often identified within an upper horizon of weathered bedrock that is commonly encountered immediately beneath overlying superficial deposits, most notably the TFD. In areas of high elevation, situated inland from the Gwent Levels, groundwater occurs at greater depth and commonly below superficial deposits. In river valleys however, groundwater levels are situated closer to the ground surface and may potentially be in continuity with or confined by the superficial deposits depending on their lithology.

5.4.4 Ordnance Survey mapping clearly identifies significant groundwater emergence to the north of the Gwent of Levels at the western end of the new section of motorway (i.e. Castleton). A large number of small tributary watercourses characterised by numerous headwater springs rise on the flanks of a local

topographic high centred around Pend-y-lan (c. 1 km north of Castleton) in this area. This contrasts with the eastern end of the new section of motorway (i.e. Magor) where evidence of groundwater emergence is sparse inland of the Gwent Levels.

5.4.5 Water is encountered within the silty clays of the TFD across the Gwent Levels. These deposits are generally considered to be saturated, however the low permeability expected for theses cohesive silty clays is considered to represent a porewater of limited mobility.

5.4.6 The granular GFD deposits commonly encountered beneath the TFD, particularly towards the centre of the alignment of the new section of motorway, are saturated and confined by the overlying TFD (see Figure 3). Where present the GFD are expected to form a hydraulically continuous groundwater bearing unit within the underlying bedrock with a typically of less than 8 m.

5.4.7 In developed areas of the Gwent Levels the silty clays of the TFD can support perched groundwater within overlying Made Ground. The lateral extent and hydraulic continuity of this groundwater body is variable, being dependent on the lithology of this heterogeneous unit. The Made Ground is not typically considered an aquifer unit, but rather a potential source of contaminated water and/or pathway to other receptors.

5.4.8 A summary of the measured groundwater levels within each geological unit identified within the Gwent Levels is presented Figure 3. The key features of this plan include the following.

- Groundwater levels in bedrock and glaciofluvial deposits is typically low (approaching 0.0mAOD) around the new bridged section of motorway (i.e. Usk, Alexandra Docks and Ebbw) but subject to high variability. This suggests hydraulic continuity with these tidal water bodies at the River Usk Crossing.
- To the west of the River Usk Crossing the confined groundwater in the bedrock and GFD rise to c. 4 to 5 mAOD and show limited variability. This suggests an absence of tidal effects in this area.
- To the east of the River Usk Crossing, confined potentiometric levels in the bedrock and GFD also rise to c. 4 to 5 mAOD. The rise is significantly more gradual than seen to the west and levels are considerably more variable.
- Potentiometric level data for the TFD is largely restricted to the Caldicot Levels to the east of the River Usk Crossing. Water levels within the TFD are characterised by high variability, but are typically in excess of, or approaching the confined potentiometric levels observed in the underlying bedrock / GFD.
- Water levels within the Made Ground are typically elevated relative to potentiometric levels in the TFD and the confined piezometric levels for bedrock and GFD. This is consistent with the low permeability of the TFD that promote the development of perched groundwater bodies in granular Made Ground and downward hydraulic gradient from Made Ground to the bedrock / GFD underlying the TFD.

5.4.9 The groundwater level dataset suggests a different hydrogeological regime characterising the Wentlooge Levels in the west and the Caldicot Levels in the east, which is consistent with the difference in the hydrogeology of the inland catchments situated immediately north of the Levels in this area.

Groundwater Flow

Bedrock

5.4.10 Groundwater flow within the bedrock beneath inland areas of higher elevation is expected to follow topography towards the Gwent Levels and/or local surface watercourses, particularly where superficial deposits are granular or absent. The principal receptor of groundwater flow is therefore expected to be either the saturated bedrock beneath the Gwent Levels; springs or spring-lines associated with local watercourses and the inland margin with the Gwent Levels; and/or surface watercourses that are in hydraulic continuity with underlying groundwater.

5.4.11 Ordnance Survey base mapping identifies many headwater springs that feed into the numerous small watercourses at the Castleton end of the new section of motorway. These features and watercourses rise on the flanks of the local topographic high centred around Pen-y-lan approximately 1 km north of Castleton. A largely schematic cross section through this hydrogeologically active, western end of the new section of motorway is provided in Figure 4. This figure provides little clear hydrogeological basis for the occurrence of observed springs at different elevations, although this is presumed to relate to discrete groundwater bearing horizons within layered bedrock.

5.4.12 The lateral flow of groundwater is expected within bedrock concealed by the TFD of the Gwent Levels. This flow is expected to be orientated towards the Severn Estuary and/or major water courses (i.e. Ebbw and Usk). Little hydraulic continuity is expected between groundwater in bedrock and the reen system and water courses of the Gwent Levels owing to the low permeability of the intervening TFD. Observations of groundwater levels and geology, suggest this flow system may be more dynamic beneath the Wentlooge Levels compared to the Caldicot Levels in the east.

5.4.13 More significant groundwater flow can be expected to occur in limestone units of the Carboniferous Limestone Series that are present in elevated areas at the eastern end of the new section of motorway. Groundwater flow will principally occur through the solution enhanced secondary (fracture) permeability developed in the limestone. Groundwater flow directions are uncertain although a general flow to the Gwent Levels is expected. Despite the presence of limestone, sandstone and marginal facies of the MMG in the east, very few springs are identified on baseline mapping in this area of the new motorway corridor (See Figure 9.3*)*.

Superficial Deposits

5.4.14 The silty clays that dominate the TFD of the Gwent Levels typically confine the underlying GFD and/or Bedrock at depth. The low permeability expected for the TFD will inhibit vertical transfer of water between the ground surface and aquifer units at depth, although downward potential gradients are expected. The TFD are considered likely to promote lateral flows towards the surrounding reen system, either as direct surface water runoff or saturated groundwater pathways in granular Made Ground or other overlying granular deposits.

5.4.15 Where present, the GFD forms a laterally continuous groundwater bearing unit beneath the TFD. This unit becomes progressively more discontinuous with greater distance to the east and west. Groundwater flows within the concealed GFD is expected to be lateral, towards the Severn Estuary or principal water courses (e.g. Ebbw or Usk).

5.4.16 Little groundwater is expected in the till, although tortuous vertical flow pathways are expected to dominate in this unit.

Groundwater / Surface Water Catchment Areas

5.4.17 Ordnance Survey base mapping identifies four small groundwater / surface water sub-catchments that surround the local topographic high (of approximately 125 mAOD) centred around Pen-y-lan approximately 1 km north of Castleton. These catchments are characterised by significant groundwater emergence in the form of springs, wells and wetland features that mark the source of the local watercourses. This area also corresponds with the location of much of the groundwater utilisation that has been identified within the study area and is described in Section 5.5. These sub-catchments include the following:

- Southerly/south easterly flowing watercourses, that rise immediately to the north of Castleton, and flow onto the Gwent Levels principally via Pwll Bargoed Reen and Church Reen.
- Easterly / Southeasterly flowing tributaries of Nant-y-Moor Brook, that flow onto the Gwent Levels, principally via Nantymoor Reen.
- Westerly flowing tributaries of the Afon Rhymni that rise to the west of Michaelstone-y-Fedw.
- North westerly flowing tributary streams of the Afon Rhymni that rise in the area around Clearwell.

5.4.18 The seemingly significant emergence of groundwater within these catchments is surprising considering the local geology, which is dominated by bedrock of the St Maughan's Formation and Raglan Mudstone Formation, with a variable cover of Glacial Till. A north-south orientated cross section that passes from north of Pen-y-lan to the Gwent Levels is provided in Figure 4 and includes the existing M4 and new section of motorway in this area. The springs on these watercourses rise at various elevations with no obvious geological control on their emergence.

5.4.19 Areas of higher elevation at the eastern end of the study area around Magor are characterised by less evidence of groundwater emergence and southerly flow towards the Levels. This is consistent with the limited number of groundwater abstractions sources identified at this end of the study area, despite the generally more productive nature of the bedrock geology and absence of superficial deposits in this area.

Groundwater Receptors

5.4.20 The principal groundwater receptors identified within the local area include the following:

- Inland surface watercourses (i.e. away from the Gwent Levels) that receive active groundwater discharge principally via springs and seepages.
- The River Ebbw & River Usk.
- The Severn Estuary.
- Alexandra Docks.

5.4.21 The groundwater levels shown in Figure 3 suggest a degree of hydraulic continuity between bedrock / Glaciofluvial Deposits and the tidal water bodies in the vicinity of the River Ebbw and River Usk, particularly in association with the

Wentlooge Levels. This implies potentially long (> 1 km) flow paths in the saturated Glaciofluvial Deposits/Bedrock before discharge to these tidal water bodies can occur.

5.4.22 Although the reen system of Gwent Levels represents a potential receptor for groundwater, the low permeability of the Tidal Flat Deposits suggests limited groundwater-reen interaction will occur. This would suggest that outside of the influence of tidal water bodies, the Tidal Flat Deposits will promote the lateral flow of groundwater towards the Severn Estuary.

5.5 Groundwater Utilisation

Abstraction Sources

5.5.1 Groundwater abstraction sources, that include boreholes, well, springs and spring fed streams, situated within the corridor of the new section of motorway have been identified from the following data sources:

- NRW Licensed Abstraction Database (QGIS);
- Data request to Local Authority (Newport City Council and Monmouthshire County Council);
- Site Walkover Surveys; and
- Arup Hydrogeological Assessment (Arup, 2008).

5.5.2 The location of all groundwater abstraction sources are identified in Figure 5.4 and Figure 9.4 and are summarised in Table 5.2.

Table 5.2: Summary of Groundwater Abstractions

Ref.	Name / Location	Type	Data Source	Licence Nr	In Use	Notes
Western Section (Castleton)						
1.1 1.2 1.3	New Park Farm & Cottage, Penylan Road, Michaelstone-y-Fedw.	Spring West (issue) East (spring)	NCC, Arup 2008 Arup 2008 Arup 2008	NA NA NA	Yes - -	
2	Former Amgeki Abstraction Borehole	Borehole	Arup 2008	formerly 20/56/71/0012	No	
3	Walk Farm, Castleton.	Shallow Borehole	Arup 2008	NA	Yes	Garden Watering
4.1 4.2 4.3	Spring Court Farm, Cardiff Road, Coedkernew.	Spring Abstraction Tyn-y-nant Cottage Lower House	NCC, Arup 2008	NA NA NA	Yes	- Piped from Spring at Spring Court Farm Piped from Spring at Spring Court Farm
5	Clearwell Farm, Pentre Poeth Road, Michaelstone-y-Fedw.	Spring	NCC	NA	Yes	Farmhouse and also shared with Barns converted into 6 residential units.
6	Colscote, Michaelstone-y-Fedw.	Spring	NCC	NA	Yes	Spring in garden
7	Richards & Partners Agriculture	Groundwater (presumed borehole)		21/57/12/0100	Yes	General Agriculture, Spray Irrigation.
8.1 8.2 8.3	Fairwater Farm, nr Michaelstone-y-Fedw	Springs Springs near reservoir Spring at Five Oaks	Arup 2008	NA NA NA		
9	Pen-y-groes-fach	Disused well	Arup 2008	NA	No	
10	Pant-rhiw-goch Farm	Abandoned well and spring fed stream	Arup 2008	NA	No	
11	Gelli Ber	Spring	Arup 2008	NA	No	Spring used as bog garden.
12	Gwaunshonbrown Farm	Abandoned well at residential dwelling.	Arup 2008	NA	No	
13	Cefn logell	Spring	Arup 2008	NA	No	

Ref.	Name / Location	Type	Data Source	Licence Nr	In Use	Notes
14.1 14.2 14.3	Pen-sidan	Issue at Pen-sidan farm yard used to serve the farm house Spring at Pen-sidan-fâch (old farm house). Spring east of Pen-sidan fach	Arup 2008	NA NA NA	No No No	No evidence of spring found in 2008 Dry spring to east of Pen-sidan-fâch. Depth of channel suggests significant flows in wet season.
Eastern Section (Magor)						
15	Green Farm, Rogiet.	Borehole	NCC, NRW, ARUP 2008	20/56/72/0029 (Philips Agriculture)	Yes	General Agriculture, General Farming & Domestic EAW
16.1	Knollbury Barn, Magor	Borehole	MCC	NA	Yes	Single supply to domestic property
16.2	Knollbury Cottage / Knollbury		Arup 2008			
17	Upper Grange Farm, St Brides, Netherwent.	Borehole	MCC	NA	Yes	Single supply to dairy farm
18	Lower Minnetts, Rogiet.	Borehole	MCC	NA		Single supply to domestic property
19.1 19.2 19.3	Church Farm, Wilcrick.	Well Spring Spring	Arup 2008	NA	No No No	
20	Rose Cottage, Knollbury	Abandoned Well	Arup 2008		No	
Other NRW Licensed Groundwater Abstractions Sources (Located at a significant distance from the proposed alignment)						
-	Dwr Cymru	ST5087	-	19/55/21/0108	-	Cyfengedig Water Supply (PWS)
-	Newport Golf Club	ST26858940	-	20/56/61/0024	-	General Washing/Process Washing
-	Newport Golf Club	ST26858940	-		-	Golf Courses Spray Irrigation
-	St Mellons Golf Club (1964)	ST24808223	-	20/56/71/0008	-	Golf Courses Spray Irrigation

Ref.	Name / Location	Type	Data Source	Licence Nr	In Use	Notes
	Ltd					
-	Network Rail Infrastructure Limited	ST50898741	-	20/56/72/0021	-	General Agriculture / Farming & Domestic
-	Network Rail Infrastructure Limited	ST50898741	-		-	Transport General Use
-	Phillips Agriculture	ST44688839	-	20/56/72/0029	-	General Agriculture / Farming & Domestic
-	Broome & Co Ltd	ST49108900	-	20/56/72/0030	-	General Agriculture / Farming & Domestic
-	Broome & Co Ltd	ST49108900	-		-	General Agriculture / Spray Irrigation

5.5.3 Groundwater utilisation is largely restricted to bedrock and/or spring sources located on high ground around Castleton and Magor in the east and west respectively. There are no documented abstractions taken from the GFD or bedrock beneath the TDF of the Gwent Levels within the corridor of the new section of motorway.

5.5.4 It is notable that the majority of private water sources correspond with the area of groundwater emergence on the flanks of the local high ground situated around Pen-y-lan, approximately 1 km north of Castleton. The hydrogeology of two key supply sources, at New Park Farm (Source 1) and Spring Court Farm (Source 4) are summarised in Figure 4. It is notable that there is no clear geological control on the position of these two springs which occur at significantly different elevations, both up gradient and down gradient the existing M4 alignment.

5.5.5 Abstraction sources are typically for small domestic or agricultural supplies. A number of larger licensed abstractions have been identified, most notably Green Farm (Source 15) which is situated on carboniferous limestone.

Source Protection Zones

5.5.6 Source Protection Zones are designated around important groundwater supplies for the purpose of groundwater protection. No source protection zones have been defined within the corridor of the new section of motorway or the local area. This reflects the limited resource potential of the groundwater bearing units in the area.

5.6 Groundwater Recharge

5.6.1 Recharge to the aquifer units identified within the study area is derived from the infiltration of precipitation within the inland catchment area to the north of the Gwent Levels themselves. The TFD are considered to be of low permeability and will not result in quantitatively significant volumes of vertical transfer between the surface and underlying aquifer units.

5.6.2 The continuity of granular Glaciofluvial Deposits identified beneath the Tidal Flat Deposits and inland granular units is likely to be of little significance in the study area considering the general absence or predominance of more cohesive superficial deposits inland of the Gwent Levels. Recharge to this unit is therefore considered to be controlled by its hydraulic relationship with the underlying bedrock that extends inland to the north. The continuity of the granular GFD identified beneath the TFD and inland granular units is not proven, but expected to be limited. This suggests that recharge to this unit may be controlled by its hydraulic relationship with the underlying bedrock that extends inland to the north.

5.7 Groundwater Salinity

5.7.1 The chloride concentration measured in groundwater samples taken along the proposed alignment is shown in Figure 5.5 to Figure 9.5. From this drawing a number of important conclusions can be made:

- Groundwater, principally in bedrock, in areas of high elevation inland from the Gwent Levels is typically fresh being characterised by a chloride concentration of below 250 mg/l;
- Although data is limited, shallow and deep groundwater within the Wentlooge Levels (including bedrock beneath the TFD) is typically fresh;
- Shallow and deep groundwater across the new bridged section of motorway, near the River Usk and River Ebbw is significantly more saline and non-potable in nature, being characterised by a chloride concentration typically in excess of 1000 mg/l;
- Within the Caldicot Levels to the east of the River Usk, shallow groundwater (typically perched above the TFD) is typically fresh whereas groundwater from the TFD and underlying GFD and/or bedrock typically has a high chloride concentration in excess of 1000 mg/l.

5.7.2 The results of chloride analyses imply that groundwater encountered across much of the Gwent Levels does not constitute a potable water resource and is therefore of limited resource value. Considering the fresh water nature of the surface reen system the elevated salinity of deep groundwater supports the assumption that interchange between surface water system and deeper groundwater is limited, based on the expected hydraulic properties of the various water bearing units and their presumed hydrogeological status.

5.8 Tidal Effects

5.8.1 Tidal influence of groundwater in the bedrock and GFD is expected in the vicinity of the River Ebbw and River Usk. Tidal effects are not anticipated elsewhere along the corridor of the new section of motorway considering the distance from these watercourses and the Severn Estuary. There is evidence of this tidal effect in the groundwater level dataset for the Gwent levels provided in Figure 3.

5.9 Hydraulic Properties & Aquifer Parameters

Site-specific Data

5.9.1 Hydraulic properties have been obtained for various geological units encountered within the Scheme, as part of the following investigations:

- Factual Report on Ground Investigation (Geotechnical Engineering Limited, 2015);
- South Side Queensway Non-Hazardous Landfill Llanwern (Geotechnology, 2005); and
- Ground Investigation – M4 Relief Road (Norwest Holst, 1998)

5.9.2 The quantitative permeability analysis presented in the above reports has not been reviewed in detail, but the compiled dataset is provided in Annex J. Hydraulic conductivity typically varies between 10^{-8} m/s and 10^{-4} m/s.

5.9.3 Some data has been obtained for most geological units. The bedrock of the SMF and MMG typically has a low permeability determined for the bedrock (10^{-8} m/s to 10^{-7} m/s) but with occasional high conductivities of up to 10^{-4} m/s. The TFD are interpreted as having variable hydraulic conductivity, as frequently “no analysis”

was possible from the dataset, but with hydraulic conductivities of up to 10^{-5} m/s also being recorded. No data was available for the GFD that underlie the TDF within areas of the Gwent Levels.

Published Data

5.9.4 Owing to the limited availability of site-specific aquifer property data, high level data has been obtained from a review of the Physical Properties of Major Aquifers in England and Wales (BGS, 1996) and Physical Properties of Minor Aquifers in England and Wales (BGS, 2000).

5.9.5 Where it forms a major aquifer, the Carboniferous Limestone in England and Wales is commonly considered to exhibit 'karstic' hydrogeological behaviour. Groundwater yields and aquifer properties are therefore dependent on complex distribution of distribution of solution enhanced secondary permeability within the limestone. No data is provided in the Physical Properties of Major Aquifers in England and Wales (BGS, 1996) that directly relates to the area around Castleton where these units are encountered.

5.9.6 The Physical Properties of Minor Aquifers in England and Wales (BGS, 2000) provides aquifer parameter information for the Devonian Old Red Sandstone strata. Upper and Lower Old Red Sandstone sequences generally behave as complex, multi-layered aquifers with sandstone bands being hydraulically isolated by intervening mudstones, in the absence of structural features. The effective saturated thickness, for most practical purposes, is taken as 40 m owing to the effect of fracture closure with depth. Pumping test analysis sometimes results in calculated transmissivity values significantly greater than regional estimates, which are typically in the range 10 m^2/d to 100 m^2/d.

5.9.7 The Mercia Mudstone Group has traditionally been regarded as predominantly impermeable and at best a poor aquifer. The group has therefore been most commonly referred to either in the context of forming a confining upper limit to the underlying units Sherwood Sandstone Group aquifer or, rather less frequently, as the impermeable base of an overlying Quaternary unconsolidated aquifer (Edwards, 1997).

5.9.8 While effectively a non-aquifer in many areas, limited quantities of groundwater suitable for domestic or small scale agricultural use are, however, occasionally obtainable from the Mercia Mudstone. In some areas groundwater from the group represents the most important source of water in terms of the total number of licensed abstractions and geographic distribution. Aquifer parameter data is provided in the Physical Properties of Minor Aquifers in England and Wales (BGS, 2000), giving the Mercia Mudstone of the "south-west" a arithmetic and geometric mean of transmissivity of 240 m^2/d and 30.0 m^2/d respectively from 29 records of transmissivity.

5.10 Groundwater Quality Assessment

Overview

5.10.1 Groundwater quality data for the study area has been collected in multiple phases of investigation. The dataset used for the assessment of baseline groundwater quality presented herein has largely relied on results for the most recent sampling undertaken in 2015. Additional historical groundwater data used

in the PSSR (Arup, 2014) has also been obtained and largely relates to the potential Contaminated Land (CL) sites identified along the route as reported in the PSSR (Arup, 2014) and Contaminated Land Report (Appendix 11.1 of the ES).

5.10.2 The entire groundwater quality dataset for the route corridor is provided in Annex J. For the purpose of this assessment the baseline dataset includes the data for all boreholes identified within the Scheme for which data was available at the time of writing. The summary statistics and water quality screening assessment is provided in the Tables provided in Annex K. Summary statistics and water quality screening assessment has been presented for the entire dataset and for each of the geological units for which groundwater quality data exists.

Water Quality Screening Assessment

5.10.3 Preliminary evaluation of surface water and groundwater quality data typically involves a screening assessment that compares the observed water quality data with appropriate water quality Assessment Criteria (AC). The selection of AC depends on the conceptual model developed for the site and in particular the nature and sensitivity of controlled water receptors for which active pollutant linkages are considered likely to exist. Two sources of statutory and non-statutory water quality AC are typically used for the purpose of such screening assessments as follows:

- Environmental Quality Standards (EQSs) defined for the protection of the ecology of surface water environments;
- Drinking Water Standards (DWS) defined on the basis of health for water intended for human consumption.

5.10.4 A summary of all possible water quality AC that may be used in this screening assessment is presented in Annex C.

5.10.5 Drinking Water Standards defined by the Water Supply (Water Quality) Regulations 2000 (as amended) are the principal AC used for this assessment. This reflects the designation of most groundwater bearing units as aquifers by NRW and their designation as WFD Groundwater Bodies and groundwater protected areas. Additional water quality “guideline values” have been developed by the World Health Organisation (WHO) for chemicals considered to be of health significance in drinking-water are also available, but have not been used as AC in this assessment in light of their non-statutory nature.

5.10.6 Groundwater quality data has also been screened against the EQSs described in Section 4. The groundwater screening has used former hardness dependant EQSs for copper and zinc as opposed to the reen specific PNECs used for surface water quality screening. The decision to screen against EQSs is not based on detailed consideration of the conceptual hydrogeological model for the Scheme. Although a theoretical pathway may exist between each groundwater body and the surface water system, the low permeability of the TFD, the freshwater nature of the reen system and generally high water quality with respect to anthropogenic contaminants, suggests this does not constitute a significant pollutant linkage across the Gwent Levels.

5.10.7 As described previously, the potential for a hydraulic connection between confined groundwater in the GFD / Bedrock and the overlying surface water reen

system of the Gwent Levels is considered unlikely for the majority of the new section of motorway, considering the low permeability of the TFD and its thickness. This would in turn suggest that any dynamic groundwater flow within the aquifer units confined by the TFD is orientated towards the tidal waterbodies (i.e. the Severn Estuary, River Usk, River Ebbw and/or Alexandra Docks). Saline EQS would be most appropriate AC for these water bodies, however the water quality dataset has not been screened against saline EQS as the pathway is extremely long and would be characterised by significant dilution and attenuation potential.

Monitoring Network

5.10.8 Groundwater quality data has been obtained for approximately 98 monitoring locations installed along the route corridor. This includes a total of c. 120 sample points, as many locations comprise a dual installation (i.e. shallow and deep). The location of boreholes within each subsection is shown in Figure 5.3 to Figure 9.3.

Analytical Suite

5.10.9 Groundwater samples have been taken on multiple occasions from the 120 sample locations for which data is available. A maximum of up to 284 analyses have been undertaken for individual parameters, although most parameters have been analysed for less frequently.

5.10.10 A wide variety of different parameters have monitored at each location and on different rounds. The most commonly measured parameters in groundwater include:

- Heavy metals including arsenic, boron, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc;
- Inorganic parameters of alkalinity, Chloride, Total Ammonical Nitrogen and cyanide (free and total);
- pH;
- Total Petroleum Hydrocarbons (including BTEX compounds); and
- Polycyclic Aromatic Hydrocarbons (PAHs).

5.10.11 In addition the following parameters have been analysed on occasions:

- A selection of other metals, major ions and inorganic parameters that include chloride and sulphate;
- Volatile Organic Compounds (VOCs)
- Semi-volatile Organic Hydrocarbons (SVOCs);
- Polychlorinated biphenyls (PCBs); and
- Phenols.

Groundwater Quality Data

5.10.12 The complete groundwater quality dataset is provided in Annex J. Tabulated summary statistics for that dataset, including the water quality screening assessment are provided Annex L. To aid interpretation groundwater quality

dataset has been subdivided on the basis of the geological unit from which each groundwater sample has been obtained that includes bedrock, glaciofluial deposits, Made Ground and other superficial deposits. The dataset for each geological unit has been subdivided again for each drainage area.

Bedrock

5.10.13 As a result of the uncertain geological provenance for many geological logs the bedrock water quality dataset has not been subdivided on the basis of each bedrock unit identified along the new section of motorway. However, the majority of bedrock boreholes are typically completed in a variably weathered mudstone / sandstone sequence, commonly attributed to either the Mercia Mudstone Group or St Maughan's Formation. The summary statistics and screened groundwater dataset for bedrock is provided Annex K and is characterised by:

- Frequently high chloride concentration that routinely exceed the DWS and EQS of 250 mg/l (i.e. 60% of analyses);
- Neutral to mildly alkaline pH, that is within DWS and EQS limits;
- Routine presence of many metals within groundwater, most notably arsenic, boron, chromium, copper, nickel, selenium and zinc (i.e. present in more than 70% of analyses undertaken);
- Mercury present in 25.9% of samples analysed at concentrations that all exceed the respective freshwater EQS and 8% of samples exceeding the DWS.
- The DWS for arsenic, boron, chromium and selenium (c. 27 to 50% of analyses) are routinely exceeded. The EQS for copper, nickel and mercury are also exceeded routinely (i.e. 26% to 43% of samples);
- Infrequent occurrence of lead (5.9% of analyses), cadmium (7.1% of analyses) and mercury (25.9% of analyses) in bedrock groundwater and infrequent occurrence at concentrations above their respective AC;
- Generally elevated concentrations of Total Ammoniacal Nitrogen, with a mean concentration of 7.3 mg/l, that commonly exceeds the UK DWS for ammonium (following correction for temperature and pH) and the EQS for ammonia (uncorrected);
- Infrequent occurrence of petroleum hydrocarbons (typically in less than 10% of samples analysed). Where present petroleum hydrocarbons are typically characterised by long-chain fractions, with the absence of BTEX hydrocarbons;
- General absence of other organic compounds; and
- Absence of cyanide (Free and Total).

5.10.14 The most important observations for each section of the new motorway is summarised below.

Castleton & Magor

5.10.15 Bedrock groundwater quality data was obtained for 15 boreholes within the combined Castelon and Magor area, situated inland of the Gwent Levels SSSI. The principal difference between the baseline groundwater quality for these sections and the full dataset described previously are as follows:

- Low chloride concentration with a mean of 143 mg/l, with the DWS exceeded on only two occasions;
- Routine presence of arsenic, boron, chromium, copper, nickel and zinc, albeit less frequently than seen in the full dataset (i.e. between 45% to 95% of analyses), with respective DWSs and EQSs rarely exceeded for any parameter;
- The presence of mercury in groundwater, albeit less frequently than seen in the full dataset (i.e. 13.6% of samples relative to 25.9%). Where present concentrations exceed the EQS for that parameter but only exceed he DWS on a single occasion;
- Infrequent occurrence of lead, cadmium and mercury, with rare exceedance of the respective AC;
- Significantly lower concentrations of ammoniacal nitrogen with a mean concentration of 0.21 mg/l; and
- Occurrence of petroleum hydrocarbons in a single sample analysed (i.e Borehole BH312).

Wentlooge Levels

5.10.16 Bedrock groundwater quality data within the Wentlooge Levels is available for 5 samples taken from a single borehole (borehole BH325) situated between Nantymoor reen and a potential area of land contamination (CL-6, radiator manufacturers and adjacent land). Groundwater is characterised by a very low chloride concentration (mean of 21.2 mg/l) and mildly alkaline pH. Mercury was absent from groundwater samples from BH325. The occurrence of other metals is similar to the full bedrock dataset, with the metals arsenic, boron, chromium, nickel and selenium were identified in all samples analysed. However, the only metals present at concentrations above their respective DWS were arsenic, boron, chromium, nickel and selenium, all within a single sample analysed. The EQS for nickel was exceeded in three of five analyses. Typically there is an absence of organic contamination in groundwater from this borehole.

Caldicot Levels

5.10.17 Bedrock groundwater quality data was obtained for 14 boreholes situated within the Caldicot Levels. The principal observations regarding this dataset relative to the full dataset described previously are as follows:

- Elevated chloride concentration, with a mean of 2,300 mg/l and exceeding the DWS of 250 mg/l in 85% of the samples analysed;
- Elevated sulphate concentration, with a mean of 473 mg/l and exceeding the DWS of 250 mg/l in 67 % of samples analysed;
- Presence of arsenic, boron, chromium, copper, nickel, selenium and zinc in almost all samples (>94% of samples), with respective DWS exceeded for arsenic (78% of samples), Boron (34% of sample), chromium (52% of samples) and selenium (74% of samples). Measured concentrations of copper and nickel routinely exceed their respective EQS (i.e. in 60-68% of samples analysed);

- Elevated concentration of Ammoniacal Nitrogen that routinely exceeds the DWS and EQS for ammonium and ammonia (uncorrected), with a mean concentration of 11.5 mg/l;
- Infrequent occurrence of petroleum hydrocarbons (typically in around 10% of samples analysed for fractions present). Where present petroleum hydrocarbons are typically characterised by long-chain fractions, with the absence of BTEX hydrocarbons; and
- Rare occurrence other organic compounds.

5.10.18 The bedrock groundwater in the Caldicot Levels is of higher salinity and lower quality than seen the Wentlooge levels and inland catchment areas, with ubiquitous metals and accounting for the majority of TPH identified in bedrock groundwater.

New Bridged Section of Motorway

5.10.19 Bedrock groundwater quality data was obtained for 4 boreholes situated within the new bridged section of motorway to the south of Newport city centre. The principal observations regarding this dataset relative to the full dataset described previously are as follows:

- Elevated chloride concentration, with a mean of 2,790 mg/l and exceeding the DWS of 250 mg/l in 89% of the samples analysed;
- A lower ph that does not exceed 7.8;
- Presence of arsenic, boron, chromium, copper, nickel, selenium and zinc in almost all samples (>94% of samples), with DWS exceeded for arsenic (79% of samples), boron (68% of sample) and selenium (79% of sample). Infrequent exceedance of DWS for chromium. The concentration of copper, nickel and mercury exceed their relevant EQS in 58% and 37% and 32% respectively;
- Mercury present in c. 32% of samples analysed. Where present mercury concentrations exceeded the EQS for mercury but did not exceed the DWS;
- Elevated concentration of ammoniacal nitrogen that routinely exceed DWS and EQS for ammonium and ammonia , with a mean concentration of 7.9 mg/l;
- Rare occurrence of petroleum hydrocarbons (in single sample of 19); and
- Rare occurrence other organic compounds (in single sample of 18).

Summary

5.10.20 There is a significant difference in groundwater quality encountered within the bedrock at different points along the corridor of the new section of motorway. Bedrock groundwater in the vicinity of the new bridge section of motorway is the most saline, reflecting the proximity and presumed continuity with local tidal water bodies (i.e. River Usk, River Ebbw and Alexandra Docks).

5.10.21 The Caldicot levels and new bridge area are characterised by elevated chloride, sulphate and TAN concentrations, with the ubiquitous presence of metals that commonly exceed the DWS for arsenic, boron, chromium and selenium and the EQS for nickel and copper. Although the common presence of metals in

groundwater represents anthropogenic source, the pathway for their entry to groundwater is unclear.

5.10.22 Elsewhere the bedrock groundwater is fresh in nature and largely free of organic contaminants. A number of metals are routinely found in bedrock groundwater, most notably arsenic, boron, chromium, nickel and selenium, although their concentration infrequently exceeds their respective DWS or EQS,. Thus baseline groundwater quality in bedrock is characterised by background concentrations of these metals although their source is uncertain.

5.10.23 Organic contamination is not commonly observed in groundwater, but is observed most frequently in the Caldicot Levels.

Tidal Flat Deposits

5.10.24 The summary statistics and screening assessment for porewaters in the Tidal Flat Deposits within the Gwent Levels are provided in Annex K. This dataset is based on analyses for c. 50 monitoring locations. The full groundwater dataset for the Tidal Flat Deposits is characterised by the following.

- Neutral to mildly alkaline pH.
- Frequently high chloride concentration that exceeds 250 mg/l in c. 73% of samples analysed, with a mean concentration of 1,560 mg/l.
- Routine presence of metals that include arsenic, boron, chromium, copper, nickel and selenium (i.e. in more than 80% of samples analysed). Vanadium was also identified in c. 85% of samples analysed although only 18 analyses were undertaken. Lead, cadmium and mercury occur less frequently, in c. 10-20% of samples analysed.
- The DWS for arsenic, boron and selenium is exceeded in c. 45 - 50% of samples analysed. The DWS for cadmium and chromium is exceeded less frequently. Where present the EQS for mercury is exceeded although the DWS is only exceeded in 8% of samples. The EQS for copper and nickel is also routinely exceeded.
- Although monitored less frequently than other metals, manganese is routinely identified in porewater samples at concentrations that exceed both the DWS and EQS for freshwater.
- Elevated concentration of ammoniacal nitrogen, with a mean of 12.2 mg/l which is exceeds the mean concentration for bedrock. Concentrations routinely exceed the UK DWS for ammonium (following correction for temperature and pH) and the EQS for ammonia (uncorrected).
- Infrequent occurrence of cyanide (Free and Total).
- The occasional occurrence of Petroleum Hydrocarbons (typically in less than 10% to 13% of samples of samples), where it occurs more commonly as longer chain fractions.
- Rare occurrence of BTEX hydrocarbons.
- General absence of other organic compounds.

Caldicot Levels

5.10.25 The porewater quality dataset for the TDF in the Caldicot Levels was obtained from 30 monitoring boreholes. Porewater has a similar mean chloride concentration of 1,704 mg/l, with the DWS exceeded in 82% of samples analyses. The same metals are observed in porewater from the Caldicot Levels with similar concentrations and hence similar frequency of exceedances relative to the water quality AC. Similar occurrence of organic contaminants relative the complete dataset.

New Bridged Section of Motorway

5.10.26 The porewater quality dataset for the TDF along the new bridged section of motorway was obtained from 9 monitoring boreholes, although significantly fewer parameters were been measured relative to the analyses for the Caldicot Levels. Water quality is characterised by lower pH and marginally higher mean chloride concentration of 2000 mg/l than seen in the full dataset. The metals identified in porewater are the same as those seen in the Caldicot Levels. Metal concentrations are typically lower, resulting in significantly fewer exceedances of water quality AC and the DWS for only arsenic, boron and selenium exceeded. Less common presence of organic contaminants relative to the Caldicot levels.

Wentlooge Levels

5.10.27 Porewater quality for the TFD in the Wentlooge Levels has been obtained for 7 boreholes, although significantly fewer parameters has been analysed for. The water quality for the Wentlooge Levels differs significantly from that observed in the Caldicot Levels and new bridged section of motorway, with the following key differences

- Low chloride concentrations that seldom exceed their respective DWS and with a mean of 162 mg/l;
- Routine presence of arsenic, boron and nickel (in more than 85% of samples analysed), less frequent presence of chromium (67% analyses), copper (48% analyses) and zinc (29% of samples) and rare occurrence of cadmium, lead and mercury (in 1 or 2 analyses);
- Occasional exceedance of DWS, most notably for Boron. Occasional exceedance of EQS, most notably fore selenium/.

Summary

5.10.28 The water quality dataset for the TFD is broadly similar to the bedrock dataset, reflecting the predominance of locations within the Caldicot Levels and new bridged section to the south of Newport city centre. Porewater within the TFD of the Caldicot Levels is most affected by contaminants of concern, most notably metals, which are presumed to have a largely anthropogenic source. However, metals are observed in all parts of the Gwent Levels, although their respective AC are less frequently exceeded. Porewater in TFD in the new bridge section of motorway are less impacted by metals than seen in the Caldicot Levels. Although metals are present porewater from the Wentlooge Levels very few AC are exceeded and the porewaters are in general much fresher in nature.

Glaciofluvial Deposits

5.10.29 The summary statistics and screening assessment for groundwater in the Glaciofluvial Deposits (GFD) that underlie the Gwent Levels are provided in Annex K. This dataset is based on analyses for c. 18 monitoring locations and is characterised by:

- Frequently high chloride concentration that exceeds the DWS of 250 mg/l in 70% of samples analysed with a mean of 1717 mg/l;
- Neutral to mildly alkaline pH with a mean of 7.84;
- Elevated concentration of Ammoniacal Nitrogen, with a mean of 6.7 mg/l. Concentrations routinely exceeds the UK DWS for ammonium (following correction for temperature and pH) and the EQS for ammonia (uncorrected);
- Routine presence of heavy metals in groundwater, that include arsenic boron, chromium, copper, nickel, selenium, zinc (in c. 75-100% of samples analysed). Only the DWS for arsenic, boron and selenium is commonly exceeded (c. 50% of analyses), with the DWS for mercury exceeded in only 3 analyses. Copper and nickel concentrations exceed the DWS for these parameters in 37.5% and 32% of samples analysed, respectively;
- Absence of cyanide (Free and Total);
- The occasional occurrence of Petroleum Hydrocarbons (typically in less than 10% of samples), where it occurs more commonly as longer chain fractions with the absence of BTEX compounds; and
- General absence of other organic compounds.

5.10.30 Groundwater in the GFD that underlie the Calidcot Levels, the Wentlooge Levels and the new bridged section of motorway demonstrate a similar quality. Unlike the dataset for bedrock and Tidal Flat Deposits, the Caldicot Levels and new bridged section of motorway are not readily distinguishable from the dataset for the Wentlooge Levels. However, it is notable that DWS are only exceeded on a frequent basis for arsenic, boron and selenium, and occasionally chromium. All other metals occur below their respective DWS.

5.10.31 The Wentlooge Levels are characterised by lower chloride concentration although the DWS is exceeded in 50% of analyses.

River Terrace Deposits and Glacial Till

5.10.32 The screened dataset for the River Terrace Deposits and Glacial Till is provided in Annex K. However, an extremely small number of analytical results were available for these inland units (4 and 2 samples for RTD and GT respectively) hence the representativeness of these datasets is questionable.

5.10.33 Metals are identified in groundwater from these units but DWS are not exceeded, with the exception of boron. pH is neutral to mildly alkaline. Cyanide is absent. Organic parameters including petroleum hydrocarbons are absent.

Made Ground

5.10.34 The summary statistics and screening assessment for groundwater in the Made Ground are provided in Annex K. This dataset is based on analyses for c. 23 monitoring locations situated in the Calidicot Levels (Llanwwern) and along the

new bridged section of motorway. The water quality dataset for Made Ground is characterised by:

- Neutral to alkaline pH with a mean of 9.01;
- Moderately chloride concentration, with a mean of 150 mg/l and exceeding the DWS of 250 mg/l in 32% of analyses;
- Elevated concentration of ammoniacal nitrogen, with a mean of 4.9 mg/l;
- Routine presence of the metals arsenic, boron, chromium, copper, nickel, selenium, vanadium and zinc (in c. 75-98% of samples analysed).Lead, cadmium and mercury occur less frequently but are present in groundwater within the Made Ground;
- The DWS for arsenic and boron most commonly exceeded in 25% and 38% of analyses respectively. The DWS for chromium, lead, cadmium, nickel, selenium and mercury exceeded less frequently , in 5% - 19% of analyses, The EQS for zinc, mercury nckel copper and lead more mre frequently =, in over 20% of samples.;
- General absence of cyanide (Free and Total);
- The occasional occurrence of Petroleum Hydrocarbons (typically in less than 10% of samples), where it occurs more commonly as longer chain fractions although BTEX hydrocarbons have been recorded;
- Occasional occurrence of PAHs, pthahlates and VOCs and SVOCs.

6 Summary of Baseline Conditions by Section

6.1 Overview

6.1.1 By combining geological data (taken from BGS mapping and site-specific geological logs) with the hydrological and hydrogeological information described above a Conceptual Hydrogeological Model (CHM) has been developed that provides a description of the baseline water environment for the Scheme.

6.1.2 The key aspects of the baseline water environment are summarised for each of the five subsections in the series of drawings Figure 5 to Figure 9. The CHM for each subsection is provided in the Figure 5.4, Figure 6.4, Figure 7.4, Figure 8.4 to Figure 9.4 and described below.

6.2 Section 1: Castleton

6.2.1 The CHM for the Castelton Section is presented Figure 5.4. The key elements of this CHM are as follows:

- Topography rises from the low-lying Wentlooge Levels at an elevation c. +6 maOD to c. +60 maOD around Castleton and a maximum of +120 maOD around Pen-y-lan;
- High ground to the north of the Wentlooge Levels is primarily underlain by Devonian bedrock of the St Maughan's Formation (SMF) that dips at between 10°- 25° to the south;
- Four sub-catchments have been identified around the local topographic high at Pen-y-lan approximately 1 km to the north Castleton. These sub-catchments comprise numerous small watercourses that are characterised by significant evidence of groundwater emergence / discharge (i.e. springs and wetlands), with two of the catchments draining on to the Wentlooge Levels, through Pwll Bargoed Reen and Nantymoor reen;
- Of the entire water quality monitoring dataset (described in Section 4 and presented in Annex G and Annex H) 6 surface water monitoring locations (shown on Figure 5.3) provide the water quality dataset for the Castleton area (i.e. outside of the Wentlooge Levels). This subset of data is presented in Table 6.1. Surface water quality is characterised by neutral to mildly alkaline pH and freshwater chemistry is characterised by moderate dissolved oxygen and presence of key nutrients. Dissolved metals are frequently present, most notably chromium, lead, nickel and zinc with exceedances of the relevant EQS observed for chromium and lead. Occasional occurrences of TPH and PAHs are identified, generally occurring more frequently and at higher concentrations than observed within the reen system of the Gwent Levels themselves. Exceedances of the relevant EQS are identified for PAH compounds in up to 44% of samples analysed. Exceedances of relevant EQS and CCW TLs where applicable are observed for nutrient parameters including ammoniacal nitrogen, nitrate and orthophosphate.

Table 6.1: Surface Water Quality – Castleton

Parameter	Unit	Analyses		Conc. Range	EQS	*Analyses Above EQS*		CCW TL	Analyses Above CCW TL	
		No. *	No. Above LOD			No.	*%'age of Analyses*		*No.*	*%'age of Analyses*
General Parameters										
pH	pH Units	12	12	7.4 - 8.35	9	0	0.0%	8.5	0	0.0%
Electrical Conductivity	uS/cm	7	7	311 - 670	-	No EQS	0.0%	2000	0	0.0%
Total Suspended Solids	mg/l	16	12	3.5 - 511	-	No EQS	0.0%	250	1	6.3%
Biological Oxygen Demand	mg/l	16	3	1 - 3.62	5	0	0.0%	18	0	0.0%
Dissolved Oxygen	mg/l	16	16	8.39 - 11.96	-	No EQS	0.0%	5	0	0.0%
Dissolved Oxygen (saturation)	%	7	7	86.3 - 104.8	60	0	0.0%	-	No TL	-
Calcium (dissolved, filtered)	mg/l	16	16	22.8 - 94	-	No EQS	0.0%	300	0	0.0%
Calcium (total, unfiltered)	mg/l	3	3	29 - 76.1	-	No EQS	0.0%	300	0	0.0%
Chloride	mg/l	16	16	13.7 - 84.2	250	0	0.0%	300	0	0.0%
Ammoniacal Nitrogen (as N)	mg/l	16	5	0.221 - 0.68	0.6	1	6.3%	1	0	0.0%
Total Oxidised Nitrogen (as N)	mg/l	16	16	1.3 - 15.7	-	No EQS	0.0%	2	14	87.5%
Nitrate (as NO3)	mg/l	16	16	5.8 - 69.551	-	No EQS	0.0%	1	16	100.0%
Nitrite (as NO2)	mg/l	16	6	0.05 - 0.069	-	No EQS	0.0%	1	0	0.0%
Sulphate	mg/l	16	16	10 - 42.4	400	0	0.0%	300	0	0.0%
Orthophosphate (as P)	mg/l	14	10	0.0431 - 1.4	0.12	4	28.6%	1	1	7.1%
Metals (dissolved, filtered)**										
Arsenic	ug/l	6	4	0.297 - 0.535	50	0	0.0%	-	No TL	-
Boron	ug/l	0	0	No Analyses	2000	No Analyses	-	-	No TL	-
Cadmium	ug/l	9	0	None > LOD	0.15	None > LOD	0.0%	5	None > LOD	0.0%
Chromium	ug/l	16	9	0.508 - 8.6	3.4	2	12.5%	-	No TL	-
Copper	ug/l	16	7	0.952 - 4.59	43.5	0	0.0%	-	No TL	-
Lead	ug/l	16	9	0.036 - 1.59	1.2	1	6.3%	250	0	0.0%
Mercury	ug/l	6	0	None > LOD	0.07	None > LOD	0.0%	-	No TL	-
Nickel	ug/l	16	9	0.718 - 1.76	4	0	0.0%	100	0	0.0%
Zinc	ug/l	9	9	1.27 - 30.7	41.5	0	0.0%	1000	0	0.0%
Iron	mg/l	2	0	None > LOD	0.001	None > LOD	0.0%	-	No TL	-
Organic Parameters										
Total Petroleum Hydrocarbons	ug/l	16	3	47.5 - 501	-	-	-	2000	0	0.0%
Total Aliphatic Hydrocarbons	ug/l	6	2	76 - 287	-	-	-	2000	0	0.0%
Total Aromatic Hydrocarbons	ug/l	6	2	117 - 214	-	-	-	2000	0	0.0%
Benzo(a)pyrene	ug/l	9	4	0.016 - 1.56	0.00017	4	44.4%	-	No TL	-
Benzo(b)fluoranthene	ug/l	9	4	0.0362 - 2.83	0.017	4	44.4%	-	No TL	-
Naphthalene	ug/l	9	0	None > LOD	2	None > LOD	0.0%	-	No TL	-
Anthracene	ug/l	9	2	0.102 - 0.125	0.1	2	22.2%	-	No TL	-
Benzo(k)fluoranthene	ug/l	9	3	0.0404 - 1.09	0.017	3	33.3%	-	No TL	-

** Based on monitoring dataset for locations: 1.1; 2.1; 3.1; 4.2; R1; R2*

*** Dissolved concentrations are presented here. Total concentrations are presented within the full dataset (Annex G)*

- There is significant groundwater utilisation within the above sub-catchments, that include boreholes, springs and spring-fed streams;
- Groundwater is located at depth, within bedrock, under high elevation areas. Lateral groundwater flow towards the Estuary, local surface water courses and/or springs / spring line associated with the inland-TFD boundary is expected;
- Groundwater encountered in the bedrock and superficial deposits within this section is fresh in nature, of neutral / mildly alkaline pH and general absence of organic contaminants and relatively low concentration of ammoniacal nitrogen (with a mean of 0.21 mg/l);
- Groundwater is characterised by the routine presence of arsenic, boron, chromium, copper, nickel and zinc although respective DWSs and EQSs are only rarely exceeded for any parameter. Infrequent occurrence of lead, cadmium and mercury, with rare exceedance of the respective AC
- The principal groundwater receptors are considered to be Brides Brook, any unidentified springs and/or spring-lines (principally at the inland boundary of the TFD) and groundwater within bedrock concealed beneath the TFD.

6.3 Section 2: Wentlooge Levels

6.3.1 The CHM for the Wentlooge Levels subsection is presented Figure 6.4. This section extends from the inland marsh boundary around Coedcerny in the west up to the Sea Wall reen / River Ebbw in the east. The section continues to the east, away from the River Ebbw, across the Docksway Landfill site (Contaminated Land site CL-13) towards the River Usk Crossing. As the Docksway Landfill represents potentially contaminated land its groundwater quality and conceptual model is described in detail in the Contaminated Land Assessment report (Appendix 11.1 of the ES) and is not discussed here. The key elements of the CHM for the Wentlooge Levels are as follows:

- The Wentlooge Levels are flat and low-lying with an elevation typically of c. +6 mAOD and extend up to Sea Wall reen and the River Ebbw in the East.
- The River Ebbw is a tidal water body, characterised by high salinity.
- To the East of the River Ebbw is the Docksway Landfill (CL-13).
- The entire section is underlain by TFD with a thickness of c. 7 – 8.5 m. The TFD comprises silty clays with discontinuous peat horizons.
- The TFD are locally capped by Made Ground, particularly to the east of the River Ebbw around the Docksway Landfill.
- The TFD are underlain by a continuous unit of saturated GFD, which in turn overlie saturated bedrock of the MMG. The saturated MMG and GFD constitute aquifer units and are confined by the overlying, low permeability, TFD.
- Upon the Wentlooge Levels the TFD are dissected by a complex network of field drains, shallow reens and NRW watercourses. These watercourses are perched upon the TFD and are fresh and uncontaminated in nature.
- Of the entire water quality monitoring dataset (described in Section 4 and presented in Annex G and Annex H), 19 surface water monitoring locations

(shown on Figures 5.3 and 6.3) provide water quality data for the Wentlooge Levels. This subset of water quality monitoring data is summarised in Table 6.2. Surface water quality is characterised by neutral to mildly alkaline pH and freshwater chemistry characterised by low to moderate dissolved oxygen and presence of key nutrients. Dissolved oxygen falls below the CCW trigger level of 5 mg/l in 21% of all samples. Dissolved metals are frequently present, notably arsenic, chromium, copper, lead, nickel, zinc and iron with the relevant EQS exceeded occasionally for chromium, lead, nickel and iron. Occasional occurrences of TPH and PAH are identified and exceedances of the relevant EQS are identified for PAH compounds in up to 17% of samples analysed. Exceedances of relevant EQS and CCW TLs where applicable are observed for nutrient parameters including ammoniacal nitrogen, nitrate and orthophosphate.

Table 6.2: Surface Water Quality – Wentllooge Levels

Parameter	Unit	Analyses		Conc. Range	EQS	*Analyses Above EQS*		CCW TL	Analyses Above CCW TL	
		No. *	No. Above LOD			No.	*%'age of Analyses*		*No.*	*%'age of Analyses*
General Parameters										
pH	pH Units	35	35	6.77 - 8.32	9	0	0.0%	8.5	0	0.0%
Electrical Conductivity	uS/cm	19	19	206 - 493	-	No EQS	-	2000	0	0.0%
Total Suspended Solids	mg/l	48	38	2 - 692	-	No EQS	-	250	1	2.1%
Biological Oxygen Demand	mg/l	48	15	1 - 45	5	1	2.1%	18	1	2.1%
Dissolved Oxygen	mg/l	48	47	0.57 - 13.6	-	No EQS	-	5	10	20.8%
Dissolved Oxygen (saturation)	%	19	18	5.1 - 139.3	60	5	26.3%	-	No TL	-
Calcium (dissolved, filtered)	mg/l	48	48	2.8 - 86.2	-	No EQS	-	300	0	0.0%
Calcium (total, unfiltered)	mg/l	12	12	28.2 - 91.3	-	No EQS	-	300	0	0.0%
Chloride	mg/l	48	48	3 - 127	250	0	0.0%	300	0	0.0%
Ammoniacal Nitrogen (as N)	mg/l	48	30	0.04 - 2.48	0.6	4	8.3%	1	3	6.3%
Total Oxidised Nitrogen (as N)	mg/l	48	36	0.127 - 7.59	-	No EQS	-	2	11	22.9%
Nitrate (as NO3)	mg/l	48	37	0.475 - 33.3	-	No EQS	-	1	34	70.8%
Nitrite (as NO2)	mg/l	48	13	0.05 - 0.612	-	No EQS	-	1	0	0.0%
Sulphate	mg/l	48	45	4 - 87.4	400	0	0.0%	300	0	0.0%
Orthophosphate (as P)	mg/l	39	22	0.0303 - 1.2	0.12	15	38.5%	1	2	5.1%
Metals (dissolved, filtered)**										
Arsenic	ug/l	19	19	0.253 - 4.2	50	0	0.0%	-	No TL	-
Boron	ug/l	0	0	No Analyses	2000	No Analyses	-	-	No TL	-
Cadmium	ug/l	29	0	None > LOD	0.15	None > LOD	0.0%	5	None > LOD	0.0%
Chromium	ug/l	48	29	0.446 - 14.8	3.4	3	6.3%	-	No TL	-
Copper	ug/l	48	27	0.877 - 10	43.5	0	0.0%	-	No TL	-
Lead	ug/l	48	30	0.054 - 13	1.2	3	6.3%	250	0	0.0%
Mercury	ug/l	19	1	0.0256	0.07	0	0.0%	-	No TL	-
Nickel	ug/l	48	31	0.95 - 12	4	3	6.3%	100	0	0.0%
Zinc	ug/l	29	29	0.936 - 14.8	41.5	0	0.0%	1000	0	0.0%
Iron	mg/l	4	3	0.0758 - 1.3	0.001	3	75.0%	-	No TL	-
Organic Parameters										
Total Petroleum Hydrocarbons	ug/l	48	2	69 - 154	-	-	-	2000	0	0.0%
Total Aliphatic Hydrocarbons	ug/l	19	1	80	-	-	-	2000	0	0.0%
Total Aromatic Hydrocarbons	ug/l	19	1	71	-	-	-	2000	0	0.0%
Benzo(a)pyrene	ug/l	29	5	0.0103 - 0.145	0.00017	5	17.2%	-	No TL	-
Benzo(b)fluoranthene	ug/l	29	2	0.0486 - 0.268	0.017	2	6.9%	-	No TL	-
Naphthalene	ug/l	29	1	6.02	2	1	3.4%	-	No TL	-
Anthracene	ug/l	29	1	0.0203	0.1	0	0.0%	-	No TL	-
Benzo(k)fluoranthene	ug/l	29	2	0.0393 - 0.0844	0.017	2	6.9%	-	No TL	-

** Based on monitoring dataset for locations: 1.2; 2.2; 4.3; 4.4; 5.1; 5.2; 6.1; 7.1; 7.2; 7.3; 7.4; 8.1; 8.2; WTA Discharge Maerdy; R3; R4; R5; R6; R7*

*** Dissolved concentrations are presented here. Total concentrations are presented within the full dataset (Annex G)*

- The TFD hydraulically separate the Gwent Levels surface water system from the underlying groundwater in bedrock / GFD.
- Groundwater in the bedrock and GFD is typically fresh, but becomes increasingly saline (and non-potable) toward the River Ebbw in the east;
- Groundwater encountered in the bedrock and superficial deposits within this section is fresh in nature, of neutral / mildly alkaline pH and characterised by the presence of metals and general absence of organic contaminants;
- Groundwater quality data for bedrock is limited but indicates the presence of the metals arsenic, boron, chromium, nickel and selenium. Metals concentrations only exceed their respective DWS within a single analysis, although the EQS for nickel was exceeded in three of five analyses. Typically there is an absence of organic contamination in groundwater.
- Porewater within the TFD in the Wentlooge Levels has a mean of 162 mg/l, with the routine presence of arsenic, boron and nickel, the less frequent occurrence of chromium, copper and zinc and rare occurrence of cadmium, lead and mercury. Only occasional exceedances of DWS are observed, most notably for Boron.
- There is evidence to suggest that groundwater levels within the GFD are lower than the water groundwater levels in the bedrock, which implies a downward potential for vertical flow and/or discharge from the GFD.
- There is evidence for declining water levels in GFD and bedrock in the vicinity of the River Ebbw. This suggests the potential for a degree of hydraulic continuity and interchange between the watercourse and adjacent groundwater bodies.
- The principal receptor for groundwater in the bedrock and GFD underlying the TFS is likely to be the Severn Estuary to the south or River Ebbw in west.
- The low permeability expected for the TFD suggests limited potential for vertical exchange of water (between the surface and groundwater at depth) and little lateral flow within the unit towards either the Sever Estuary or River Ebbw.
- Groundwater in the shallow Made Ground is perched upon the underlying TFD.

6.4 Section 3: New Bridged Section of Motorway

6.4.1 The CHM for the new bridged section of motorway section is presented in Figure 7.4. This section extends from the Docksway Landfill in the west up to the industrial area to the east of the River Usk. In addition to the River Usk, the new section of motorway crosses the industrialised area south Newport city centre, the Alexandra Docks and Solutia Chemical Works within this section. The ground conditions and contamination status of the of the Solutia Chemical Works (Contaminated Land Site CL-17) have been described in the Contaminated Land Report (Appendix 11.1 of the ES) and are not repeated in detail here. It should be noted that tidal effects on groundwater levels are expected within this section, which makes the interpretation of spot water levels less reliable. The key elements the CHM for the new bridged section are as follows:

- The new bridged section of motorway would be located in a low-lying area that is principally covered by concrete/tarmac hardstanding and/or industrial buildings / structures.
- Hardstanding and structures are underlain by a veneer of Made Ground of variable thickness and composition.
- The section is underlain by TFD, with a thickness of between 7-16 m. The TFD are underlain by a generally continuous layer of granular GFD of variable thickness. The combined TFD and GFD are underlain bedrock of the MMG.
- The River Usk and Alexandra Dock are expected to expected to have a minimum elevation of c. 0 mAOD and hence terminate within the TFD, above the GFD which are generally present at a depth of c. -5 mAOD to -10 mAOD.
- Water quality in the River Usk is monitored by the NRW and is summarised in Table 4.9 and Table 4.12. The River Usk is characterised by a high salinity, neutral pH and the presence of heavy metals most commonly nickel, lead and zinc. No parameters measured exceed either EQS or former-CCW trigger levels, with the exception of zinc
- Groundwater in Made Ground is expected to be perched on the TFD with little vertical exchange with the underlying units.
- Groundwater contained in the bedrock and GFD have an elevated chloride concentration and are non-potable (with a mean concentration in excess of 2,000 mg/l), with elevated ammoniacal nitrogen concentrations. This is consistent with their proximity to the estuaries of the River Usk and River Ebbw.
- Groundwater in the bedrock is characterised by the routine presence of metals, most notably arsenic, boron, chromium, copper, nickel, selenium and zinc and occasional occurrence of petroleum hydrocarbons although other organic compounds are largely absent. The DWS for arsenic, boron and selenium is commonly exceeded. The concentration of copper, nickel and mercury exceed their relevant EQS. Mercury present in groundwater.
- Similarly, groundwater in the GFD is characterised by elevated chloride and ammoniacal nitrogen, with routine presence of heavy metals arsenic boron, chromium, copper, nickel, selenium and zinc although it is the DWS for arsenic, boron and selenium which is commonly exceeded.
- Baseline quality indicates that groundwater in the bedrock and GFD is of little resource potential.
- Porewater quality in the TFD is characterised by high chloride concentration (mean c. 2000 mg/l), routine presence of metals and occasional presence of organic contaminants. Metals include arsenic, boron, chromium, copper, nickel and selenium (i.e. in more than 80% of samples analysed). Lead, cadmium and mercury occur less frequently. The DWS for only arsenic, boron and selenium exceeded.
- Groundwater levels in the confined bedrock appear to be typically lower than the confined groundwater levels in the GFD. This implies a downward vertical gradient between these units.

- There is evidence of declining water levels in the GFD and TDF as the main water courses are approached suggesting a degree of hydraulic continuity with these water levels.
- The principal receptor of groundwater within this subsection is the estuary of the River Usk and River Ebbw, although the degree of hydraulic continuity with these units is not known.

6.5 Section 4: Caldicot Levels

6.5.1 The conceptual hydrogeological model for the Caldicot Levels is presented in Figure 8.4. The section extends from the River Usk in the west upto the Gwent Level/inland boundary in the east, with the Severn Estuary located c. 2.5 km to the south. Within this section, approximately half of the new section of motorway is situated on, or adjacent to, land owned and managed by Tata Steel at the former Llanwern site (Potentially contaminated land sites CL-26 and CL-27). The groundwater quality and conceptual site model for potential Contaminated Land sites Cl-26 and Cl-27 are discussed in detail in the Contaminated Land Assessment report and are not described in detail for baseline characterisation presented herein. The key elements the CHM for the Caldicot Levels are as follows:

- The Caldicot Levels are flat and low-lying, with an elevation typically of c. +6 mAOD.
- The entire section is underlain by TFD with a thickness typically of 3 – 12 m. The TFD comprises silty clays with subordinate peat horizons.
- The TFD are locally capped by Made Ground particularly around the Tata steel / Llanwern area.
- The TFD are underlain by bedrock of the MMG, with the general absence of the laterally continuous granular GFD seen elsewhere in the Gwent Levels.
- A complex network of grips, field ditches, reens and NRW watercourses dissect the TFD and are generally fresh and largely uncontaminated in nature.
- Of the entire water quality monitoring dataset (described in Section 4 and presented in Annex G and Annex H), 37 surface water monitoring locations (shown on Figures 8.3 and 9.3) provide water quality data for the Caldicot Levels. This subset of water quality monitoring data is summarised in Table 6.3 and confirms a water quality characterised by neutral to mildly alkaline pH, freshwater chemistry (with the exception of one reading from location 17.3, south of Green Moore Landfill, CL-27) with a chloride concentration of 785 mg/l. Dissolved oxygen is low to moderate, falling below the CCW trigger level of 5 mg/l in 54% of all samples. Key nutrients are routinely present with exceedances of relevant EQS and CCW TLs observed for ammoniacal nitrogen, nitrate and orthophosphate. Dissolved metals are frequently present, notably arsenic, chromium, lead, mercury, nickel, zinc and iron with the relevant EQS occasionally exceeded for cadmium, chromium, lead, mercury, nickel and iron. Rare occurrences of TPH and PAH are identified and exceedances of the relevant EQS are identified for PAH compounds in up to 3% of samples analysed.

Table 6.3: Surface Water Quality – Caldicot Levels

Parameter	Unit	Analyses		Conc. Range	EQS	*Analyses Above EQS*		CCW TL	Analyses Above CCW TL	
		No. *	No. Above LOD			No.	*%'age of Analyses*		*No.*	*%'age of Analyses*
General Parameters										
pH	pH Units	95	95	6.97 - 8.9	9	0	0.0%	8.5	12	12.6%
Electrical Conductivity	uS/cm	49	49	277 - 1164	-	No EQS	-	2000	0	0.0%
Total Suspended Solids	mg/l	89	84	2 - 714	-	No EQS	-	250	6	6.7%
Biological Oxygen Demand	mg/l	89	59	1 - 33	5	24	27.0%	18	4	4.5%
Dissolved Oxygen	mg/l	89	82	0.33 - 14.6	-	No EQS	-	5	48	53.9%
Dissolved Oxygen (saturation)	%	47	46	3.5 - 109.6	60	34	72.3%	-	No TL	-
Calcium (dissolved, filtered)	mg/l	84	84	3.5 - 152	-	No EQS	-	300	0	0.0%
Calcium (total, unfiltered)	mg/l	25	25	26.7 - 135	-	No EQS	-	300	0	0.0%
Chloride	mg/l	109	109	7.4 - 785	250	2	1.8%	300	2	1.8%
Ammoniacal Nitrogen (as N)	mg/l	109	89	0.04 - 1.7	0.6	16	14.7%	1	7	6.4%
Total Oxidised Nitrogen (as N)	mg/l	89	34	0.123 - 9.43	-	No EQS	-	2	9	10.1%
Nitrate (as NO3)	mg/l	85	43	0.316 - 41.5	-	No EQS	-	1	37	43.5%
Nitrite (as NO2)	mg/l	85	13	0.053 - 0.218	-	No EQS	-	1	0	0.0%
Sulphate	mg/l	89	75	3.6 - 114	400	0	0.0%	300	0	0.0%
Orthophosphate (as P)	mg/l	73	58	0.0313 - 4.2	0.12	48	65.8%	1	14	19.2%
Metals (dissolved, filtered)**										
Arsenic	ug/l	42	41	0.712 - 6.9	50	0	0.0%	-	No TL	-
Boron	ug/l	20	20	47 - 1300	2000	0	0.0%	-	No TL	-
Cadmium	ug/l	57	6	0.097 - 2.9	0.15	3	5.3%	5	0	0.0%
Chromium	ug/l	104	51	0.827 - 15	3.4	21	20.2%	-	No TL	-
Copper	ug/l	104	40	0.852 - 19	43.5	0	0.0%	-	No TL	-
Lead	ug/l	104	41	0.02 - 27	1.2	11	10.6%	250	0	0.0%
Mercury	ug/l	42	3	0.68 - 1.6	0.07	3	7.1%	-	No TL	-
Nickel	ug/l	104	58	0.644 - 15	4	9	8.7%	100	0	0.0%
Zinc	ug/l	57	51	0.451 - 28	41.5	0	0.0%	1000	0	0.0%
Iron	mg/l	5	5	0.103 - 0.453	0.001	5	100.0%	-	No TL	-
Organic Parameters										
Total Petroleum Hydrocarbons	ug/l	107	14	13 - 422	-	-	-	2000	0	0.0%
Total Aliphatic Hydrocarbons	ug/l	46	1	23	-	-	-	2000	0	0.0%
Total Aromatic Hydrocarbons	ug/l	46	2	13 - 36	-	-	-	2000	0	0.0%
Benzo(a)pyrene	ug/l	62	2	0.0099 - 0.0276	0.00017	2	3.2%	-	No TL	-
Benzo(b)fluoranthene	ug/l	62	1	0.0494	0.017	1	1.6%	-	No TL	-
Naphthalene	ug/l	62	1	0.318	2	0	0.0%	-	No TL	-
Anthracene	ug/l	62	0	None > LOD	0.1	None > LOD	0.0%	-	No TL	-
Benzo(k)fluoranthene	ug/l	62	0	None > LOD	0.017	None > LOD	0.0%	-	No TL	-

** Based on monitoring dataset for locations: 11.1; 12.1; 12.2; 13.1; 13.2; 14.1; 14.2; 15.2; 16.1; 16.2; 17.1; 17.2; 17.3; 18.1; 19.1; 19.2; 20.1; 22.1; R8; R9; R10; R11; R12; R13; R14; R15; R16; R17; R18; R21; SW501; SW502; SW506; SW507; SW508; SW509; SW510*

*** Dissolved concentrations are presented here. Total concentrations are presented within the full dataset (Annex G)*

- The water quality in Monks Ditch has also been monitored by NRW and is summarised in Table 4.8 and Table 4.11. The Monks Ditch is characterised by freshwater with similar concentrations of nitrogen compounds, copper and zinc as seen in the reens, although DO are typically high and orthophosphate typically lower than the reens. No parameters exceed either EQS or former-CCW trigger levels, with the exception of nitrogen compounds and zinc (in 4% of samples).
- Groundwater has been identified in the Made Ground and bedrock with variable quality that relates to historical land-use. The water quality in the Made Ground is considered in the Contaminated Land Assessment report (Appendix 11.1 of the ES).
- Groundwater potentiometric levels in the bedrock and TFD are typically similar, suggesting limited and/or variable potential for vertical groundwater flow. The bedrock is confined by the TFD deposits and Made Ground perched above the TFD, confirming the low permeability of this unit and limited potential for vertical transfer of groundwater between the surface and bedrock.
- Groundwater identified in the TFD and underlying bedrock are commonly characterised by elevated chloride concentrations, commonly exceeding 2,000 mg/l. Taken with the observed groundwater levels, this implies there is limited potential for the vertical transfer of water between the surface and deeper bedrock.
- Groundwater in the bedrock and TFD is characterised by the routine presence of some metals (most notably arsenic, boron, chromium and nickel) and occasional occurrence of petroleum hydrocarbons although other organic compounds are largely absent.
- Bedrock is characterised by the presence of arsenic, boron, chromium, copper, nickel, selenium and zinc in almost all samples, with respective DWS exceeded for arsenic, Boron, chromium and selenium. Measured concentrations of copper and nickel routinely exceed their respective. Elevated concentration of Ammoniacal Nitrogen with a mean concentration of 11.5 mg/l. Occurrence of petroleum hydrocarbons typically in around 10% of samples analysed for fractions present, with the absence of BTEX hydrocarbons.
- Owing to their low permeability, little lateral flow is expected in the TFD. Vertical flows also considered likely to be quantitatively trivial.
- There is the potential for localised lateral flow of perched water within the Made Ground towards surface water receptors, although the significance of such flow will be dependent on the extent and lateral continuity of these deposits.
- The principal receptor for groundwater in the bedrock that underlies the TFD is likely to be the Severn Estuary in the south and/or the River Usk in the west. The low permeability of the TFD units and limited potential for vertical recharge, suggests that lateral flows to these receptors will be small.

6.6 Section 5: Magor

6.6.1 The CHM for the Magor area is presented in Figure 9.4. The key elements of this CHM are as follows:

- Existing M4 alignment situated at high elevation that declines towards the Caldicot Levels.
- The high ground, situated inland of the Caldicot Levels, is primarily underlain by bedrock that comprises the Tintern Sandstone and limestone units of the Carboniferous Limestone Series. These units dip gently (at 4-10°) to the east. Localised exposure of marginal facies of the MMG in the extreme east.
- Localised occurrence of alluvium, River Terrace Deposits and head within the valley of St Brides Brook that is crossed by the existing M4.
- Corridor of the new section of motorway drops to the Caldicot Levels, where TFD meet the rising TSG bedrock. Although concealed beneath the TFD, bedrock of the MMG is expected to be encountered within the Caldicot levels, The MMG will overly the Devonian and Carboniferous bedrock sequence at some point near the landward limit of the TFD.
- Of the entire water quality monitoring dataset (described in Section 4 and presented in Annex G and Annex H), 3 surface water monitoring locations (shown on Figure 9.3) provide water quality data for the Magor area outside of the Caldicot Levels. This subset of data is presented in Table 6.4. Surface water quality is characterised by neutral to mildly alkaline pH and freshwater chemistry, with moderate dissolved oxygen. Key nutrients are routinely present albeit at lower concentrations than observed in the other subdivisions described previously. Exceedance of the relevant EQS for orthophosphate was observed in 25% of samples. Dissolved metals are present in surface water, notably chromium, lead, nickel, zinc and iron with exceedances of the relevant EQS observed for iron only. A single occurrence of TPH is observed and PAH compounds are identified, with exceedances of the relevant EQS.

Table 6.4: Surface Water Quality – Magor

Parameter	Unit	Analyses		Conc. Range	EQS	*Analyses Above EQS*		CCW TL	Analyses Above CCW TL	
		No. *	No. Above LOD			No.	*%'age of Analyses*		*No.*	*%'age of Analyses*
General Parameters										
pH	pH Units	9	9	7.7 - 8.3	9	0	0.0%	8.5	0	0.0%
Electrical Conductivity	uS/cm	6	6	237 - 666	-	No EQS	-	2000	0	0.0%
Total Suspended Solids	mg/l	9	9	3 - 59	-	No EQS	-	250	0	0.0%
Biological Oxygen Demand	mg/l	9	3	1 - 2	5	0	0.0%	18	0	0.0%
Dissolved Oxygen	mg/l	9	9	6.91 - 12.24	-	No EQS	-	5	0	0.0%
Dissolved Oxygen (saturation)	%	6	6	58.7 - 106.5	60	1	16.7%	-	No TL	-
Calcium (dissolved, filtered)	mg/l	9	9	30.1 - 78	-	No EQS	-	300	0	0.0%
Calcium (total, unfiltered)	mg/l	3	3	34 - 41.6	-	No EQS	-	300	0	0.0%
Chloride	mg/l	9	9	12 - 19	250	0	0.0%	300	0	0.0%
Ammoniacal Nitrogen (as N)	mg/l	9	5	0.05 - 0.07	0.6	0	0.0%	1	0	0.0%
Total Oxidised Nitrogen (as N)	mg/l	9	9	0.5 - 3.4	-	No EQS	-	2	5	55.6%
Nitrate (as NO3)	mg/l	8	8	2.2 - 15.1	-	No EQS	-	1	8	100.0%
Nitrite (as NO2)	mg/l	8	0	None > LOD	-	No EQS	-	1	None > LOD	0.0%
Sulphate	mg/l	9	9	10 - 20	400	0	0.0%	300	0	0.0%
Orthophosphate (as P)	mg/l	8	5	0.0476 - 0.8	0.12	2	25.0%	1	0	0.0%
Metals (dissolved, filtered)**										
Arsenic	ug/l	2	2	0.725 - 0.812	50	0	0.0%	-	No TL	-
Boron	ug/l	0	0	No Analyses	2000	No Analyses	-	-	No TL	-
Cadmium	ug/l	3	0	None > LOD	0.15	None > LOD	0.0%	5	None > LOD	0.0%
Chromium	ug/l	9	3	1.4 - 2.91	3.4	0	0.0%	-	No TL	-
Copper	ug/l	9	2	1.46 - 5	43.5	0	0.0%	-	No TL	-
Lead	ug/l	9	3	0.065 - 0.102	1.2	0	0.0%	250	0	0.0%
Mercury	ug/l	2	0	None > LOD	0.07	None > LOD	0.0%	-	No TL	-
Nickel	ug/l	9	3	0.702 - 0.933	4	0	0.0%	100	0	0.0%
Zinc	ug/l	3	3	0.706 - 1.52	41.5	0	0.0%	1000	0	0.0%
Iron	mg/l	1	1	0.0574	0.001	1	100.0%	-	No TL	-
Organic Parameters										
Total Petroleum Hydrocarbons	ug/l	9	1	223	-	-	0.0%	2000	0	0.0%
Total Aliphatic Hydrocarbons	ug/l	2	0	None > LOD	-	-	0.0%	2000	None > LOD	0.0%
Total Aromatic Hydrocarbons	ug/l	2	0	None > LOD	-	-	0.0%	2000	None > LOD	0.0%
Benzo(a)pyrene	ug/l	3	3	0.0109 - 0.264	0.00017	3	100.0%	-	No TL	-
Benzo(b)fluoranthene	ug/l	3	2	0.103 - 0.473	0.017	2	66.7%	-	No TL	-
Naphthalene	ug/l	3	0	None > LOD	2	None > LOD	0.0%	-	No TL	-
Anthracene	ug/l	3	1	0.0235	0.1	0	0.0%	-	No TL	-
Benzo(k)fluoranthene	ug/l	3	1	0.167	0.017	1	33.3%	-	No TL	-

** Based on monitoring dataset for locations: Mill Reen WTA 11; R19; R20*

*** Dissolved concentrations are presented here. Total concentrations are presented within the full dataset (Annex G)*

- Fresh groundwater is encountered within all bedrock, most notably the sandstones of the TSG and limestone of the Carboniferous Limestone Series.
- Groundwater encountered in the bedrock and superficial deposits within this section is fresh in nature, of neutral / mildly alkaline pH, presence of metals and general absence of organic contaminants.
- Lateral groundwater flow in the bedrock that is orientated towards the Caldicot Levels and St Brides Brook is expected. The potential for lateral flow to the bedrock concealed beneath the TFDs is also expected.
- Despite the limestone and sandstone geology of the inland catchment, there is a general absence of groundwater utilisation in the corridor of the new section of motorway and/or spring resurgences recorded in the general area.
- The principal groundwater receptors considered to be Brides Brook, any unidentified springs and/or spring-lines (principally associated with the limestone and/or at upland boundary with the TFD of the Caldicot Levels) and groundwater within bedrock concealed beneath the TFD.

Glossary

AC	Assessment Criteria
AG	Avon Group
ALV	Alluvium
BGS	British Geological Survey
BOD	Biological Oxygen Demand
BRL	Black Rock Limestone
BWF	Brownstone Formation
CWLIDB	Caldicot and Wentlooge Levels Inland Drainage Board
CHM	Conceptual Hydrogeological Model
DMRB	Design Manual for Roads and Bridges
DO	Dissolved Oxygen
DSD	Dangerous Substances Directive
GFD	Glaciofluvial Deposit
GOF	Gully Oolite Formation
GT	Glacial Till
HD	Head
MCC	Monmouthshire County Council
MG	Made Ground
MMG	Mercia Mudstone Group
MMmf	Mercia Mudstone marginal facies
NCC	Newport City Council
NRW	Natural Resources Wales
PAH	Polycyclic Aromatic Hydrocarbons
PSSR	Preliminary Sources Study Report
RMF	Raglan Mudstone Formation
RTD	River Terrace Deposit
SMF	St Maughans Formation
SSSI	Sites of Special Scientific Interest
TFD	Tidal Flat Deposit
TPH	Total Petroleum Hydrocarbons
TSF	Tintern Sandstone Formation
WFD	Water Framework Directive

References

Allen, J.R.L. (2001) Late Quaternary stratigraphy in the Gwent Levels (southeast Wales): the subsurface evidence. Proceedings of the Geologists' Association, 112, 289-315.

Andrews, J.t, Gilbertson, D.D. & Hawkins, A.B (1984) The Pleistocene succession of the Severn Estuary: a revised model based upon amino acid racemization studies. Journal of the Geological Society of London, Vol. 141, pp 967-974

Department for Environment, Food and Rural Affairs (Defra) (2014). Water Framework Directive implementation in England and Wales: new and updated standards to protect the water environment. May, 2014

Edwards, R J G (1997) A review of the hydrogeological studies for the Cardiff Bay Barrage. Quarterly Journal of Engineering Geology, Vol. 30, 49–61.Environment Agency (2014) Annex D1 Assessment of hazardous pollutants within discharges to surface waters. Issue 2, October, 2004

Environment Agency (2009) Severn River Basin District: River Basin Management Plan. Annex B Water Body Status Objectives. December 2009.

Environment Agency (2014) H1 Annex D1: Assessment of hazardous pollutants within surface water discharges, v2.0, October 2014

Exploration Associates (2000). M4 Relief Road – Stage 2. Preliminary Chemical Investigation. Report 150006

Geotechnology (2005) South Side Queensway Non-hazardous Landfill, Llanwern. Site Report Nr 425.1/0/1105, Issue 1, November 2005

Geotechnical Engineering Limited (2015) M4 Corridor around Newport – Factual Report on Ground Investigation. Report reference 30238, July 2015.

Norwest Holst Soil Engineering Ltd (1998) Ground Investigation. M4 Relief Road for The Welsh office. NR/SR/F10895 – Volumes 1 to 5. April, 1998

Norwest Holst Soil Engineering Ltd (2008) Report on Ground Investigation at New M4 Project – Magor to Castleton –Second Preliminary Ground and Chemical Investigation. Project No.F15056– Volumes 1 to 7 and addendum 1.

Ove Arup & Partners Ltd (2014) Welsh Government, M4 Corridor around Newport: Preliminary Sources Study Report, Report Ref. 14/9197, July 2014

Ove Arup & Partners Ltd (2008) Hydrogeological Assessment

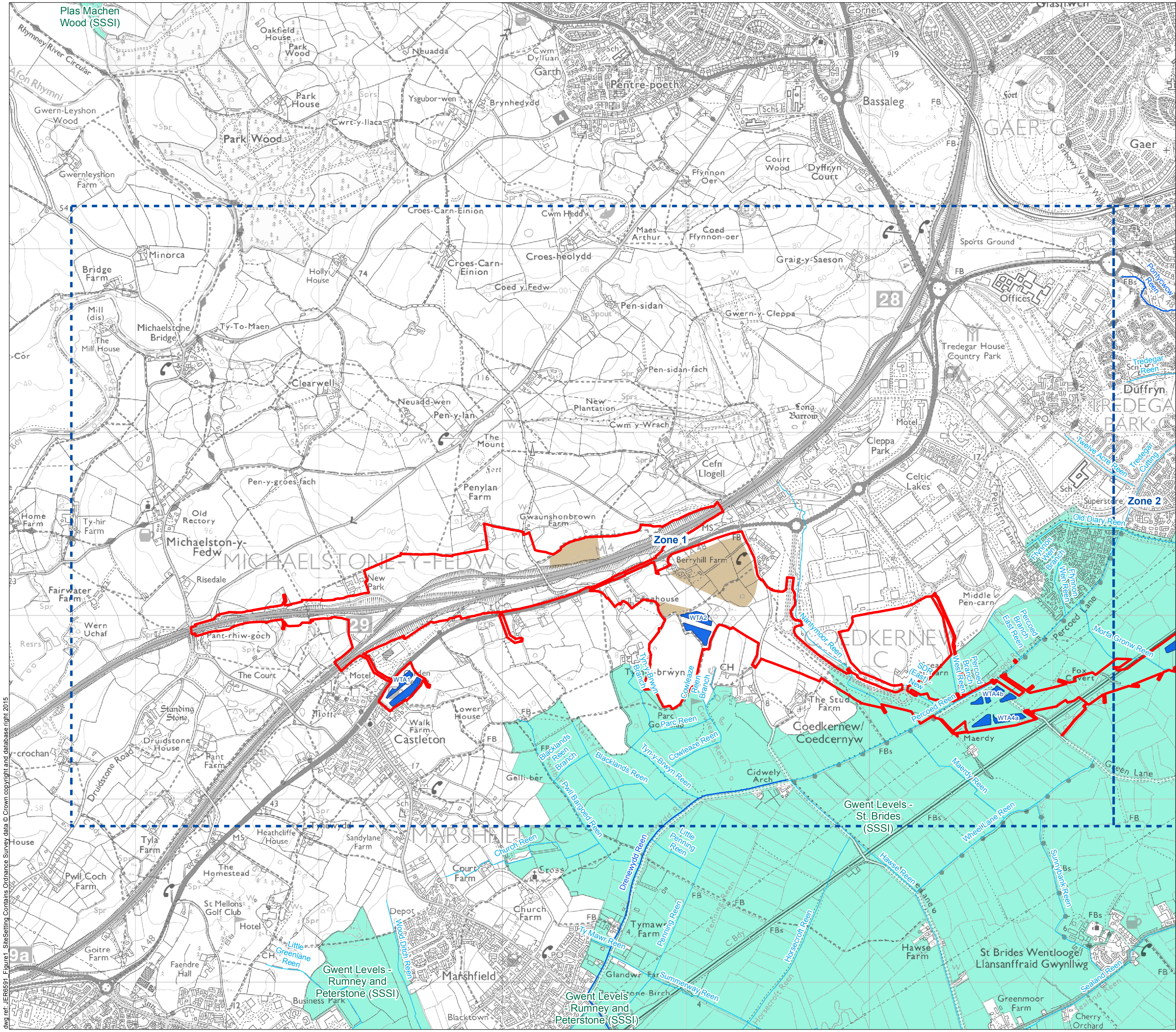
Titan Environmental Surveys Limited (TESL) (2008) New M4 Magor to Castleton Baseline Surface Water Quality Final Report. Report Number: HS0442/F1/2. November 2008

UK Technical Advisory Group (UKTAG) on the Water Framework Directive (WFD) (2008) Proposals For Environmental Quality Standards For Annex Viii Substances. January 2008 (Revised June 2008).

UK Technical Advisory Group (UKTAG) on the Water Framework Directive (WFD)(2012a) Final version for UKTAG. Status: final version for UKTAG consultation (v4.2). April 2012.

UK Technical Advisory Group (UKTAG) on the Water Framework Directive (WFD) (2012b) Scoping study for Dangerous Substance Directive List II chemicals. Report Ref. SC080021/5d. April, 2012.

Figures



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Site of Special Scientific Interest (SSSI)
- Watercourse
- Reen

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Welsh Government

Appendix 16.2

Site Setting

Figure: 1a	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:20,000
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N

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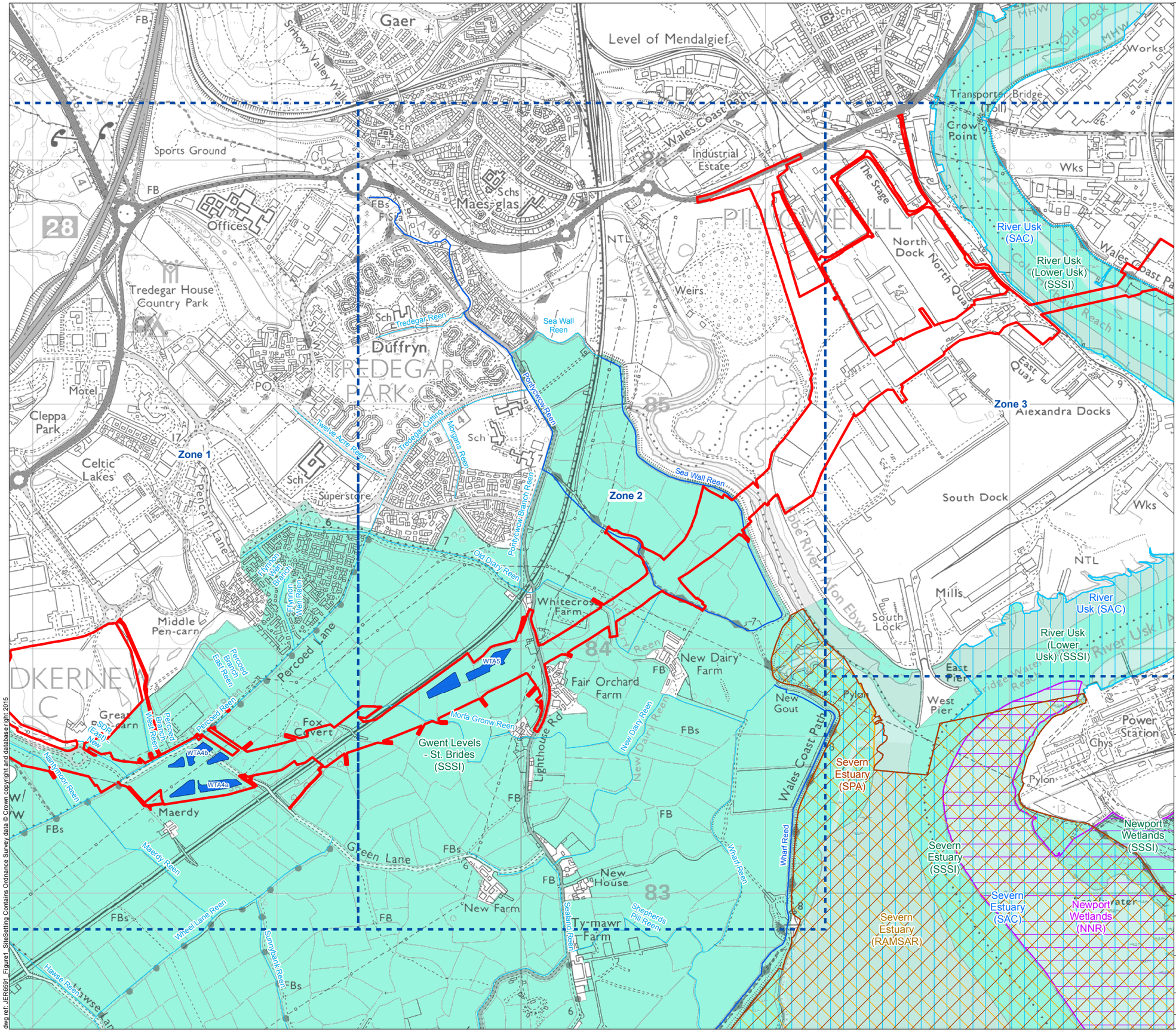

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- National Nature Reserve (NNR)
- RAMSAR
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Watercourse
- Reen

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Appendix 16.2

Site Setting

Figure: 1b	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
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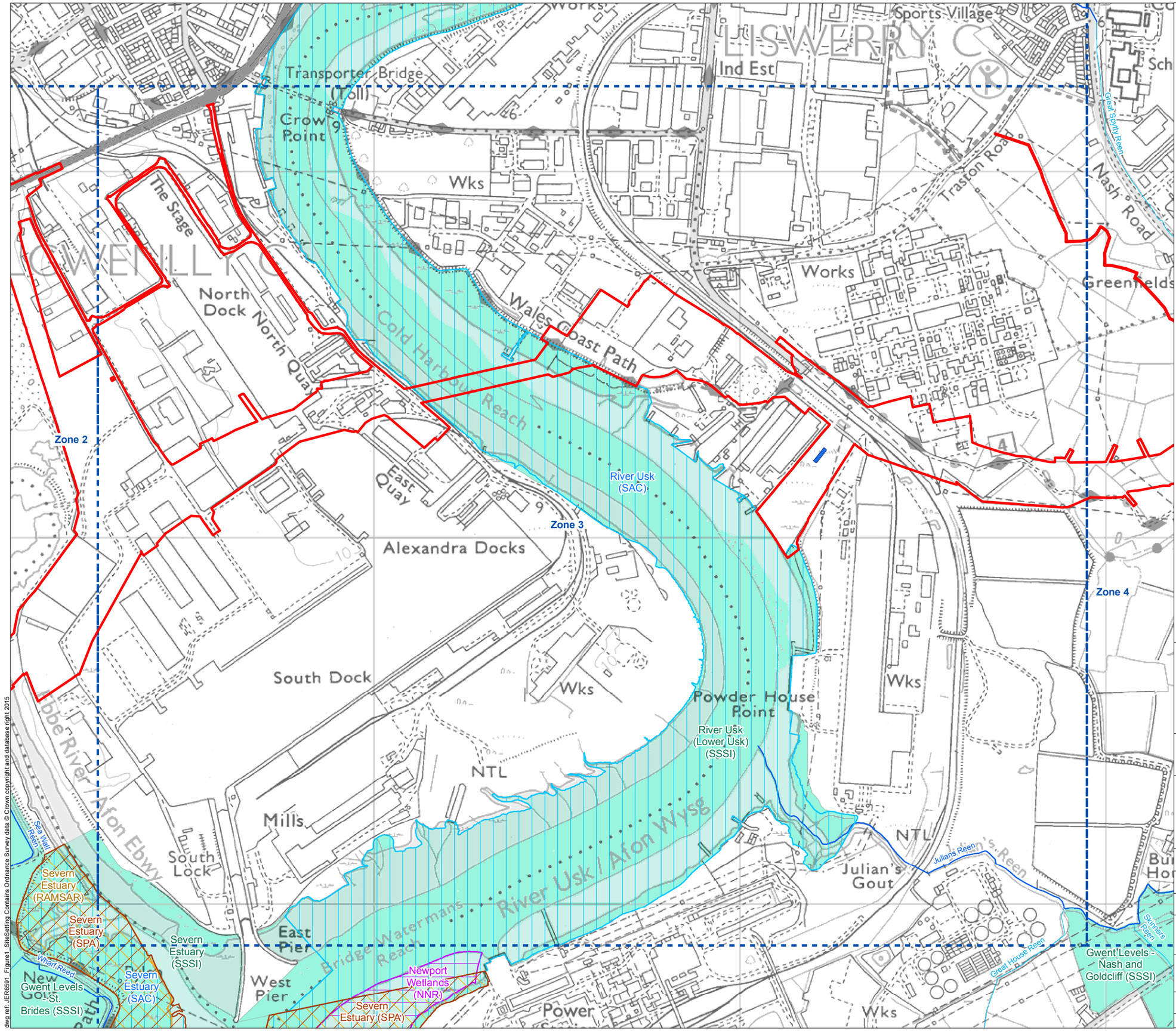

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- National Nature Reserve (NNR)
- RAMSAR
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Watercourse
- Reen

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Appendix 16.2

Site Setting

Figure: 1c	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:10,000
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N

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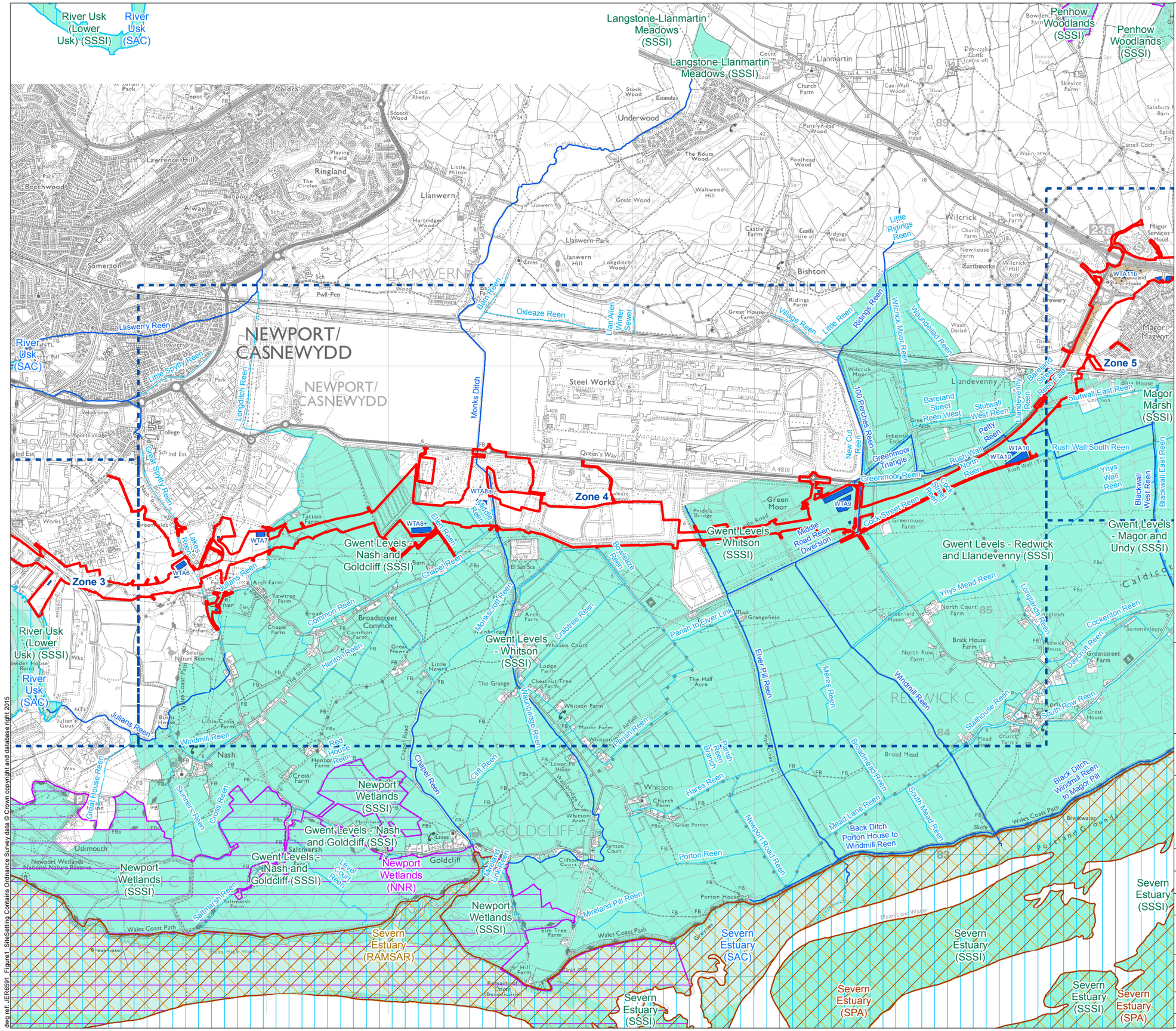

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- National Nature Reserve (NNR)
- RAMSAR
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Watercourse
- Reen

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Appendix 16.2

Site Setting

Figure: 1d	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:30,000
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N

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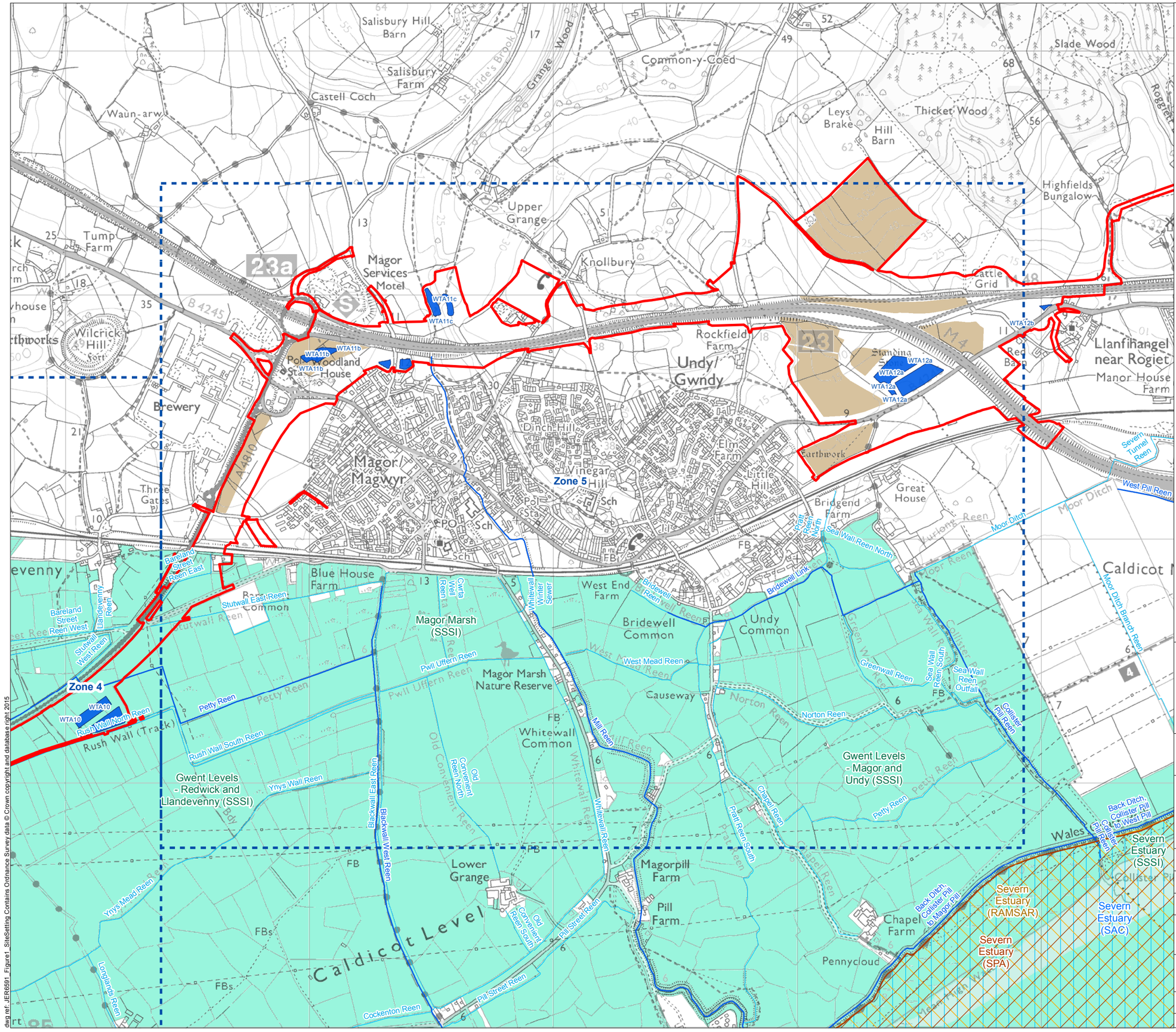

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- RAMSAR
- Site of Special Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Watercourse
- Reen

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Welsh Government

Appendix 16.2

Site Setting

Figure: 1e	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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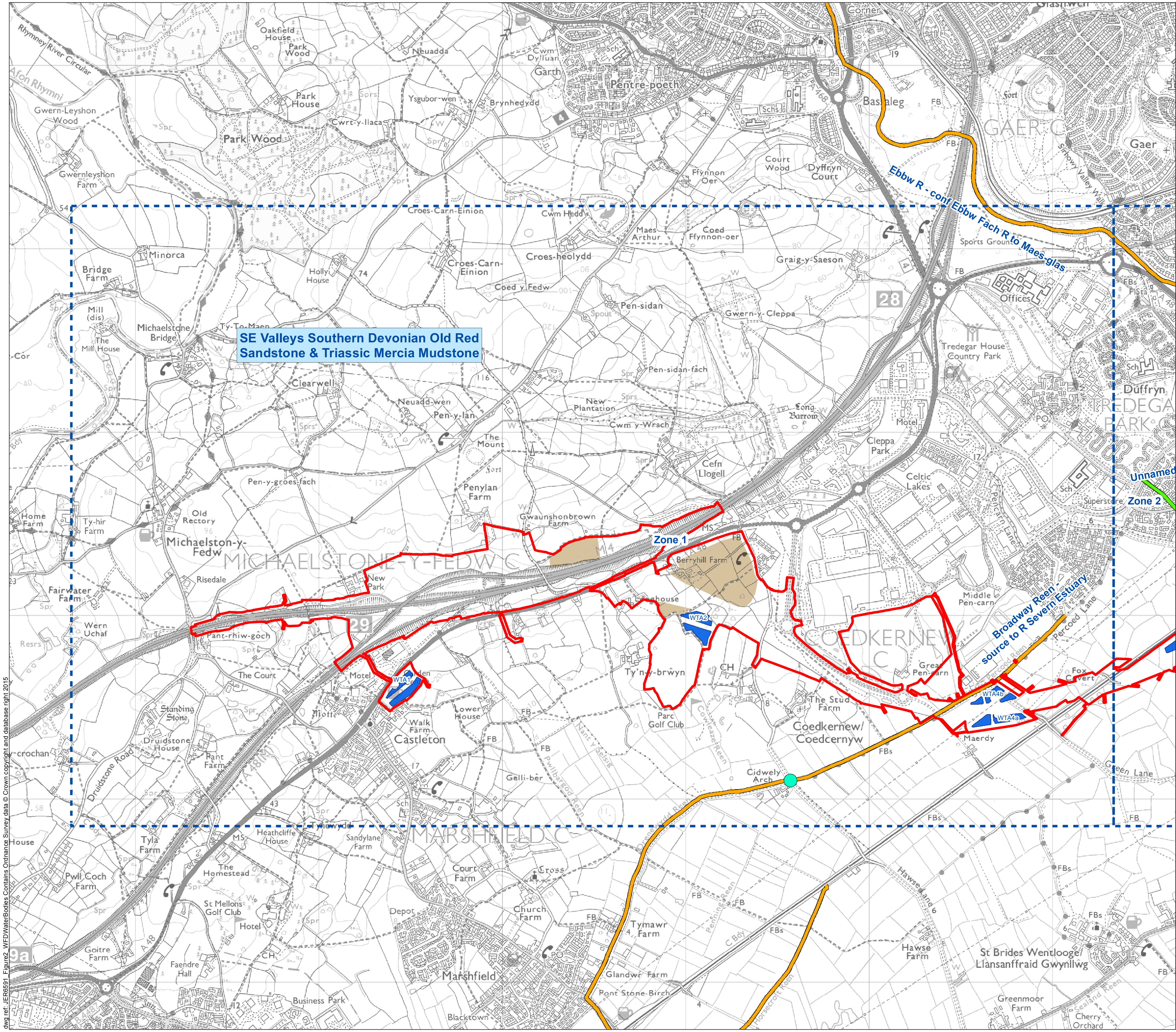
dwg ref: JER6591_Figure1_SiteSetting

dwg ref: JER6591_Figure1_SiteSetting Contains Ordnance Survey data © Crown copyright and database right 2015



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- NRW Water Monitoring Location
- Groundwater Waterbody - Good Potential
- River Waterbody - Good Potential
- River Waterbody - Moderate Potential

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Welsh Government

Appendix 16.2

Water Framework Directive Water Bodies

Figure: 2a	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:20,000

0 330 660m

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dwg ref: JER6591_Figure2_WFDWaterBodies

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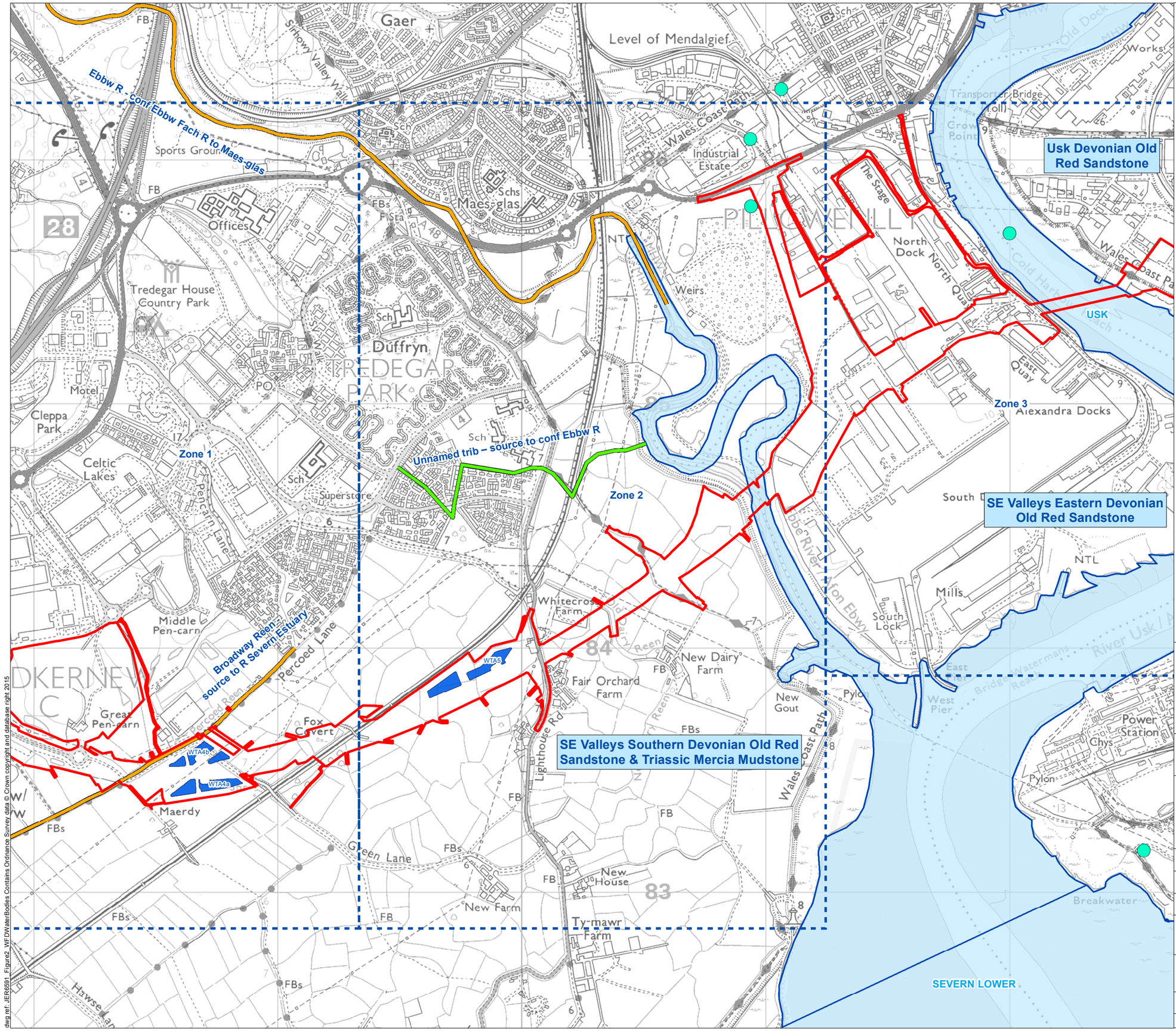

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- NRW Water Monitoring Location
- Groundwater Waterbody - Good Potential
- River Waterbody - Good Potential
- River Waterbody - Moderate Potential
- Transitional Waterbody - Moderate Potential

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Welsh Government

Appendix 16.2

Water Framework Directive Water Bodies

Figure: 2b	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

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dwg ref: JER6591_Figure2_WFDWaterBodies

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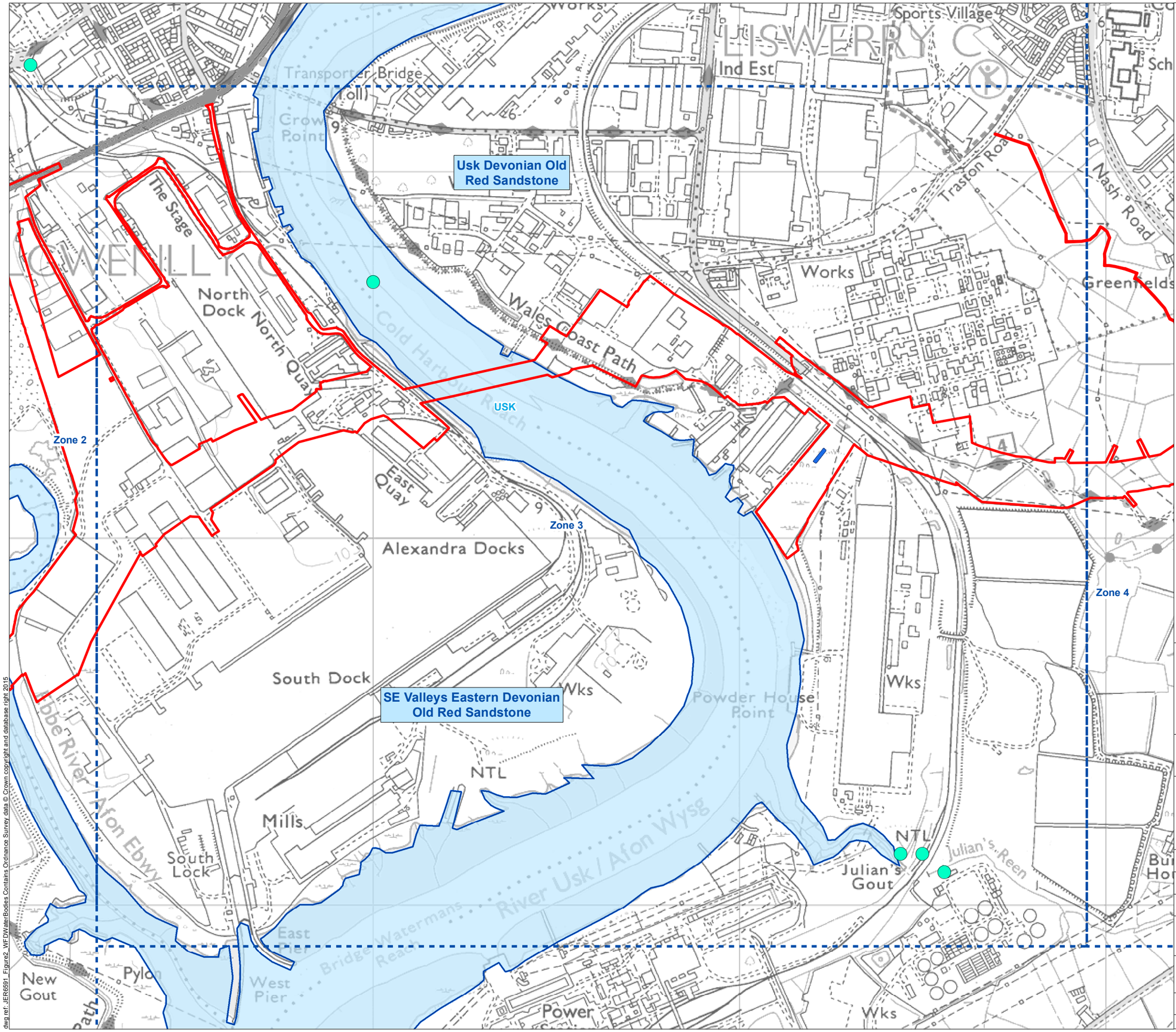

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- NRW Water Monitoring Location
- Groundwater Waterbody - Good Potential
- Transitional Waterbody - Moderate Potential

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Welsh Government

Appendix 16.2

Water Framework Directive Water Bodies

Figure: 2c	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:10,000
0 165 330 m

N

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dwg ref: JER6591_Figure2_WFDWaterBodies

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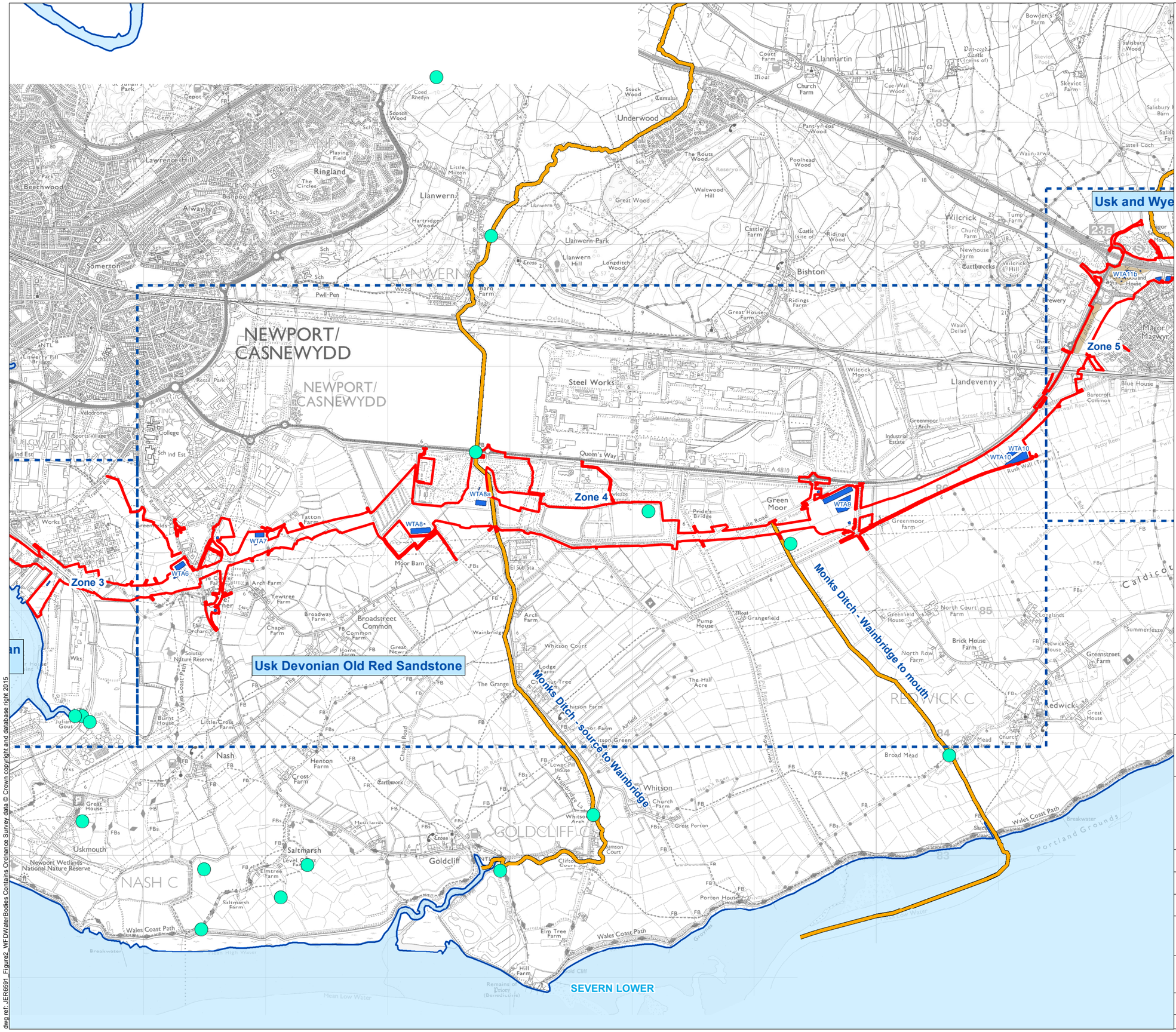

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- NRW Water Monitoring Location
- Groundwater Waterbody - Good Potential
- River Waterbody - Moderate Potential
- Transitional Waterbody - Moderate Potential

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Welsh Government

Appendix 16.2

Water Framework Directive Water Bodies

Figure: 2d	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:30,000
0 500 1,000 m
N

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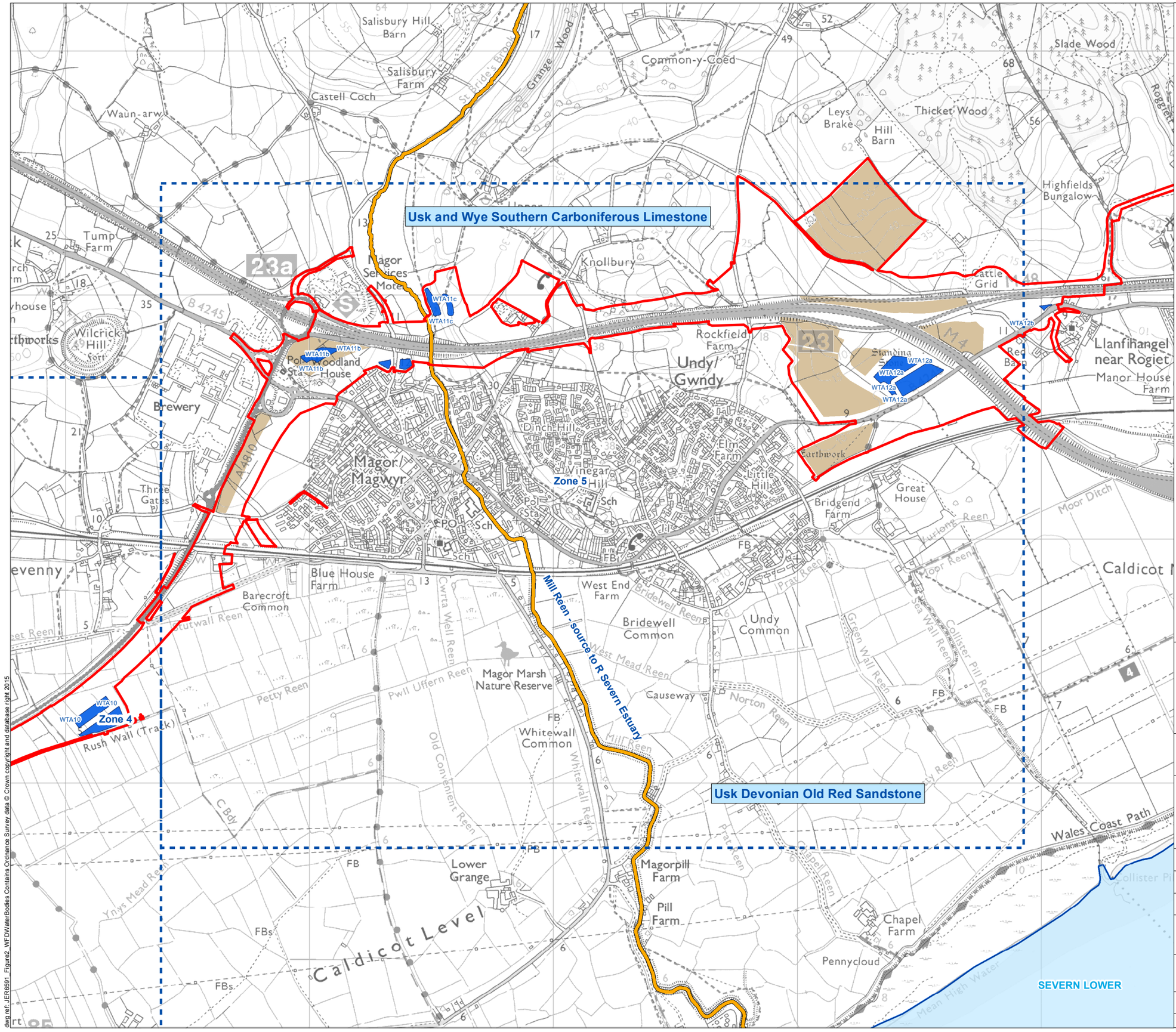

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Groundwater Waterbody - Good Potential
- River Waterbody - Moderate Potential
- Transitional Waterbody - Moderate Potential

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Welsh Government

Appendix 16.2

Water Framework Directive Water Bodies

Figure: 2e	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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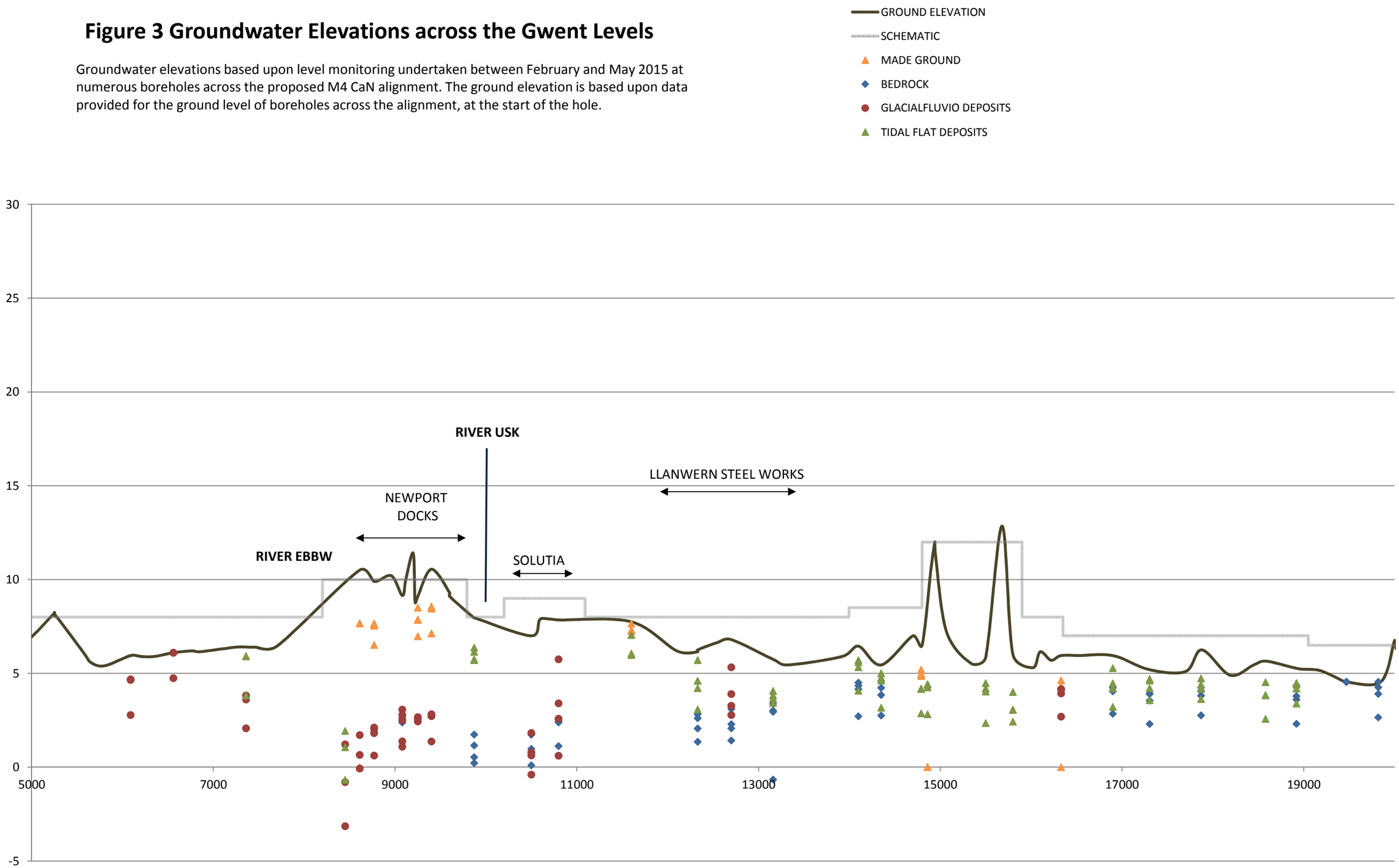
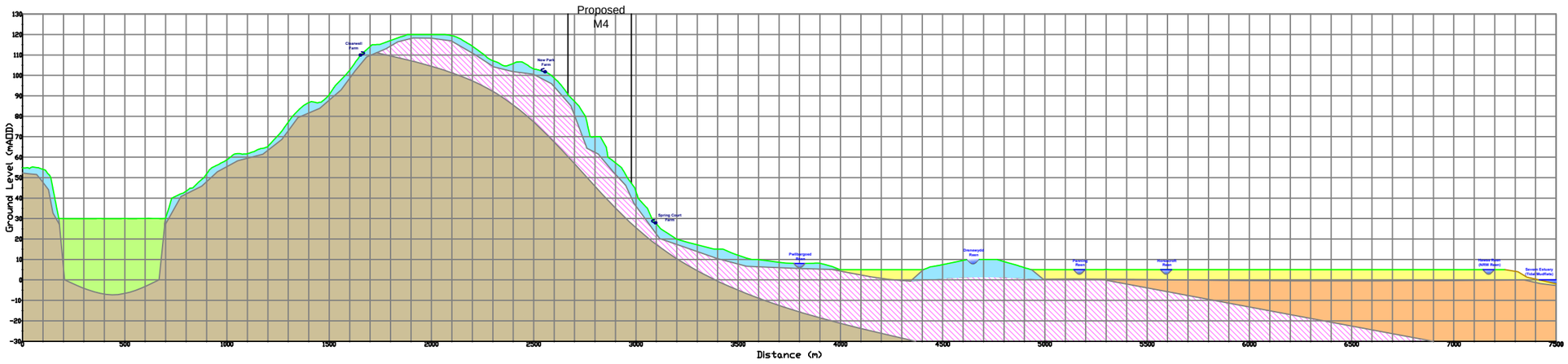
dwg ref: JER6591_Figure2_WFDWaterBodies

dwg ref: JER6591_Figure2_WFDWaterBodies Contains Ordnance Survey data © Crown copyright and database right 2015

Figure 3 Groundwater Elevations across the Gwent Levels

Groundwater elevations based upon level monitoring undertaken between February and May 2015 at numerous boreholes across the proposed M4 CaN alignment. The ground elevation is based upon data provided for the ground level of boreholes across the alignment, at the start of the hole.





Vertical Exaggeration of 10:1

Legend

- Topsoil
- Glacial Till Deposits - GTD
- Alluvium - AL
- Tidal Flat Deposits - TFD
- Raglan Mudstone Formation - RMF
- St. Maughan's Formation - SMF
- Mercia Mudstone Group - MMG
- Watercourse / Reen
- Spring Water Abstraction

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Appendix 16.2

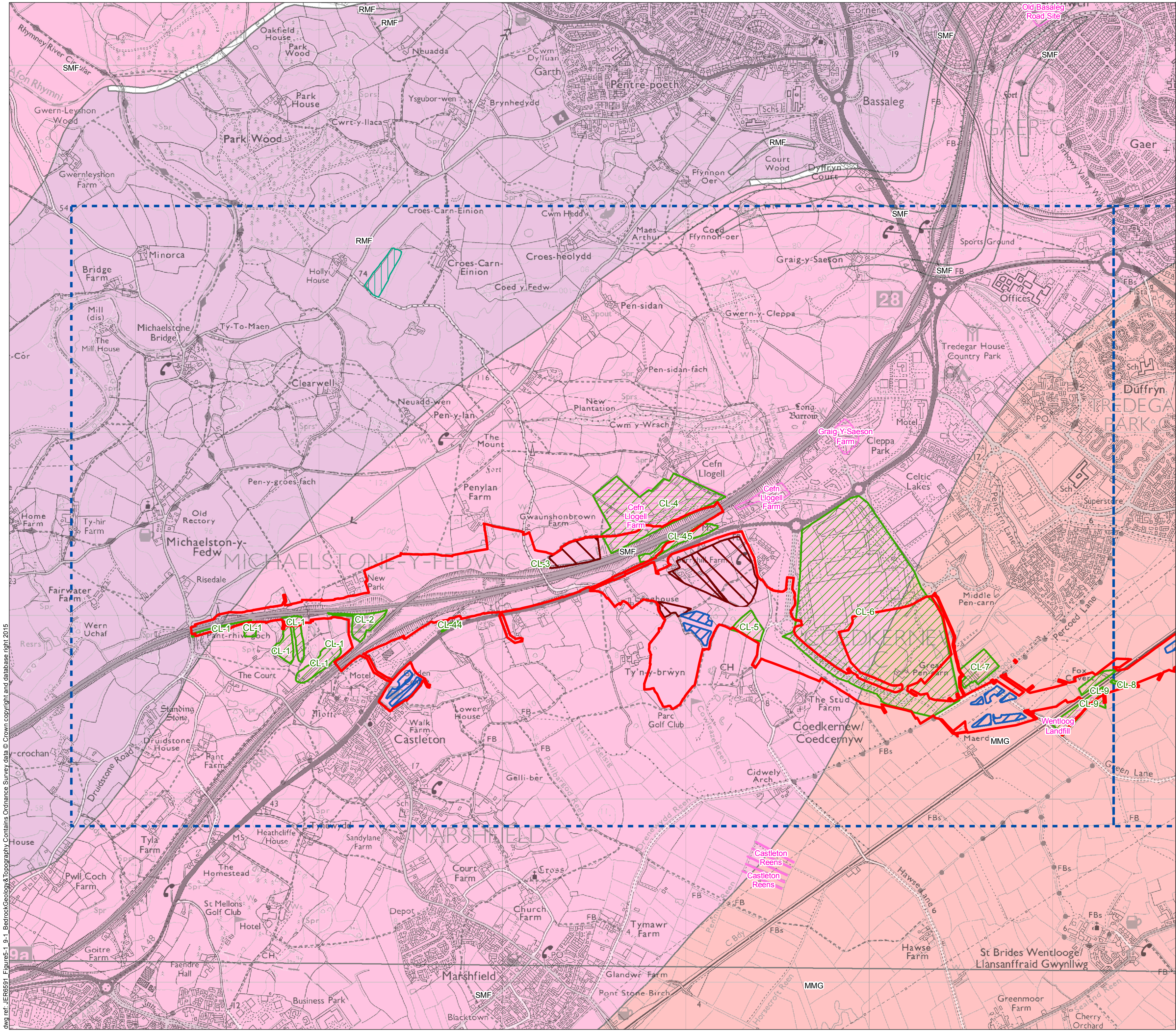
Hydrogeological Cross Section for Private Water Users

Figure: 4	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Not to Scale

dwg ref:JER6591_Figure4_HydrogeologicalCrossSection

dwg ref:JER6591_Figure4_HydrogeologicalCrossSection



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Potential Area of Land Contamination
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Bedrock Geology

- Mercia Mudstone Group (MMG)
- Raglan Mudstone Formation (RMF)
- St. Maughan's Formation (SMF)

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Welsh Government

Appendix 16.2

Bedrock Geology & Topography

Figure: 5.1	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:20,000 — 0, 330, 660 m — N

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dwg ref: JER6591_Figure5-1_9-1_BedrockGeology&Topography

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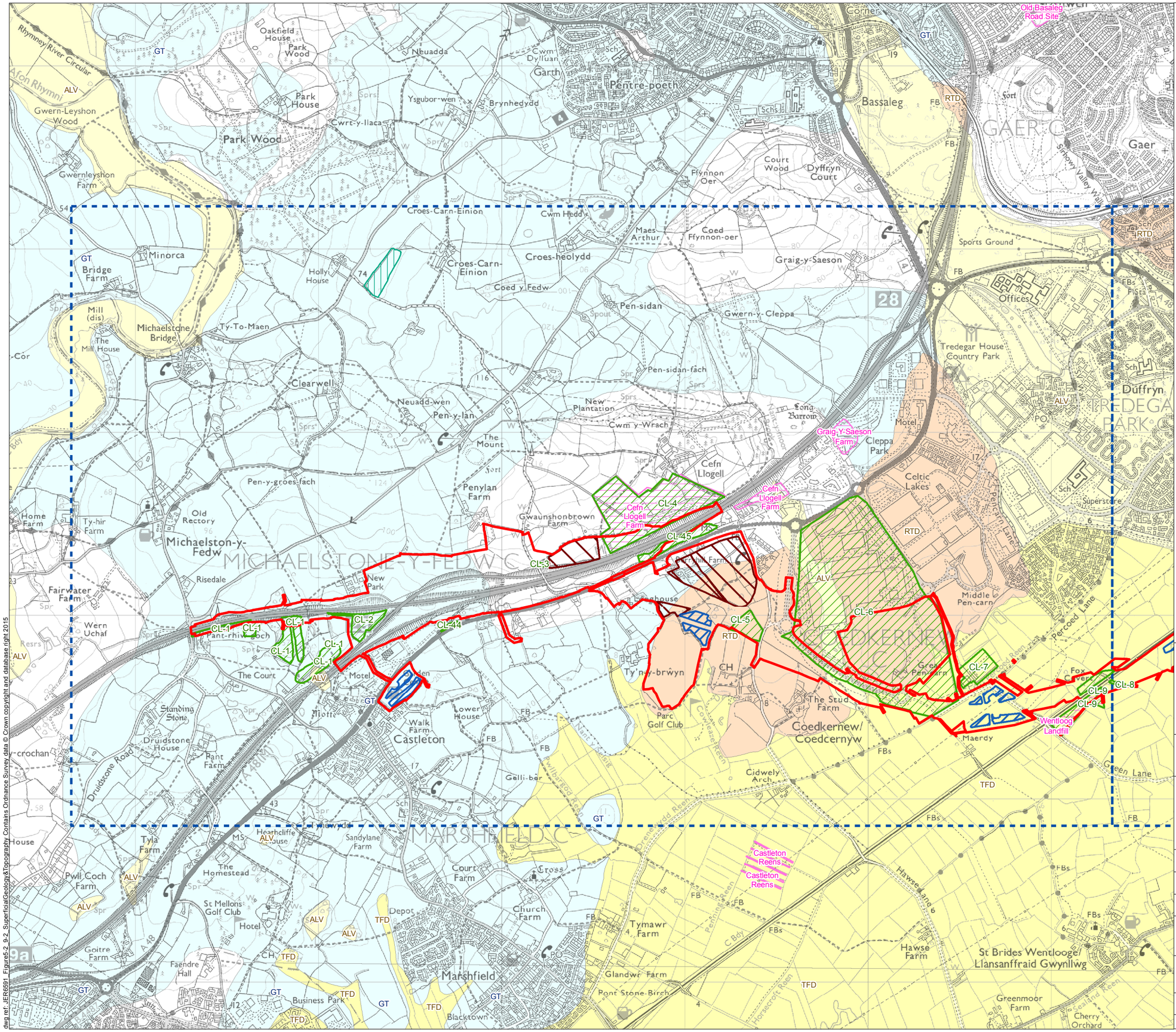

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Potential Borrow Pit Area
- Drainage Zone
- Potential Area of Land Contamination
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Superficial Geology

- Alluvium (ALV)
- Glacial Till (GT)
- Head (HD)
- River Terrace Deposits (RTD)
- Tidal Flat Deposits (TFD)

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Welsh Government

Appendix 16.2

Superficial Geology & Topography

Figure: 5.2	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:20,000
0 330 660 m

N

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dwg ref: JER6591_Figure5-2_9-2_SuperficialGeology&Topography

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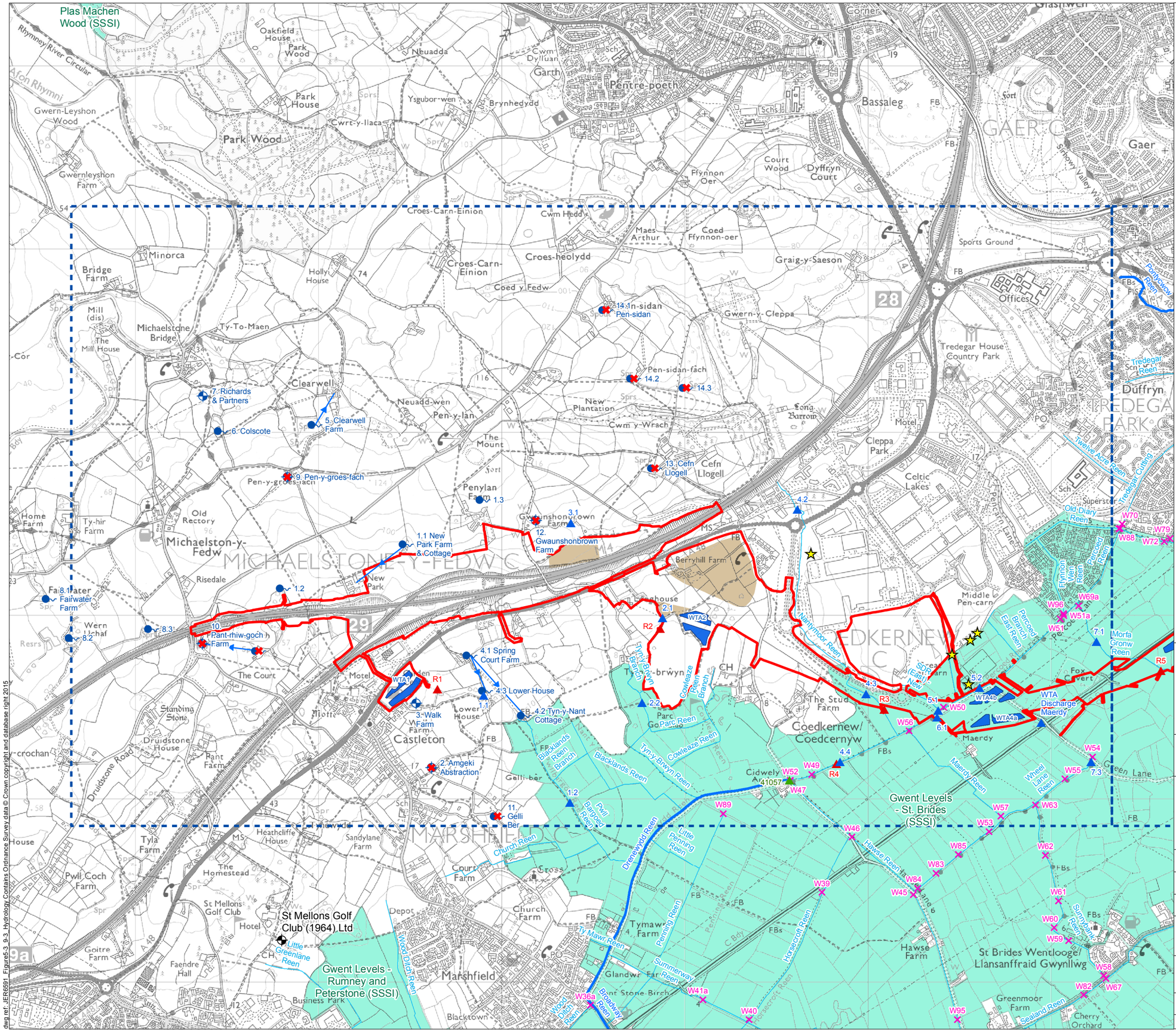

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen
- Sluice
- NRW Discharge Consent
- NRW Groundwater Abstraction License

Surface Water Monitoring Locations

- RPS (2015/16)
- Titan Surveys (2008)
- NRW (Ongoing)

Water Abstractions

- Well
- Spring
- Well (No Longer In Use)
- Spring (Not Used)
- Indicative Hydrogeological Connectivity

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Welsh Government

Environmental Statement

Hydrology

Figure: 5.3	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:20,000
0 330 660m

N

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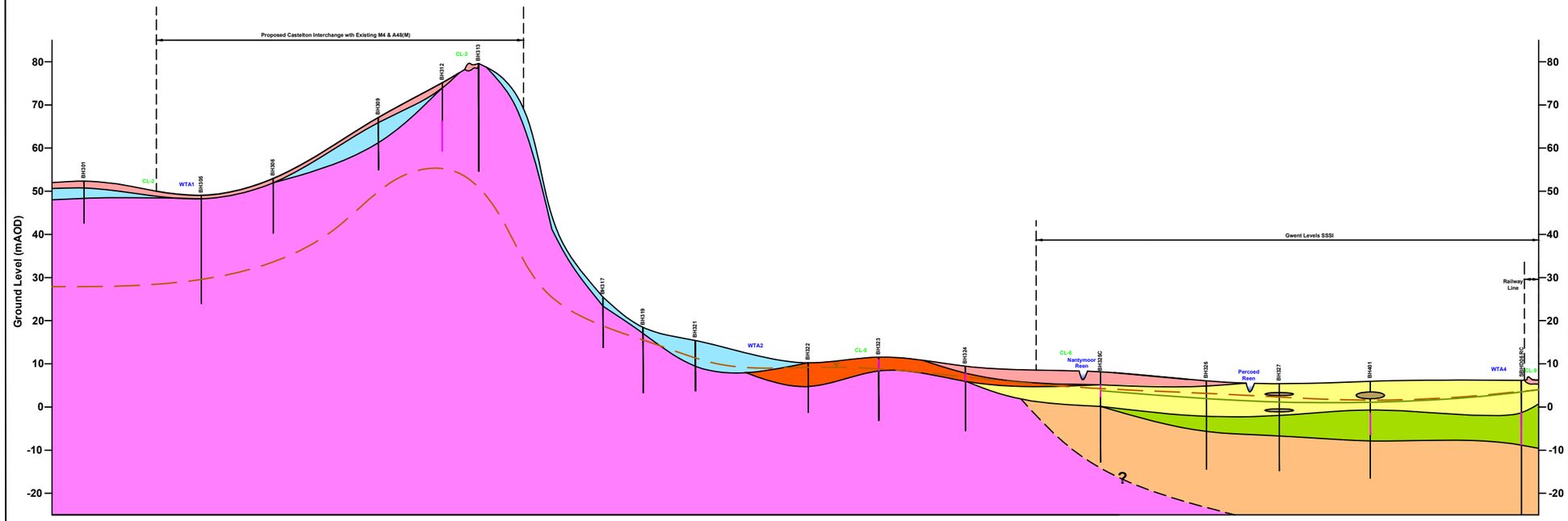

Legend

- Made Ground - MG
- Glacial Till Deposits - GTD
- Glaciofluvial Deposits - GFD
- River Terrace Deposits - RTD
- Tidal Flat Deposits - TFD
- Peat
- Mercia Mudstone - MM
- St. Maughan's Formation - SMF
- Inferred Potentiometric Surface for MM / SMF
- Potentiometric Surface for GFD
- Borehole
- Response Zone

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Welsh Government

Appendix 16.2

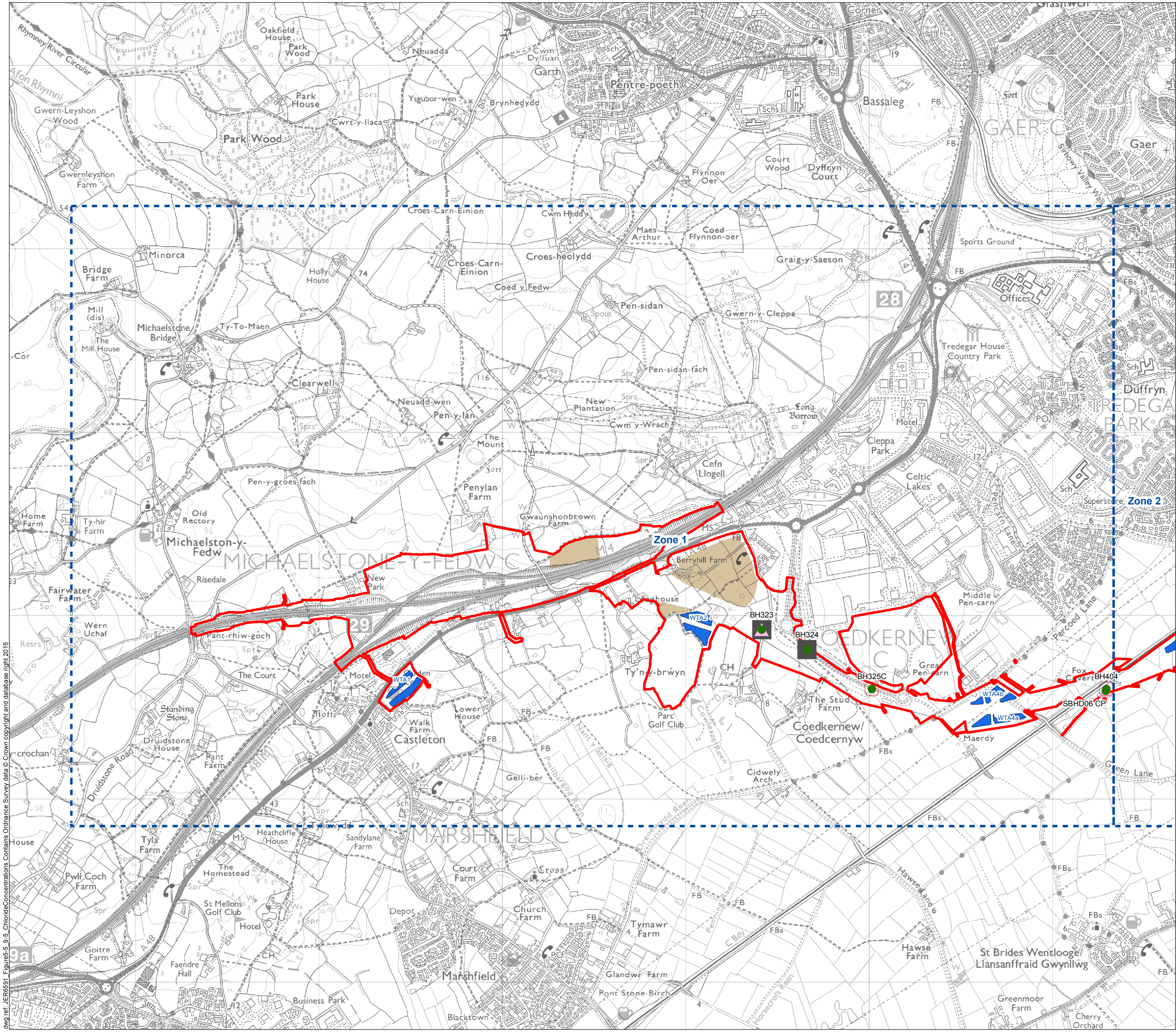
Conceptual Hydrogeological Model

Figure: 5.4	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Not to Scale

dwg ref:JER6591_Figure5-4_ConceptualHydrogeologicalModel

dwg ref: JER6591_Figure5-4_ConceptualHydrogeologicalModel



dwg ref: JER6591_Figure5-5_9-5_ChlorideConcentrations Contains Ordnance Survey data © Crown copyright and database right 2015

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Potential Borrow Pit Area
- Drainage Zone

Average Chloride Concentration (mg/l)

- <250

Target Aquifer

- River Terrace Deposits
- Bedrock
- Uncertain

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Chloride Concentrations
(Groundwater)

Figure: 5.5	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:20,000
0 330 660m
N

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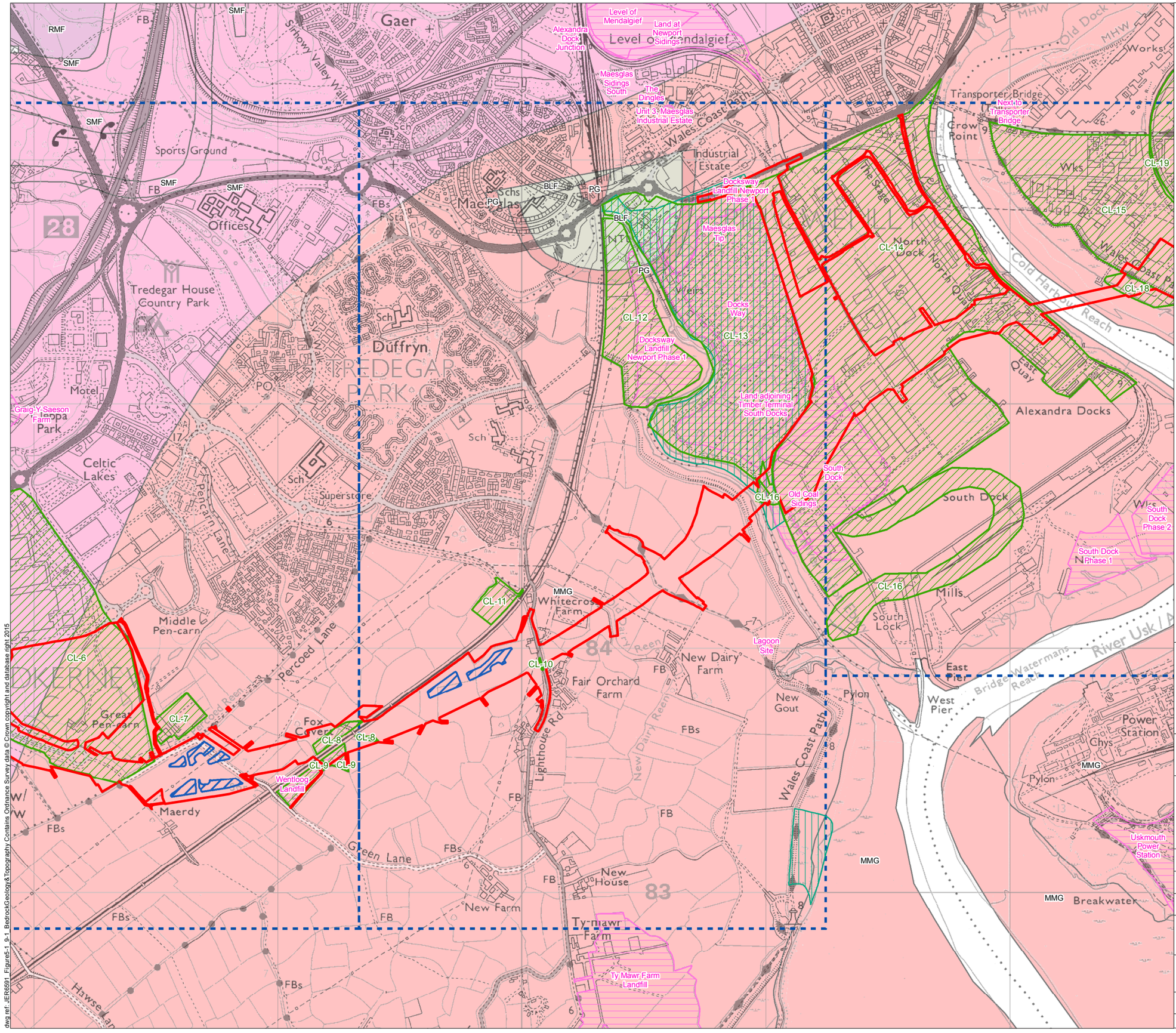
dwg ref: JER6591_Figure5-5_9-5_ChlorideConcentrations



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- Potential Area of Land Contamination
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Bedrock Geology

- Blue Lias Formation (BLF)
- Mercia Mudstone Group (MMG)
- Penarth Group (PG)
- Raglan Mudstone Formation (RMF)
- St. Maughan's Formation (SMF)

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Welsh Government

Appendix 16.2

Bedrock Geology & Topography

Figure: 6.1	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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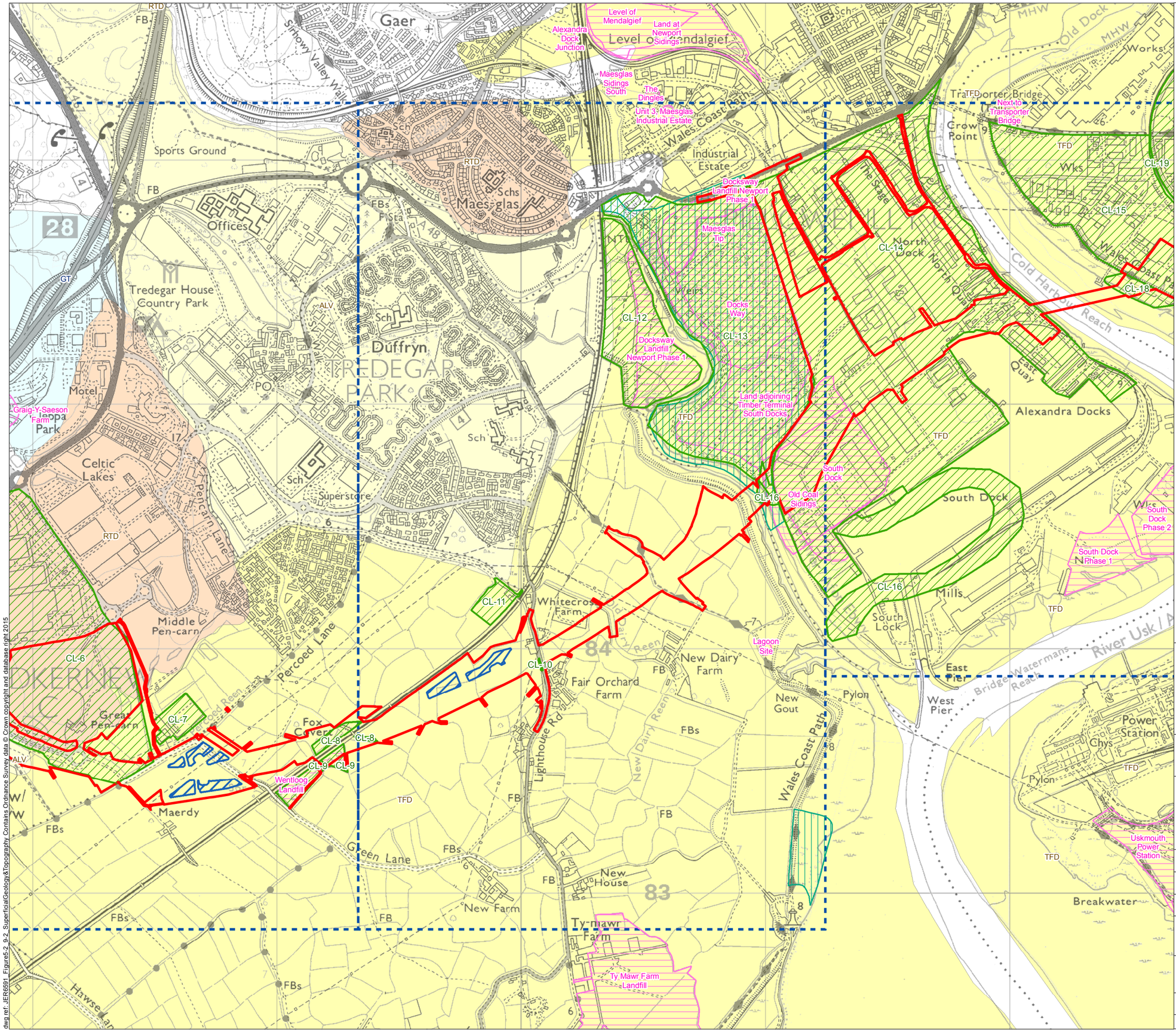

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Drainage Zone
- Potential Area of Land Contamination
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Superficial Geology

- Alluvium (ALV)
- Glacial Till (GT)
- Head (HD)
- River Terrace Deposits (RTD)
- Tidal Flat Deposits (TFD)

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Welsh Government

Appendix 16.2

Superficial Geology & Topography

Figure: 6.2	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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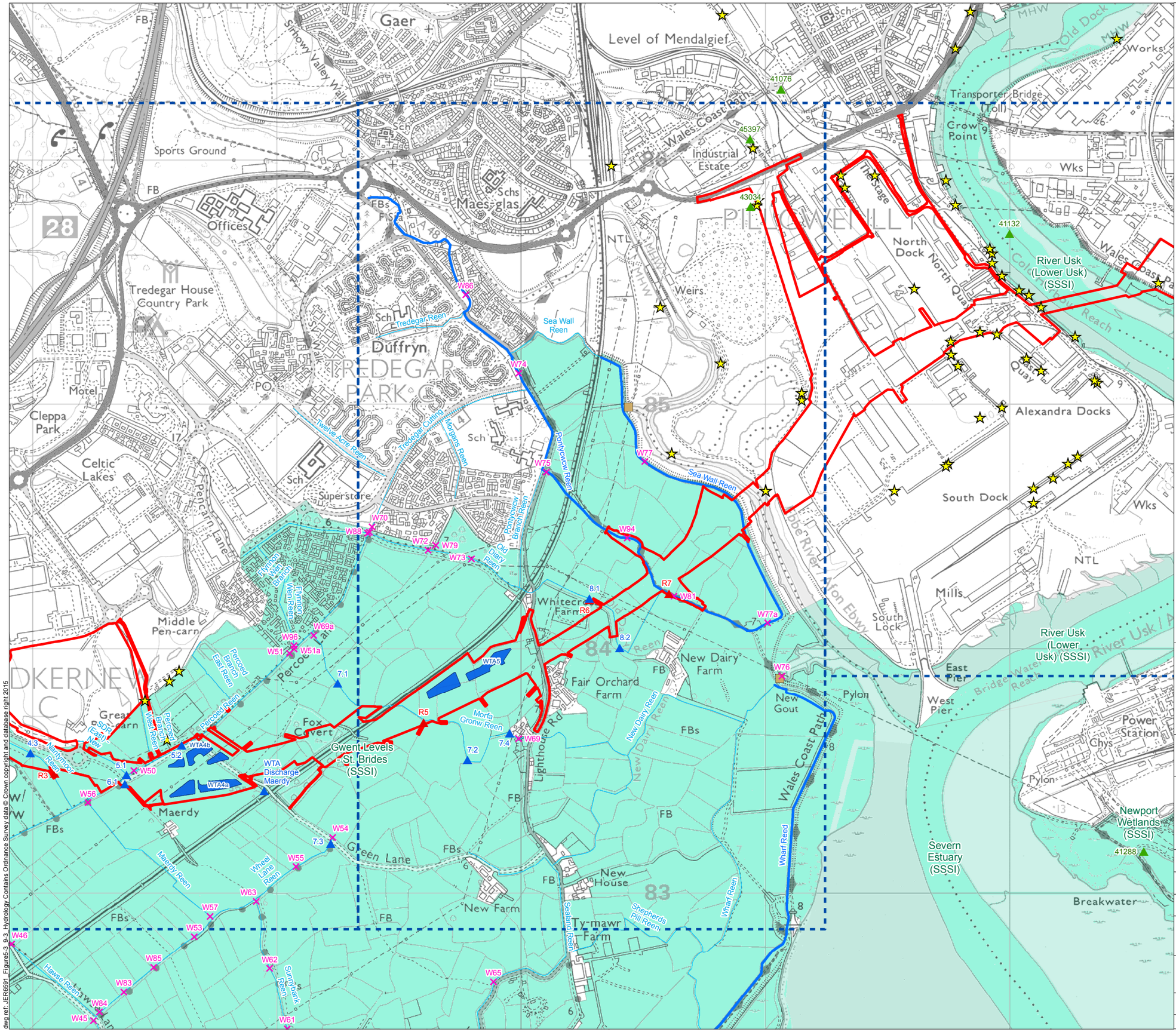

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen
- Sluice
- Tidal Flap
- NRW Discharge Consent

Surface Water Monitoring Locations

- RPS (2015/16)
- Titan Surveys (2008)
- NRW (Ongoing)

Environmental Statement

Hydrology

Figure: 6.3	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000

0 250 500 m

N

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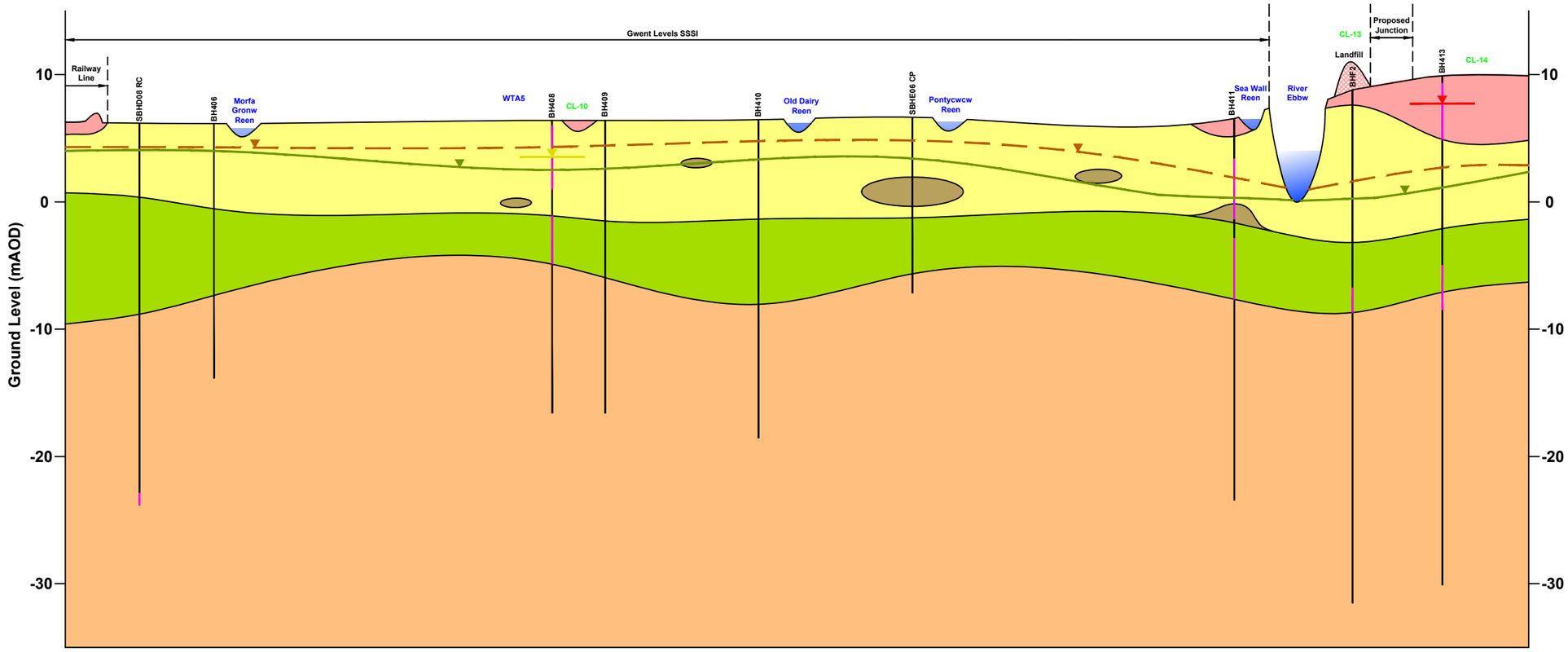

Legend

- Made Ground - MG
- Glaciofluvial Deposits - GFD
- Tidal Flat Deposits - TFD
- Peat
- Mercia Mudstone - MM
- Inferred Potentiometric Surface for MM
- Potentiometric Surface for GFD
- Perched Groundwater in TFD
- Perched Groundwater in MG
- Borehole
- Response Zone

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Welsh Government

Appendix 16.2

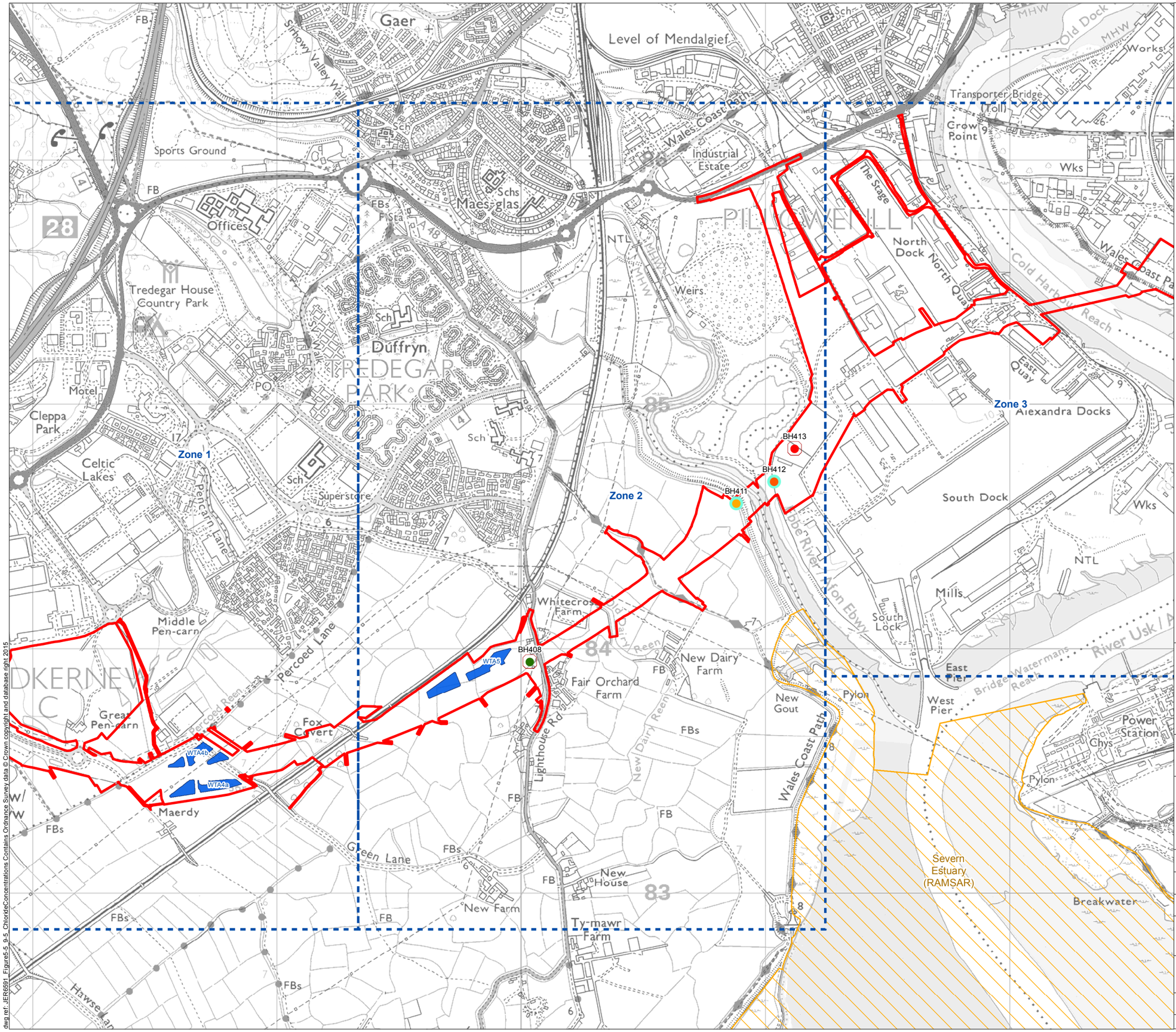
Conceptual Hydrogeological Model

Figure: 6.4	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Not to Scale

dwg ref:JER6591_Figure6-4_ConceptualHydrogeologicalModel

dwg ref: JER6591_Figure6-4_ConceptualHydrogeologicalModel



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Drainage Zone
- RAMSAR

Average Chloride Concentration (mg/l)

- <250
- 750-1,000
- 1,000-2,500
- 2,500-5,000

Target Aquifer

- Glaciofluvial Deposits
- Uncertain

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Chloride Concentrations (Groundwater)

Figure: 6.5	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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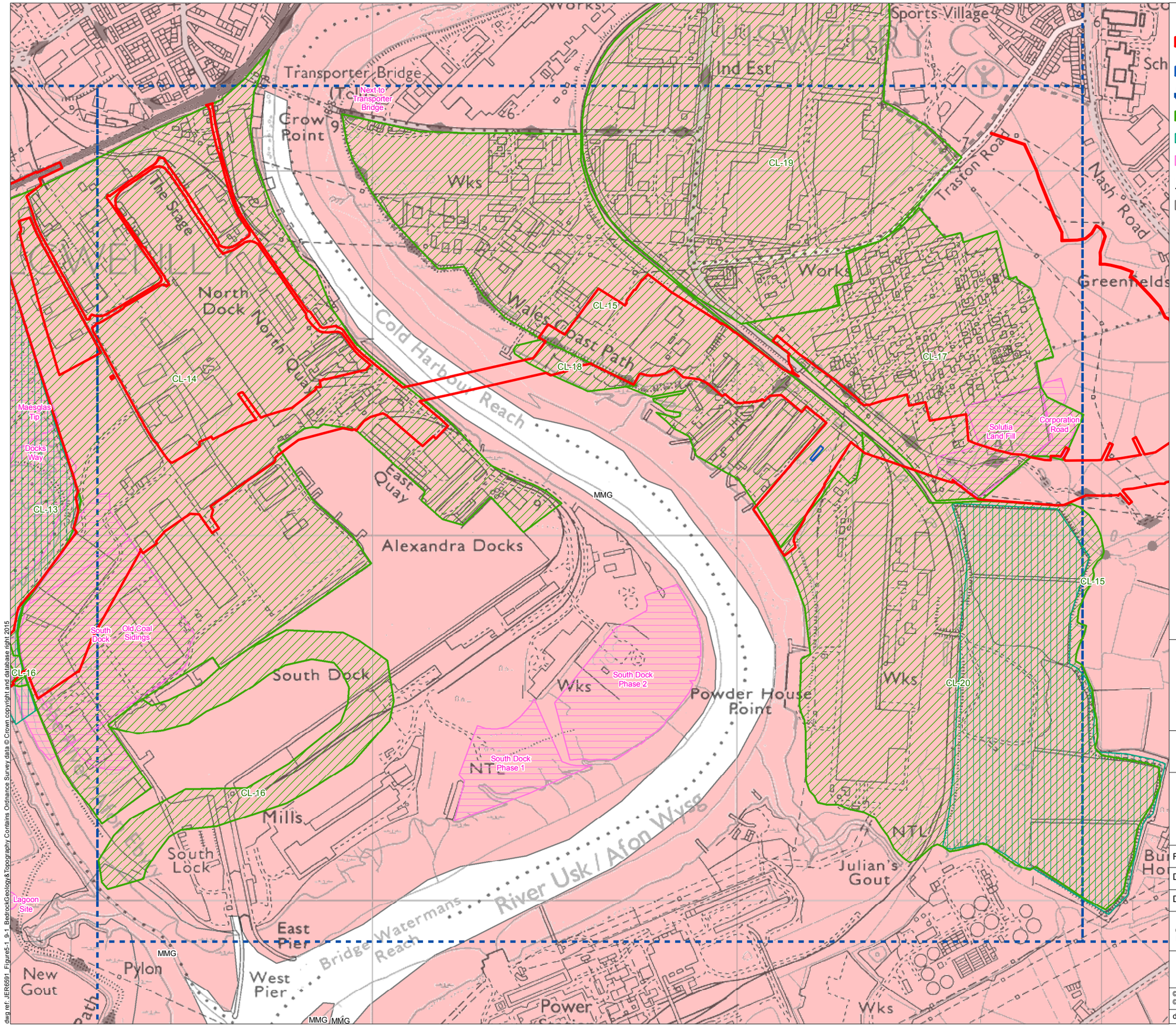

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Drainage Zone
- Potential Area of Land
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Bedrock Geology

- Mercia Mudstone Group (MMG)

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Welsh Government

Appendix 16.2

Bedrock Geology & Topography

Figure: 7.1	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:10,000
0 165 330 m

N

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dwg ref: JER6591_Figure5-1_9-1_BedrockGeology&Topography

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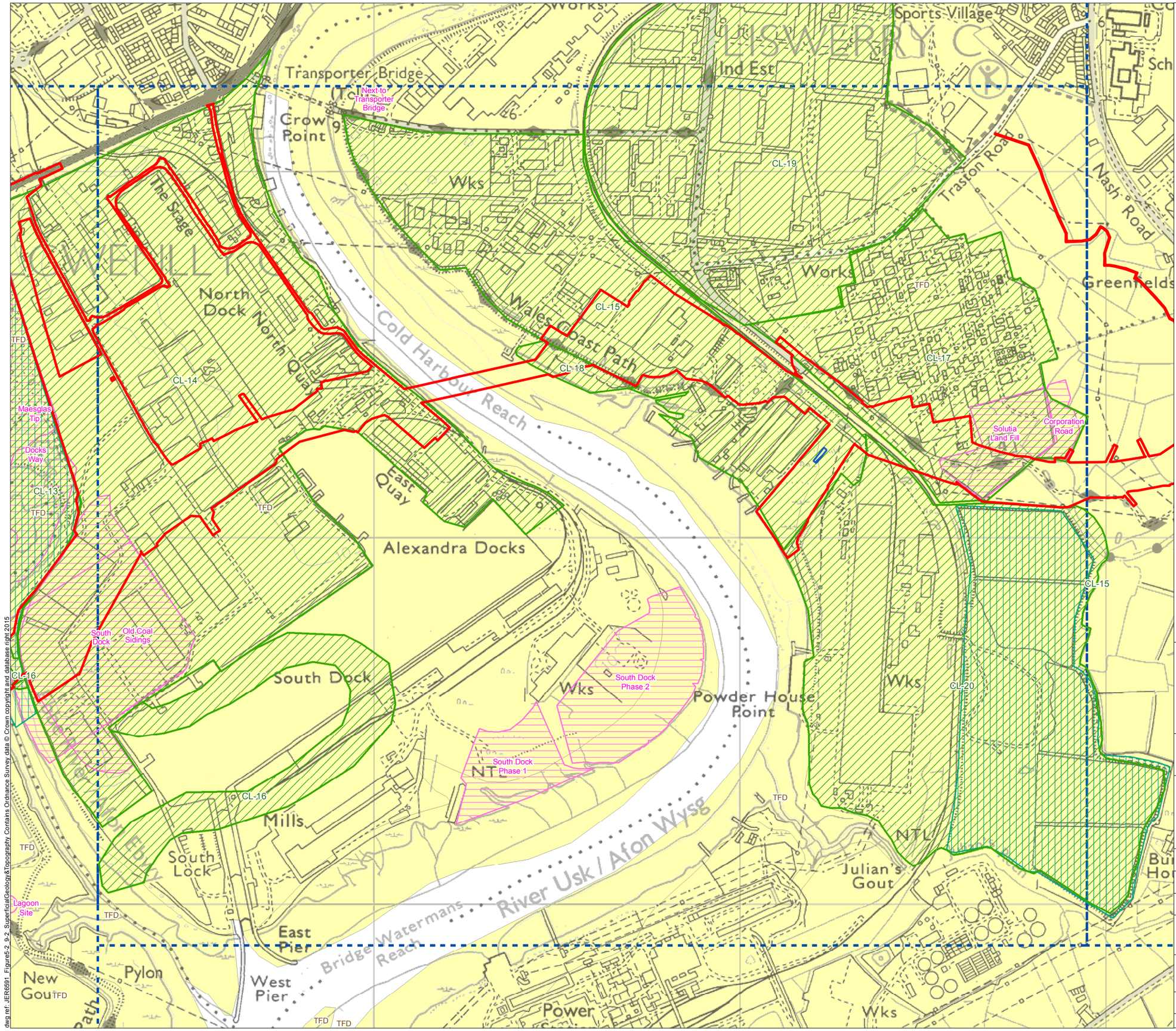

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Drainage Zone
- Potential Area of Land
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Superficial Geology

- Alluvium (ALV)
- Glacial Till (GT)
- Head (HD)
- River Terrace Deposits (RTD)
- Tidal Flat Deposits (TFD)

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Superficial Geology & Topography

Figure: 7.2	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:10,000
0 165 330 m

N

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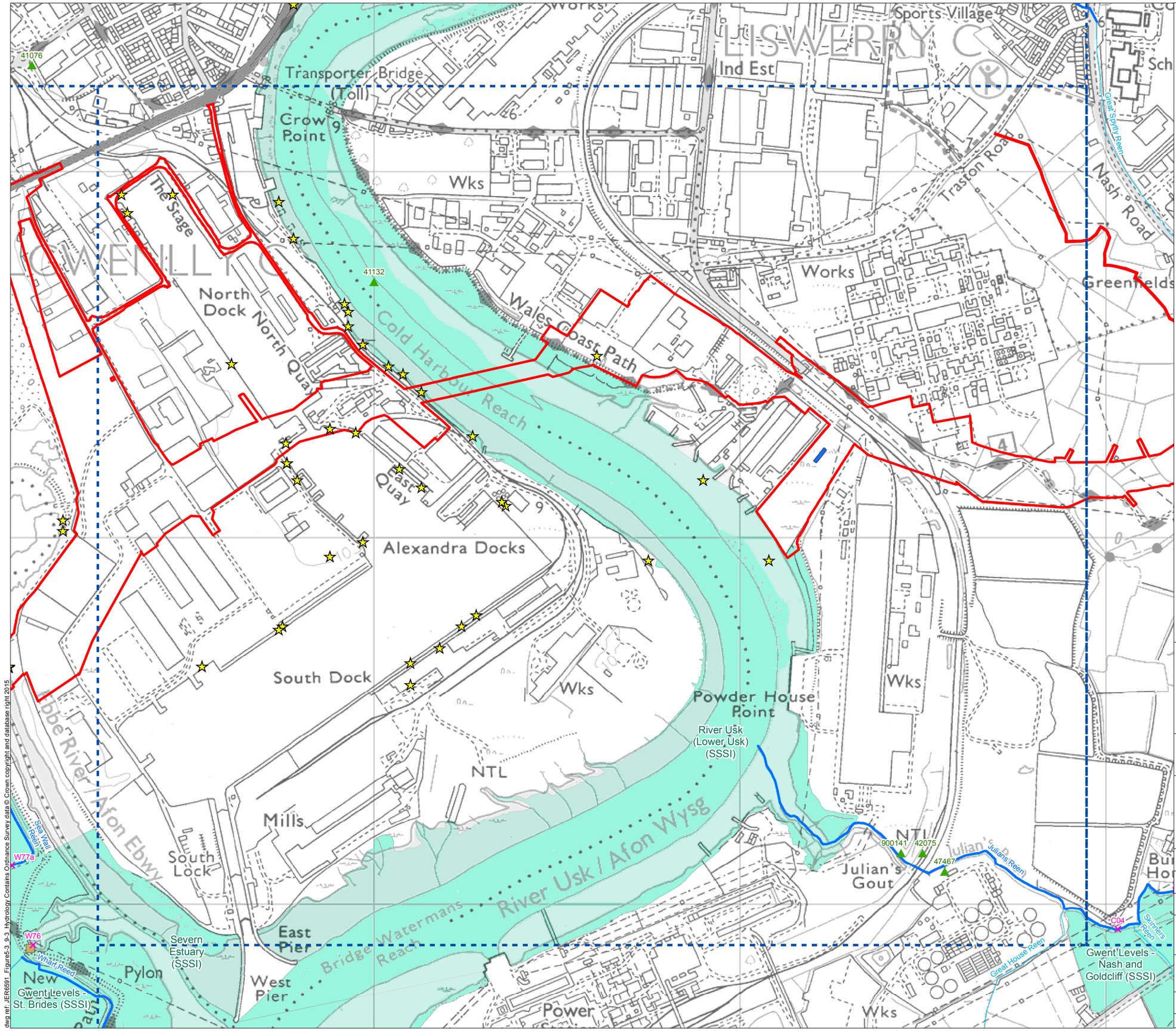

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen
- Sluice
- Tidal Flap
- NRW Discharge Consent
- NRW (Ongoing)

Llywodraeth Cymru
Welsh Government

Environmental Statement

Hydrology

Figure: 7.3	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:10,000
0 165 330 m

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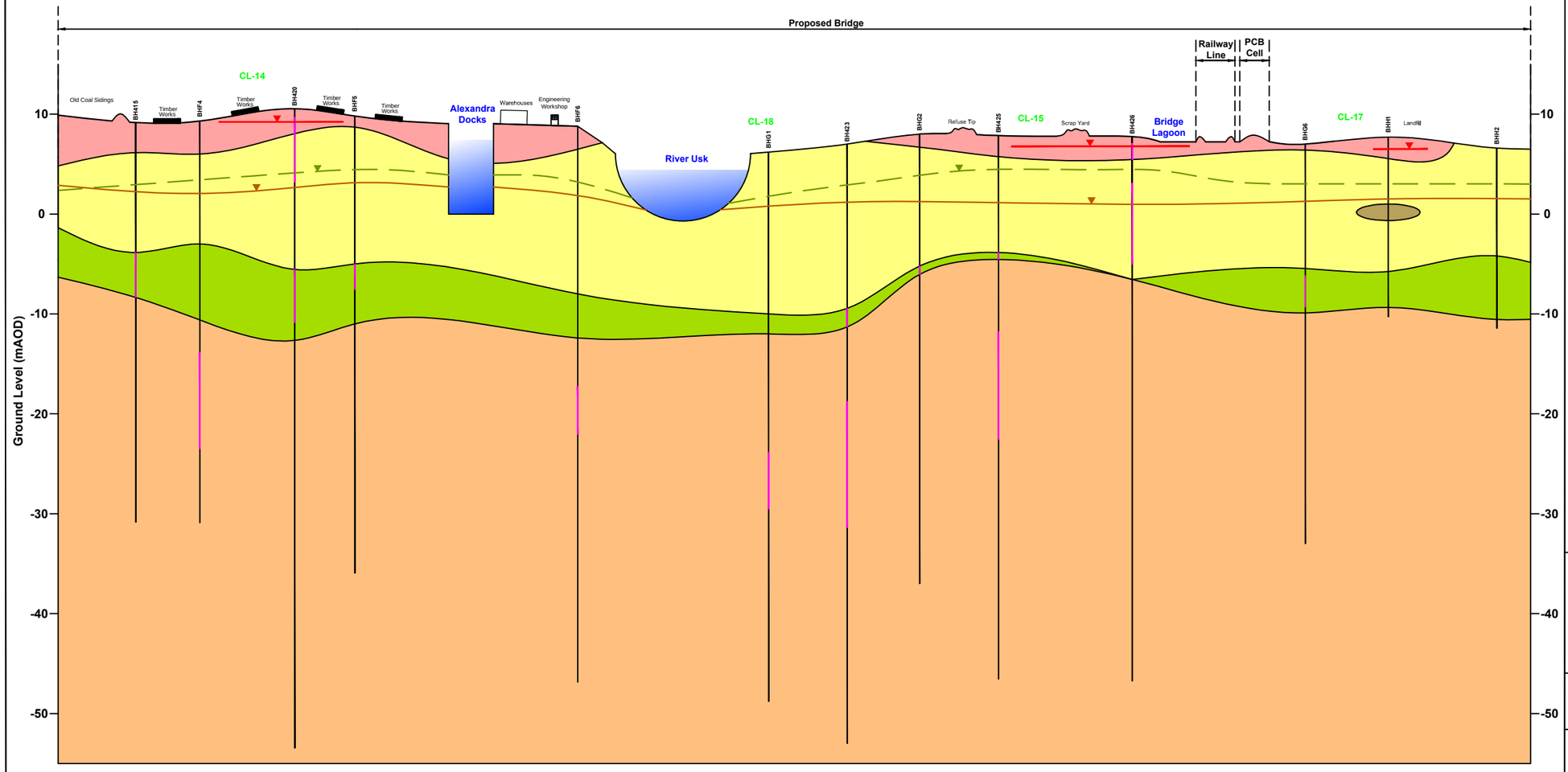

Legend

- Made Ground - MG
- Glaciofluvial Deposits - GFD
- Tidal Flat Deposits - TFD
- Peat
- Mercia Mudstone - MM
- Inferred Potentiometric Surface for MM
- Potentiometric Surface for GFD
- Perched Groundwater in MG
- Borehole
- Response Zone

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Conceptual Hydrogeological Model

Figure: 7.4	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Not to Scale

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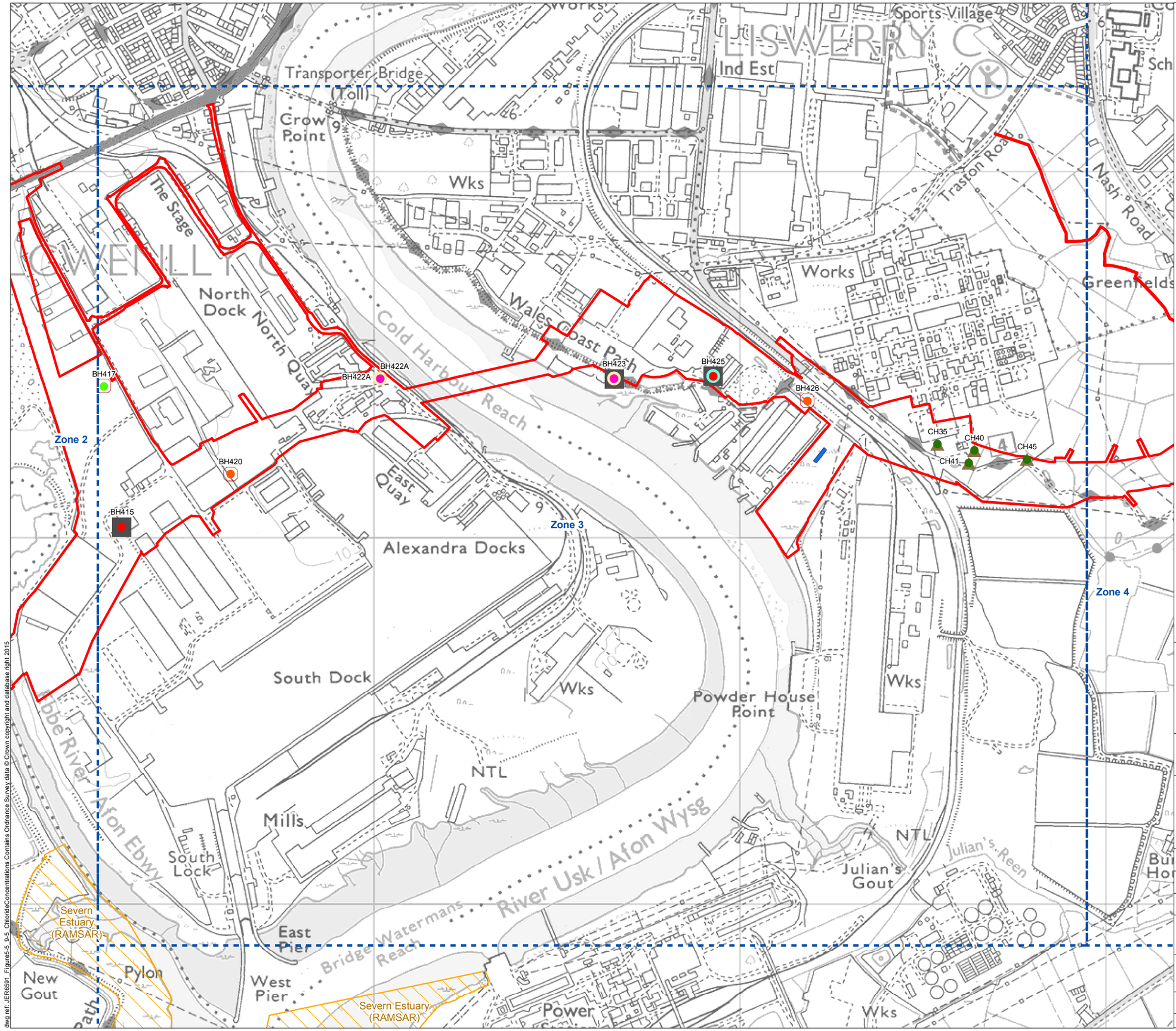

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Drainage Zone
- RAMSAR

Average Chloride Concentration (mg/l)

- <250
- 250-500
- 1,000-2,500
- 2,500-5,000
- >5,000

Target Aquifer

- Made Ground
- Tidal Flat Deposits (including Peat)
- Glaciofluvial Deposits
- Bedrock
- Uncertain

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Chloride Concentrations (Groundwater)

Figure: 7.5	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:10,000
0 165 330 m
N

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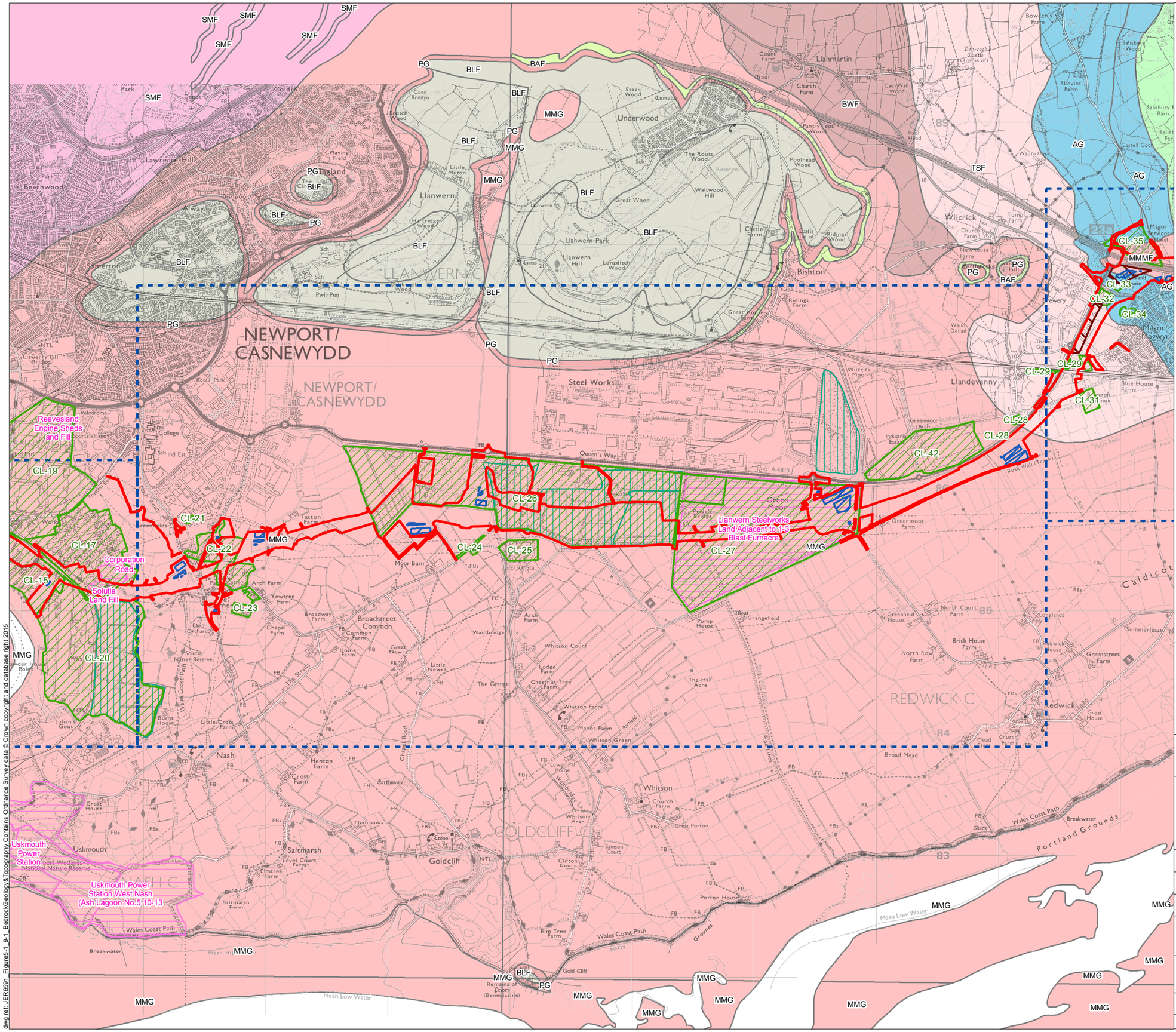

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Potential Borrow Pit Area
- Drainage Zone
- Potential Area of Land Contamination
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Bedrock Geology

- Avon Group (AG)
- Black Rock Limestone (BRL)
- Blue Anchor Formation (BAF)
- Blue Lias Formation (BLF)
- Brownstones Formation (BWF)
- Mercia Mudstone Group (MMG)
- Mercia Mudstone Group (Marginal Facies) (MMMF)
- Penarth Group (PG)
- St. Maughan's Formation (SMF)
- Tintern Sandstone Formation (TSF)

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Welsh Government

Appendix 16.2

Bedrock Geology & Topography

Figure: 8.1	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:30,000
0 500 1,000 m

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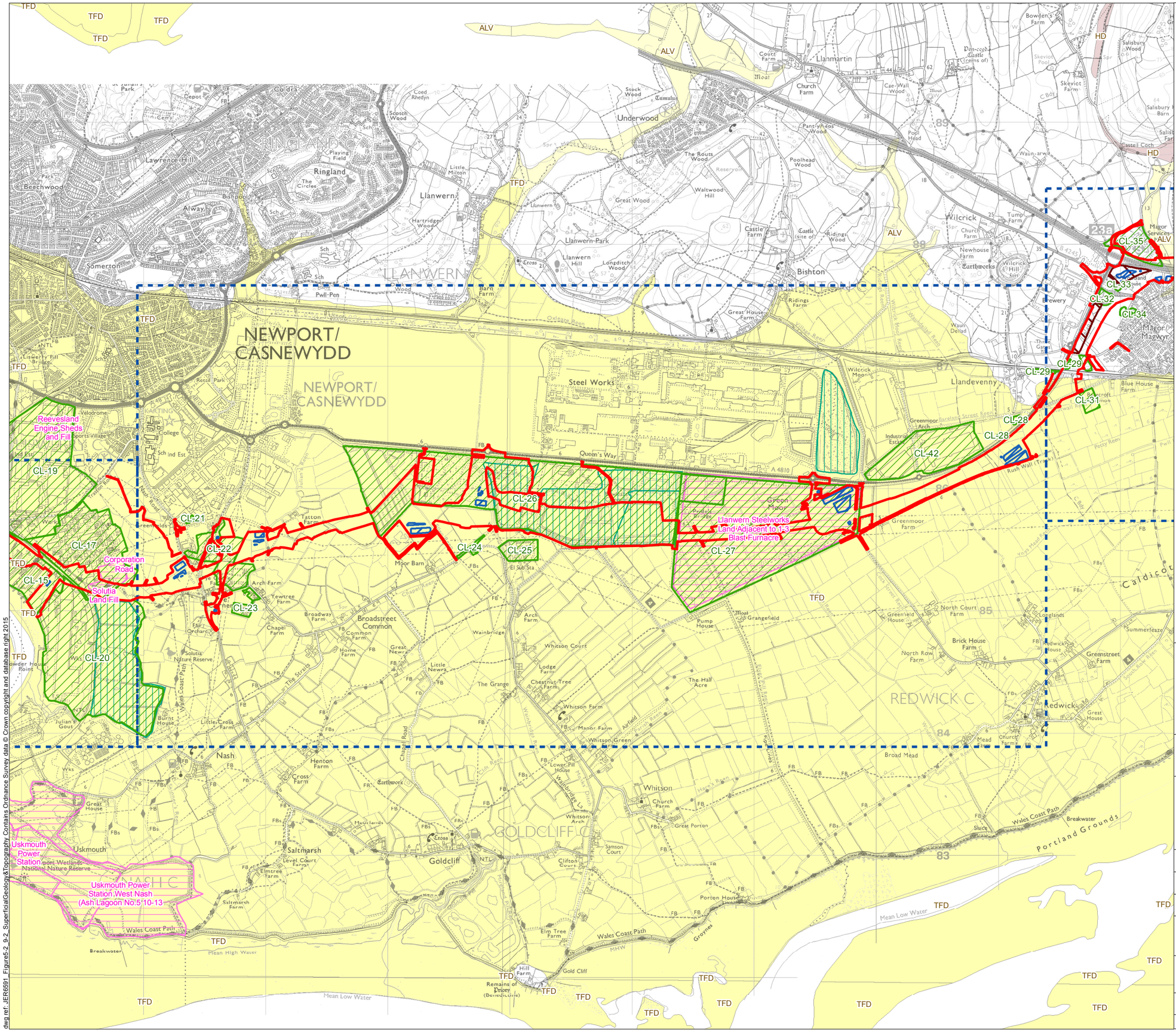

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Potential Area of Land Contamination
- Active Landfill Site
- Historical Landfill Site

BGS 1:50k Superficial Geology

- Alluvium (ALV)
- Glacial Till (GT)
- Head (HD)
- River Terrace Deposits (RTD)
- Tidal Flat Deposits (TFD)

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Superficial Geology & Topography

Figure: 8.2	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:30,000
0 500 1,000 m

N

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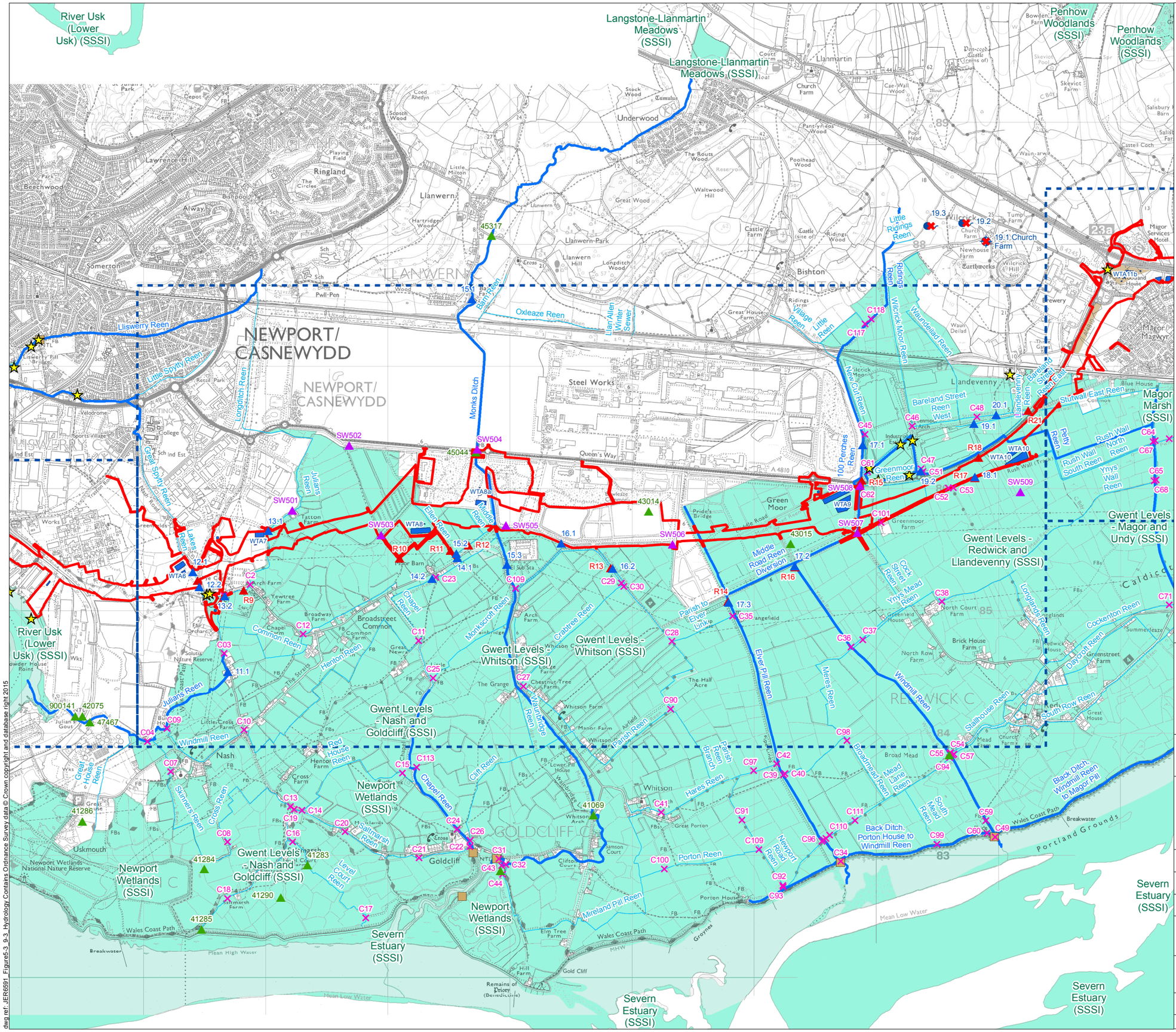

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Potential Borrow Pit Area
- Drainage Zone
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen
- Sluice
- Tidal Flap
- NRW Discharge Consent

Surface Water Monitoring Locations

- RPS (2015/16)
- Welsh Government (2015)
- Titan Surveys (2008)
- NRW (Ongoing)

Water Abstractions

- Well (No Longer In Use)
- Spring (Not Used)

Environmental Statement

Hydrology

Figure: 8.3	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:30,000

0 500 1,000 m

N

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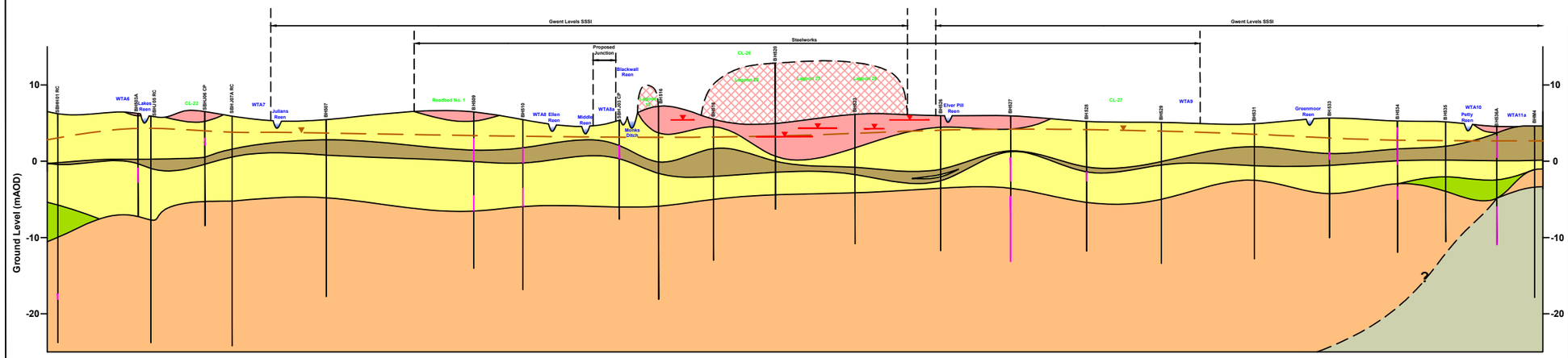

Legend

- Made Ground - MG
- Glaciofluvial Deposits - GFD
- Tidal Flat Deposits - TFD
- Peat
- Mercia Mudstone - MM
- Tintern Sandstone Group - TSG
- Potentiometric Surface for MM
- Potentiometric Surface for GFD
- Borehole
- Response Zone

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Conceptual Hydrogeological Model

Figure: 8.4	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Not to Scale

dwg ref:JER6591_Figure8-4_ConceptualHydrogeologicalModel

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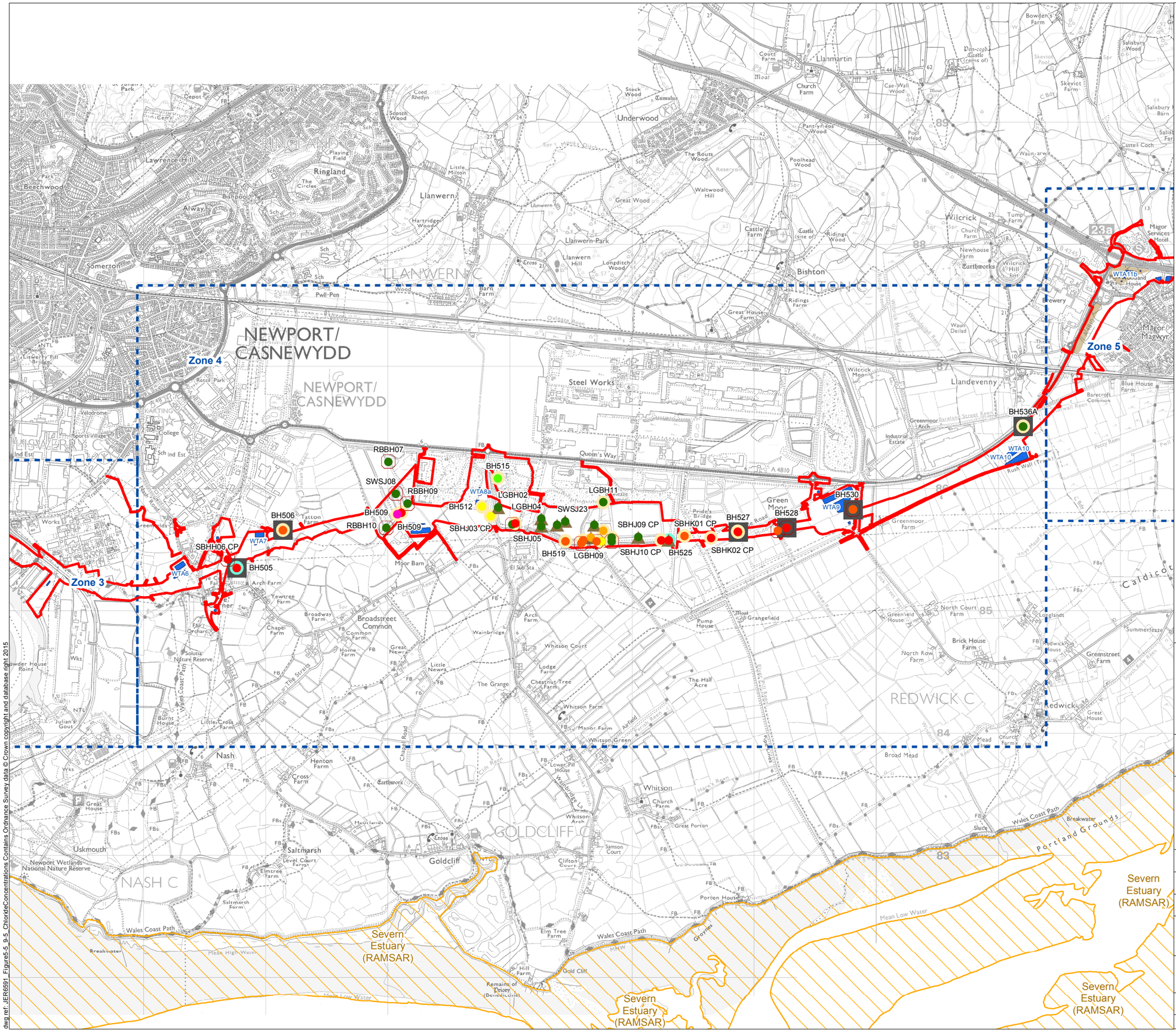

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- RAMSAR

Average Chloride Concentration (mg/l)

- <250
- 250-500
- 500-750
- 750-1,000
- 1,000-2,500
- 2,500-5,000
- >5,000

Target Aquifer

- Made Ground
- Tidal Flat Deposits (including Peat)
- Glaciofluvial Deposits
- Bedrock
- Uncertain

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Chloride Concentrations (Groundwater)

Figure: 8.5	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:30,000
0 500 1,000 m

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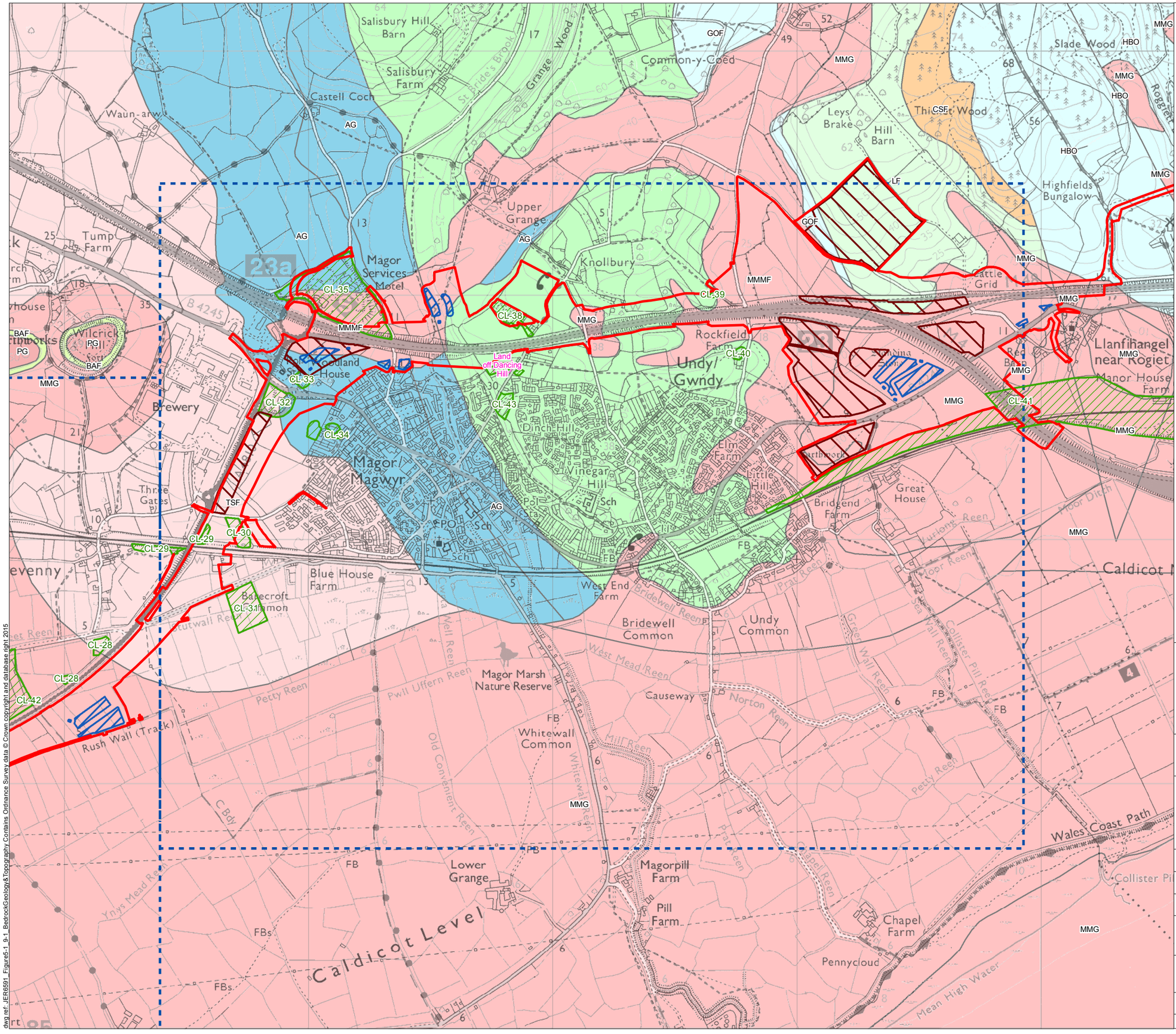

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Potential Area of Land Contamination
- Historical Landfill Site

BGS 1:50k Bedrock Geology

- Avon Group (AG)
- Black Rock Limestone (BRL)
- Blue Anchor Formation (BAF)
- Cromhall Sandstone Formation (CSF)
- Gully Oolite Formation (GOF)
- Hunts Bay Oolite (HBO)
- Llanelly Formation (LF)
- Mercia Mudstone Group (MMG)
- Mercia Mudstone Group (Marginal Facies) (MMMF)
- Penarth Group (PG)
- Tintern Sandstone Formation (TSF)

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Bedrock Geology & Topography

Figure: 9.1	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

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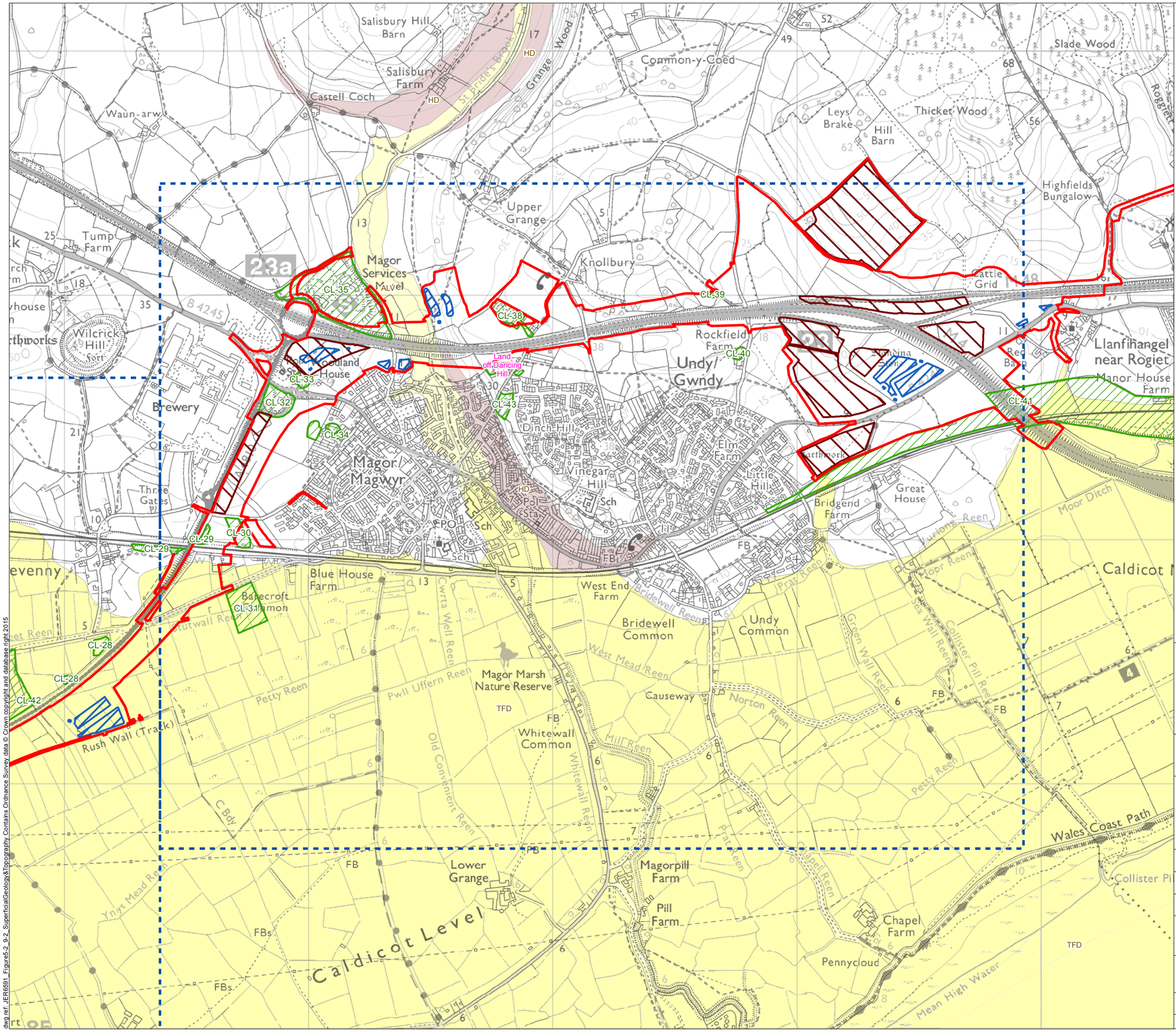

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Borrow Pit Area
- Drainage Zone
- Potential Area of Land Contamination
- Historical Landfill Site

BGS 1:50k Superficial Geology

- Alluvium (ALV)
- Glacial Till (GT)
- Head (HD)
- River Terrace Deposits (RTD)
- Tidal Flat Deposits (TFD)

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Welsh Government

Appendix 16.2

Superficial Geology & Topography

Figure: 9.2	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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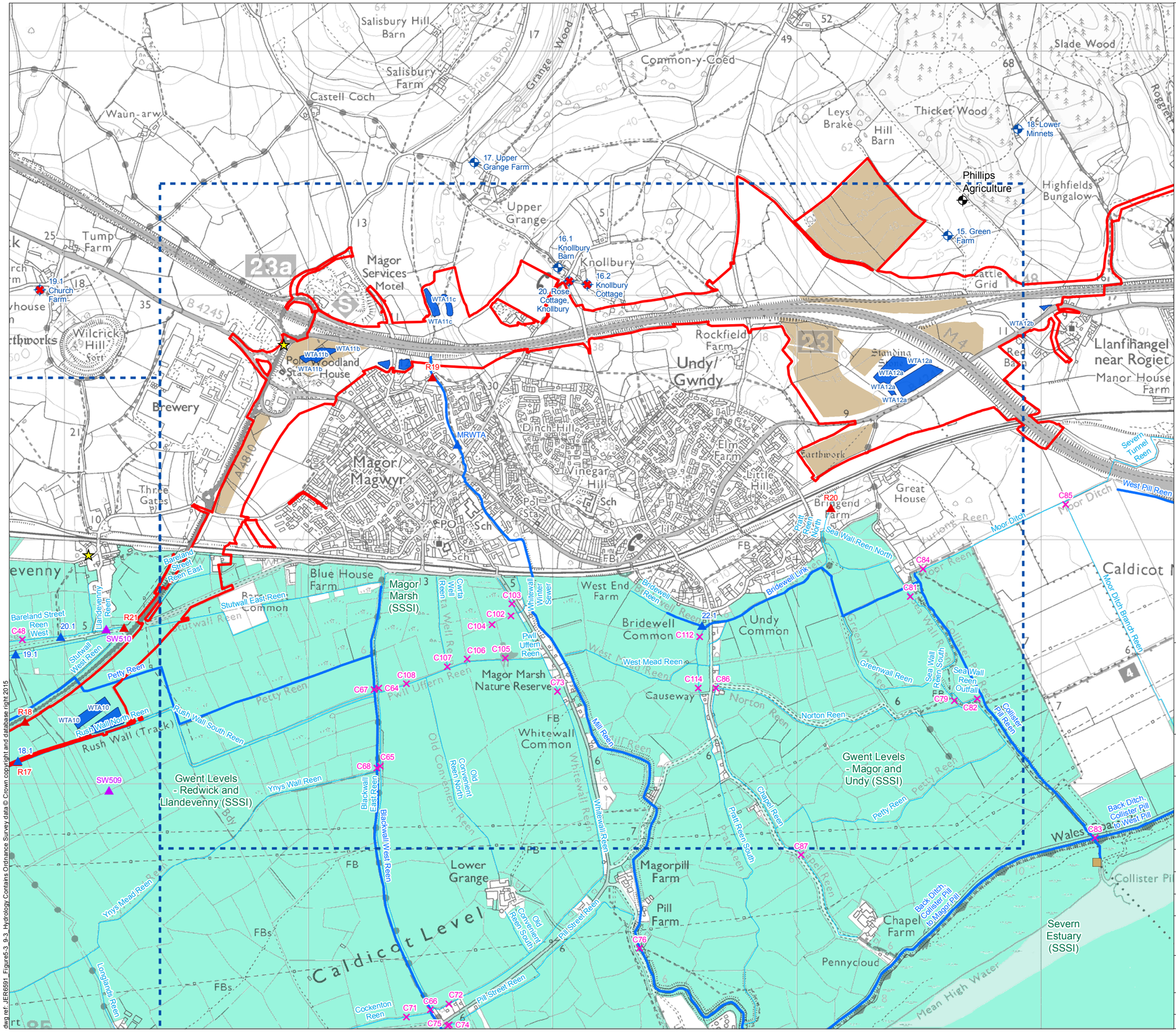

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Potential Borrow Pit Area
- Drainage Zone
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen
- Sluice
- Tidal Flap
- NRW Discharge Consent
- NRW Groundwater Abstraction License

Surface Water Monitoring Locations

- RPS (2015/16)
- Welsh Government (2015)
- Titan Surveys (2008)

Water Abstractions

- Well
- Well (No Longer In Use)

Llywodraeth Cymru
Welsh Government

Environmental Statement

Hydrology

Figure: 9.3	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

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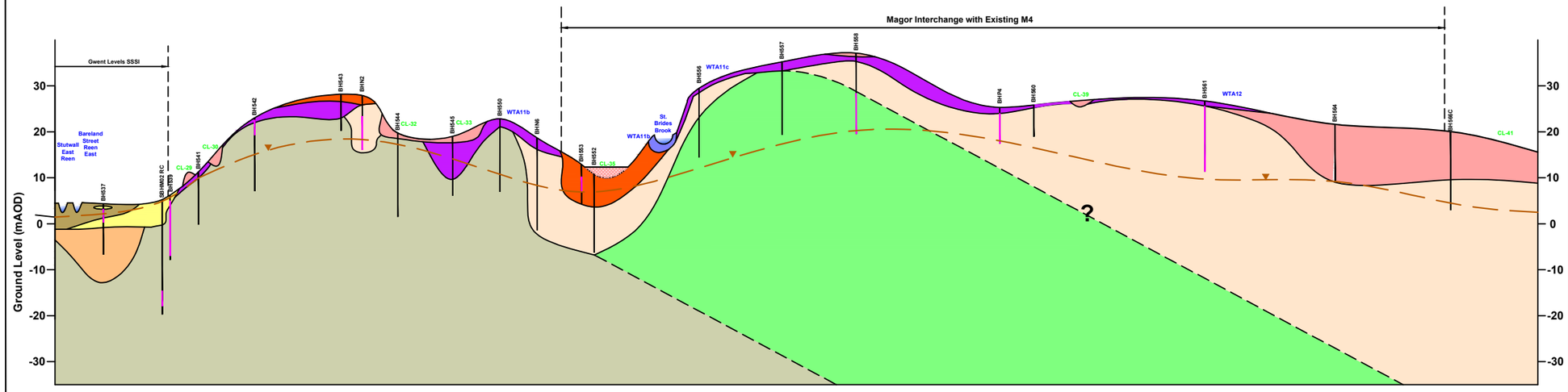


Legend

- Made Ground - MG
- Alluvium - AL
- Glaciofluvial Deposits - GFD
- Head Deposits - HD
- River Terrace Deposits - RTD
- Tidal Flat Deposits - TFD
- Peat
- Carboniferous Limestone - CL
- Mercia Mudstone - MM
- Mercia Mudstone (Marginal Facies) - MFMMG
- Tintern Sandstone Group - TSG
- Inferred Potentiometric Surface for MM/TSG/MFMMG/CL (Bedrock)
- Borehole
- Response Zone

Llywodraeth Cymru
Welsh Government

Appendix 16.2

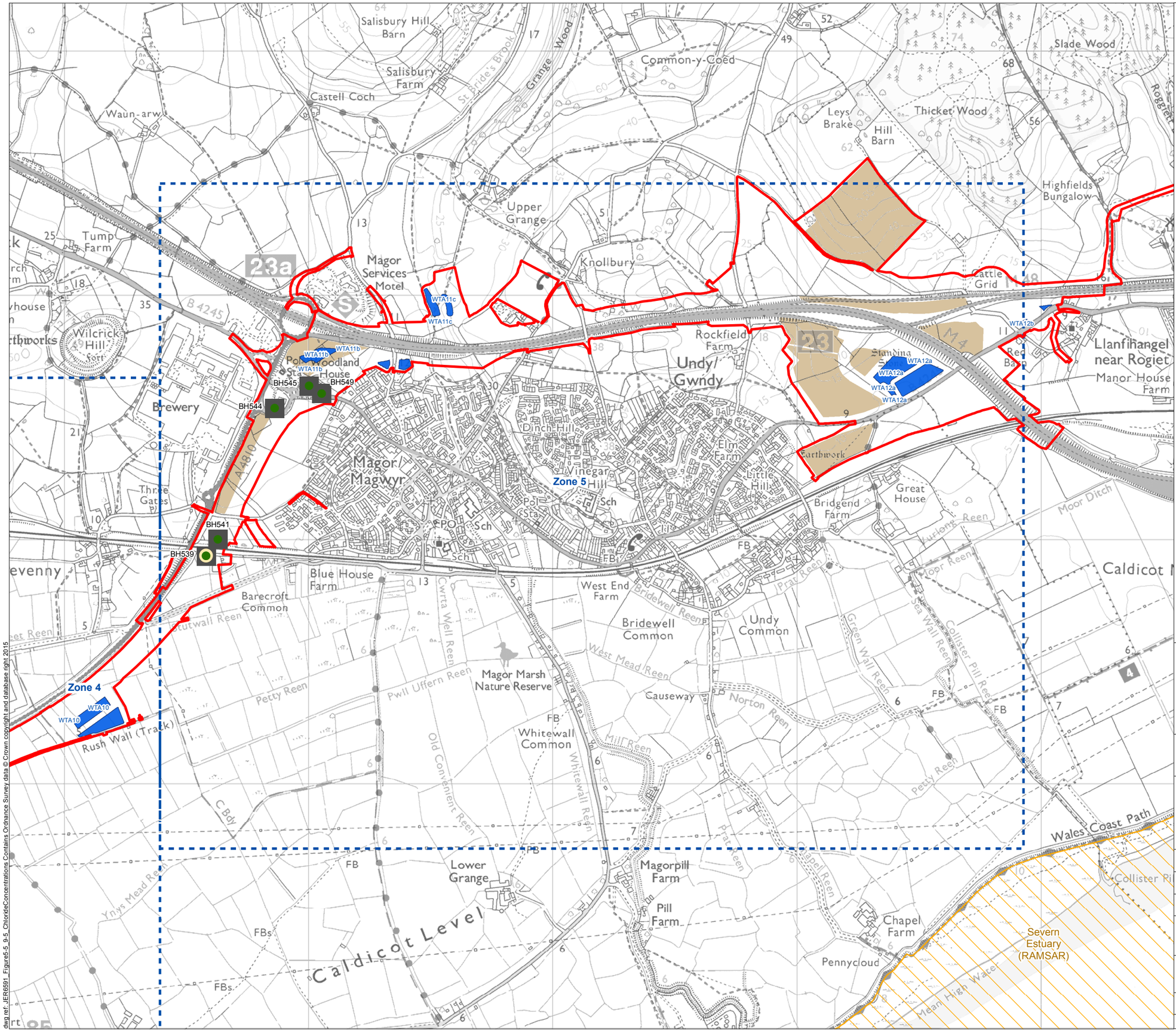
Conceptual Hydrogeological Model

Figure: 9.4	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Not to Scale

dwg ref:JER6591_Figure9-4_ConceptualHydrogeologicalModel

dwg ref: JER6591_Figure9-4_ConceptualHydrogeologicalModel



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area
- Potential Borrow Pit Area
- Drainage Zone
- RAMSAR

Average Chloride Concentration (mg/l)

- <250

Target Aquifer

- Tidal Flat Deposits (including Peat)
- Bedrock

Llywodraeth Cymru
Welsh Government

Appendix 16.2

Chloride Concentrations (Groundwater)

Figure: 9.5	Revision: -
Date: March 2016	Status: At Issue
Drawn: RJJ	Checked: ARG

Scale: A3 @ 1:15,000
0 250 500 m

N

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Annexes

Annex A: Consultation with NRW regarding water quality criteria for use in the Gwent Levels

NRW response to resolving discrepancies between Gwent Levels SSSI water quality trigger levels and WFD compliance requirements.

A key difference between the Gwent Levels Site of Special Scientific Interest (SSSI) Trigger Levels and Water Framework Directive (WFD) is most of WFD values are on an annual average whilst Trigger levels should be provided on at least a quarterly basis. The WFD standards are generally annual averages because they are developed not to indicate acute toxicity but to monitor over the long term. This difference means WFD has limitations in recording extreme events which can impact on the features of interest of the Gwent Levels SSSI.

The SSSI trigger levels are appropriate to either flag a rising trend or an acute event. With respect to rising trends, the trigger levels should be used to give an indication that action needs to be taken, to ensure that exceedance does not occur.

The WFD standards are those that ought to be achieved. A key point is that, as a minimum, trigger levels are set to protect whatôs already there, with no deterioration to any baseline rather than achieving the WFD standard which may or may not be achievable in the context of the Gwent Levels. The reens may not be achieving these standards, in fact as discussed in our meeting of 21 July 2015, NRW recognises that the Gwent Levels system is by its very nature a eutrophic environment, where phosphate levels and BOD are naturally high, and thus specific trigger levels have been set with this in mind. NRW, and CCW previously, recognises that the special interest (the SSSI designated features) of the Gwent Levels has developed due to this eutrophic environment. The trigger levels in this context have therefore been set to indicate the level above which we (NRW) become concerned and would require investigation and potential remedial action.

Our comments with regard to individual determinants are given below:

- pH ï The Gwent Levels trigger levels were tightened to ensure that remedial action could be taken before an event escalated i.e provides a small buffer to ensure issues are captured before too serious to the features of interest. NRW recommend that the more stringent range (ie the SSSI trigger levels) be used.

- TSS ï We understand these figures taken from the old EQS standards and/or fisheries - 250mg/l as a rule being the absolute maximum limit for plants and invertebrates could survive in one event. Importantly there is not a current WFD standard.

- Please note that Trigger Level 60mg-l should relate to the TSS and not BOD.

- BOD - Trigger Levels have been taken from baseline data. WFD standards for BOD are type specific, but again donôt really consider reens/ field ditch networks such as the Gwent Levels and the atypical nature of them. Therefore the WFD/EQS levels are too strict for reen network as baseline ranges from 0.5-189mg/l. This large range is due to natural organic degradation (enrichment), lack of management, fluctuation of summer/winter low flows, grazing animals etc. The high productivity and low/ no flows means the reens will always experience elevated BOD compared to rivers.

- Nitrite ï NH2, a toxic pollutant found in landfill leachate and waste products, such as sewage, liquid manure and other liquid organic waste products all damaging for features of interest. Nitrite has an acidifying effect and can contribute to eutrophication. NH2 oxidises quickly to nitrate NO4 so high levels can indicate local and ongoing pollution incident. Importantly there is not a current WFD standard.

- Ammoniacal Nitrogen ï Trigger Levels have been taken from previous baseline data. The Gwent Levels are within an agricultural setting with its watercourses classed as eutrophic with natural enrichment. The system regulates itself through process of flushing ï ie removing penning boards/ opening sluices over the winter period.

  This is another WFD standard which varies according to typology, assuming moderate alkalinity the boundary standard for ñgoodò is 0.6mg/l total ammonia as N. The figure comes from the Proposed EQS for WFD Annex VIII substances: ammonia (un-ionised) which states the lowest valid long-term toxicity data for freshwater invertebrates is a 29 day no observed effect concentration (NOEC) of 0.066mg NH3-n l^{-1} for lethality in the mayfly *Deleatidium Sp.*

  We would be happy to discuss lowering the trigger levels below 1mg/l. as this could allow for better buffering and early warning of issues in area therefore protecting and enhancing the SSSI.

- Orthophosphate - Itôs unrealistic to expect this type of modified waterbody to obtain the WFD value, or the suggested level of 100ug/l (0.1mg/l) The WFD standard is calculated according to a formula based on the reference conditions for the water body. Targets tend to be in the region 0.015 ï 0.04 mg/l as reactive phosphorous, for which orthophosphate is a surrogate. The Trigger Level is 1mg/l for the Gwent Levels. It is not a nutrient free ecosystem rather a eutrophic system within an agricultural landscape ï as previously mentioned, we recognise that it is in this context that the SSSI features have developed, hence why the trigger levels have been set as they have.

- Sulphates/Chloride - There shouldn't be any mixing of saltwater this is a freshwater system only the back ditch which runs the length of the flood defences bordering the Severn Estuary, is an exemption to this rule, which shouldnôt be relevant in the context of your study area.

- Calcium - calcium is naturally occurring in ionic form and sometimes in quite high concentrations. High calcium contributes to high pH and elevated conductivity. The trigger level was set from baseline sampling ranging from 2-438, itôs the absence rather than the excess that could be considered damaging to Levels, provides a fuller picture of ecosystem rather than indicator of adverse change. Importantly there is not a current WFD standard, but the works should not affect the status quo.

- Zinc - WFD Standard is for 10.9ug/l bioavailable as annual average plus ambient background according to reference values (in this case 1.4ug/l.) therefore 12.3ug/l. A higher level was deemed more appropriate for reens and the figure 1mg/l was the max acceptable concentration for course water fish in fisheries directive.

  We would be happy to discuss the lowering of trigger level allowing for better buffering and early warning of issues in area therefore protecting and enhancing the SSSI.

- Lead - Figure taken from uk EQS for lead less sensitive aquatic fauna. WFD standard is 1.2 ug/l bioavailable as an annual average, or 14ug/l as max allowable concentration which maybe a better indicator than the trigger levels.

  We would be happy to discuss the lowering of trigger level allowing for better buffering and early warning of issues in area therefore protecting and enhancing the SSSI.

- Cadmium - WFD good standards would depend on water hardness but assuming a moderate hardness class ï standard is 0.15ug/l as an annual average or 0.9ug/l max allowable concentration which maybe a better indicator than the trigger levels.

  We would be happy to discuss the lowering of trigger level allowing for better buffering and early warning of issues in area therefore protecting and enhancing the SSSI.

- Petrochemicals ï Having discussed with our WFD experts we have concluded that the Trigger Levels reference to ôpetrochemicalsô needs to be reviewed. Itôs too broad a term and the standard of 2mg/l would be very high for individual ôpetrochemicalsô We advise using the WFD standards as they provide more clarity.

  We would be happy to discuss the lowering of trigger level allowing for better buffering and early warning of issues in area therefore protecting and enhancing the SSSI.

Please note that for the purposes of monitoring water quality on the Gwent Levels SSSI there is no distinction between the different waterbodies. Reens (NRW managed - both main river which were previously EA maintained, and internal drainage district, previously Internal Drainage Board maintained) and field ditches do not have separate targets ï we treat the entire drainage system as one as it is all interconnected.

.

Annex B: Consultation with NRW regarding aquifer designations

Adrian Green

From: Llewhellin, Matthew <Matthew.Llewhellin@cyfoethnaturiolcymru.gov.uk>
Sent: 22 July 2015 14:24
To: Emily Harris; Adrian Green
Cc: Poole, Jessica
Subject: FW: 150717 E AG M4CaN Aquifer Designations

Emily/Adrian

Please see response to your request from my colleague Alan Price (below).

Kind Regards

Matt

Matt Llewhellin MSc BSc(Hons)
Arbenigwr Technegol/Technical Specialist (Contaminated Land)
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Ein diben yw sicrhau bod adnoddau naturiol Cymru yn cael eu cynnal, eu gwella a'u defnyddio yn gynaliadwy, yn awr ac yn y dyfodol.
Our purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used, now and in the future.

From: Price, Alan
Sent: 22 July 2015 14:16
To: Llewhellin, Matthew
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Hi Matt,

I have put together a response together (below) for M4 corridor data request from Dr Adrian Green of RPS. Not sure what's been arranged for M4C requests of this nature? Please can you send to relevant people.

Thanks, Alan

Please see updates (in red) to the requested aquifer designations for the geological units listed below. Glaciofluvial deposits are shown to the West and North of the M4 corridor around Newport, but I cannot confirm that these represent the same unit that you refer to in your request. More detail on the aquifer status of the mapped glaciofluvial deposits is included below.

Unit (Reference)	**Aquifer Designation (NRW)**
Made Ground (MG)	-
Head (HD)	Secondary (undifferentiated)
Alluvium (ALV)	Secondary A

River Terrace Deposit (RTD)	Secondary A
Tidal Flat Deposit (TFD)	Unproductive strata in east. No designation in west.
Glaciofluvial Deposit (GFD)	*see comments below
Mercia Mudstone Group (MMG)	Secondary B
Mercia Mudstone marginal facies (MMmf)	Principal aquifer
Gully Oolite Formation (GOF)	Principal aquifer
Black Rock Limestone subgroup (BRL)	
Avon Group (AG)	
Tintern Sandstone Formation (TSS)	Principal aquifer
Brownstone Formation (BWS)	Secondary A
St Maughans Formation	Secondary A
Raglan Mudstone Formation (RGM)	Secondary A

* Glaciofluvial deposits are shown to the north of the Wentloog Levels at Llaneurwg (St Mellons area of Cardiff). Designated a Secondary A aquifer.

Wider area:

Glaciofluvial Sheet Deposits are shown to the north-west of the Wentloog Levels located at Llanrhymney/Pentwyn. Currently have no aquifer designation.

More glaciofluvial deposits are shown at Cross Keys and Bedwas, and at Llanfrechfa (near Cwmbran). Designated Secondary A aquifers.

There are no glaciofluvial deposits shown within the vicinity of the Caldicot Levels to the east.

Best Regards, Alan

Alan Price
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alan.price@cyfoethnaturiolcymru.gov.uk
alan.price@naturalresourceswales.gov.uk

From: Emily Harris []
Sent: 20 July 2015 12:36
To: Roberts, Kay
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Hi Kay

Hope you are well! Apologies for the confusion regarding Adrian's email on Friday, but I was under the impression that - based on meetings with NRW regarding M4 - we were able to send these sort of queries through directly to our NRW counterparts. The responses from yourselves would then be sent back through the ATI team so that your time is accounted for re: M4 related enquiries, cutting out the admin time a bit for both NRW and companies involved in this project and keep things moving!

In hindsight, I think the email should have been directed to Matt, he has been the contaminated land (Geoscience) contact for the project so far. Would you prefer me to go via Matt in this instance?

Thanks again
Emily

Emily Harris MSc FGS
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Email: emily.harris@rpsgroup.com
www: www.rpsgroup.com

From: Roberts, Kay [mailto:Kay.Roberts@cyfoethnaturiolcymru.gov.uk]
Sent: 20 July 2015 08:52
To: Adrian Green
Cc: Richard Graham; Emily Harris
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Adrian,

Additional requests for information will have to be sent via our Access to Information Team that deal with all data request. There email address is accesstoinfromationteam@naturalresoureswales.gov.uk . There may be a charge depending on the level of data required.

Regards,
Kay

Kay Roberts MSc BEng (Hons) FGS
Swyddog Technegol (Geowyddor) Technical Officer (Geoscience)
Cyfoeth Naturiol Cymru Natural Resources Wales
Ffôn Tel 03000 65 4410

Ebost Email
kay.roberts@cyfoethnaturiolcymru.gov.uk kay.roberts@naturalresourceswales.gov.uk

From: Adrian Green []
Sent: 17 July 2015 13:03
To: Roberts, Kay
Cc: Richard Graham; Emily Harris
Subject: 150717 E AG M4CaN Aquifer Designations

Dear Kay

You kindly provided the attached response to my colleague Emily Harris regarding aquifer designations in the vicinity of the M4 Corridor around Newport
Following a review of your comments I am seeking some further clarification if possible.

In the Table below I have highlighted all the geological units identified within the proposed scheme corridor, for which we need a NRW designation for each. I would be grateful if you could review this and update accordingly.

Possibly of greatest uncertainty is the status of the gravels that commonly underlie the estuarine Tidal Flat Deposits. These form a continuous (groundwater bearing) unit around Newport (that extends to the east and west beneath the Wentloog and Caldicot levels) and correspond with the "Pleistocene Gravels" of Allen (2001). We have termed these deposits "Glaciofluvial Deposits (GFD)" in an attempt to be consistent with BGS Lexicon. Your view on these deposits and their aquifer status would be appreciated. Please note that "TBC" in the table below denotes "To be Confirmed".

Many thanks
Adrian

Unit (Reference)	**Aquifer Designation (NRW)**
Made Ground (MG)	-
Head (HD)	TBC
Alluvium (ALV)	TBC
River Terrace Deposit (RTD)	TBC
Tidal Flat Deposit (TFD)	Unproductive strata in east. No designation in west.
Glaciofluvial Deposit (GFD)	TBC
Mercia Mudstone Group (MMG)	Secondary B
Mercia Mudstone marginal facies (MMmf)	Principal aquifer?
Gully Oolite Formation (GOF)	Principal aquifer
Black Rock Limestone subgroup (BRL)	
Avon Group (AG)	
Tintern Sandstone Formation (TSS)	Principal aquifer
Brownstone Formation (BWS)	Secondary ? TBC
St Maughans Formation	Secondary ? TBC
Raglan Mudstone Formation (RGM)	Secondary ? TBC

Dr Adrian Green
Principal Hydrogeologist - RPS Planning & Development
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Adrian Green

From: Price, Alan <Alan.Price@cyfoethnaturiolcymru.gov.uk>
Sent: 27 July 2015 16:58
To: Adrian Green
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Hi Adrian,

I'm not sure I have provided all the information you are after but I am simply conveying the information available to me shown on our groundwater vulnerability maps.

The aquifer designation of the Tidal Flat Deposits (TFD) is shown to be unproductive in the east and no designation is shown to parts of the TFD in the west. But, given that the superficial geology map shows the Tidal Flat Deposits to extend into the west we can assume that all of the inland Tidal Flood Deposits are designated as Unproductive, and treated as such.

As you move to the coast the TFD are designated Secondary (undifferentiated) aquifer comprising clay, silt and sand to the west of the mouth of the Usk and clay, silt, sand and gravel to the east of the mouth of the Usk.

The vulnerability map shows no glaciofluvial gravel deposits (GFD) in the vicinity of Newport so I'm not able to assign an aquifer designation to the GFD deposits you refer to that underlie the tidal flats, as I don't have any information to base it on. The nearest GFD to the proposed route are at Llaneurwg, which comprise sand and gravel , and designated Secondary A.

If there is anything else you need or more information I can provide please let me know.

Regards, Alan

Alan Price
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Cyfoeth Naturiol Cymru Natural Resources Wales
Ffôn Tel 03000 65 4412

alan.price@cyfoethnaturiolcymru.gov.uk
alan.price@naturalresourceswales.gov.uk

From: Llewhellin, Matthew
Sent: 24 July 2015 09:56
To: Price, Alan <Alan.Price@cyfoethnaturiolcymru.gov.uk>
Subject: FW: 150717 E AG M4CaN Aquifer Designations

Hi Alan,

Couple more queries on this.

Many thanks!

From: Adrian Green [mailto:GreenAd@rpsgroup.com]
Sent: 23 July 2015 10:05
To: Llewhellin, Matthew
Cc: Emily Harris
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Many thanks for this Matt

Can you confirm how / why the Tidal Flat Deposits (TDF) can have two different designations in the east and the waste.
I also note Alan's comment that he "cannot confirm that these represent the same unit" I described (i.e. the continuous / semi-continuous gravel **concealed** by the TFD). Considering the TFD are considered "unproductive strata" or undesignated, how do NRW wish these deposits to be managed from a designation (and controlled water) point of view. Are NRW happy with these gravels being termed Glaciofluvial deposits (GFD), or should some other terminology be used.

Best regards
Adrian

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www: www.rpsgroup.com

From: Llewhellin, Matthew [mailto:Matthew.Llewhellin@cyfoethnaturiolcymru.gov.uk]
Sent: 22 July 2015 14:24
To: Emily Harris; Adrian Green
Cc: Poole, Jessica
Subject: FW: 150717 E AG M4CaN Aquifer Designations

Emily/Adrian

Please see response to your request from my colleague Alan Price (below).

Kind Regards

Matt
Matt Llewhellin MSc BSc(Hons)
Arbenigwr Technegol/Technical Specialist (Contaminated Land)
Geowyddor/Geoscience
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Ein diben yw sicrhau bod adnoddau naturiol Cymru yn cael eu cynnal, eu gwella a'u defnyddio yn gynaliadwy, yn awr ac yn y dyfodol.
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Thanks, Alan

Please see updates (in red) to the requested aquifer designations for the geological units listed below. Glaciofluvial deposits are shown to the West and North of the M4 corridor around Newport, but I cannot confirm that these represent the same unit that you refer to in your request. More detail on the aquifer status of the mapped glaciofluvial deposits is included below.

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Mercia Mudstone marginal facies (MMmf)	Principal aquifer
Gully Oolite Formation (GOF)	Principal aquifer
Black Rock Limestone subgroup (BRL)	
Avon Group (AG)	
Tintern Sandstone Formation (TSS)	Principal aquifer
Brownstone Formation (BWS)	Secondary A
St Maughans Formation	Secondary A
Raglan Mudstone Formation (RGM)	Secondary A

* Glaciofluvial deposits are shown to the north of the Wentloog Levels at Llaneurwg (St Mellons area of Cardiff). Designated a Secondary A aquifer.

Wider area:

Glaciofluvial Sheet Deposits are shown to the north-west of the Wentloog Levels located at Llanrhymney/Pentwyn. Currently have no aquifer designation.

More glaciofluvial deposits are shown at Cross Keys and Bedwas, and at Llanfrechfa (near Cwmbran). Designated Secondary A aquifers.

There are no glaciofluvial deposits shown within the vicinity of the Caldicot Levels to the east.

Best Regards, Alan

Alan Price
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alan.price@cyfoethnaturiolcymru.gov.uk
alan.price@naturalresourceswales.gov.uk

From: Emily Harris []
Sent: 20 July 2015 12:36
To: Roberts, Kay
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Hi Kay

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Thanks again
Emily

Emily Harris MSc FGS
Hydrogeologist - RPS Planning & Development
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www: www.rpsgroup.com

From: Roberts, Kay [mailto:Kay.Roberts@cyfoethnaturiolcymru.gov.uk]
Sent: 20 July 2015 08:52
To: Adrian Green
Cc: Richard Graham; Emily Harris
Subject: RE: 150717 E AG M4CaN Aquifer Designations

Adrian,

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Regards,
Kay

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kay.roberts@cyfoethnaturiolcymru.gov.uk kay.roberts@naturalresourceswales.gov.uk

---

From: Adrian Green []
Sent: 17 July 2015 13:03
To: Roberts, Kay
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Many thanks
Adrian

Unit (Reference)	**Aquifer Designation (NRW)**
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(MMG)	
Mercia Mudstone marginal facies (MMmf)	Principal aquifer?
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Black Rock Limestone subgroup (BRL)	
Avon Group (AG)	
Tintern Sandstone Formation (TSS)	Principal aquifer
Brownstone Formation (BWS)	Secondary ? TBC
St Maughans Formation	Secondary ? TBC
Raglan Mudstone Formation (RGM)	Secondary ? TBC

Dr Adrian Green
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Annex C: Summary of Water Quality Assessment Criteria

M4CaN

Summary of Water Quality Assessment Criteria

Determinand	Standard Type	Value	Unit	Type	WFD Classification	Water Body	Driver	Status	Additional Notes
Inorganic Parameters									
Aluminium	DWS	200	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Antimony	DWS	5	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Arsenic	EQS	50	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	Statutory	N/A
	DWS	10	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Boron	EQS	2000	ug/l	AA	N/A	Surface Water	Operational EQS (DSD)	Non-statutory	N/A
	DWS	1000	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Cadmium	EQS	0.15	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	100-200 mg/l CaCO3
	EQS	0.9	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	100-200 mg/l CaCO3
	DWS	5	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
	CCW TL	5	ug/l						
Calcium	CCW TL	300	mg/l						
Antimony	DWS	5	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Chromium	DWS	50	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Chromium III	EQS	4.7	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	Also a PNEC
	EQS	32	ug/l	Q95	Good	Rivers & Freshwater Lakes	WFD-SP	?	Also a PNEC
Chromium VI	EQS	3.4	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	Also a PNEC
Copper	EQS	10	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	100-250 mg/l CaCO3 Also a PNEC
	EQS	1	ug/l	L-T	N/A	Freshwater	PNEC		
	DWS	2000	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Fluoride	EQS	5000	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	>50 mg/l CaCO3
	EQS	15000	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	>50 mg/l CaCO3
	DWS	1500	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Iron	EQS	1000	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	Also a PNEC
	EQS	730	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	
	DWS	200	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Lead	EQS	1.2	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	Bioavailable
	EQS	14	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	N/A
	DWS	10	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
	CCW TL	250	ug/l						
Manganese	EQS	30	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	Dissolved
	EQS	300	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	Dissolved
	EQS	123	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	
	DWS	50	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Mercury	EQS	0.07	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	N/A
	DWS	1	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Nickel	EQS	4	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	Bioavailable
	EQS	34	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	N/A
	DWS	20	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
	CCW TL	100	ug/l						
Selenium	DWS	10	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Silver	EQS	0.05	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	N/A
	EQS	0.1	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	N/A
Sodium	DWS	200	mg/l	Tap	N/A	Drinking Water	WSR2000	Statutory	N/A
Zinc	EQS	75	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	100-250 mg/l CaCO3 Also a PNEC
	EQS	10.9	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	Bioavailable
	CCW TL	1000	ug/l						

M4CaN

Summary of Water Quality Assessment Criteria

Determinand	Standard Type	Value	Unit	Type	WFD Classification	Water Body	Driver	Status	Additional Notes
Dissolved Oxygen	EQS	60	%sat	Q10	Good	Rivers	WFD-GRC	Statutory	Type 5
	CCW TL	<2	mg/l						Single Occaision
		<5							3 Consecutive Occaisions
BOD	EQS	5	mg/l	Q90	Good	Rivers	WFD-GRC	Statutory	Type 3n
	CCW TL	18	mg/l						Single Occaision
		10							3 Consecutive Occaisions
Nitrate (as NO3)	DWS	50	mg/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
	CCW TL	1	mg/l						
Total Oxidised Nitrogen	CCW TL	2	mg/l						
Nitrite (as NO2)	DWS	0.5	mg/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
	CCW TL	1	mg/l						
Ammonia (Total or Unionised) as N	EQS	0.6	mg/l	Q90	Good	Rivers & Freshwater Lakes	WFD-GRC	Statutory	Type 5
	EQS	0.3	mg/l	Q90	Good	Freshwater	PNEC	Non-statutory	Phase 1 standard
Ammonium as NH4	DWS	0.5	mg/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Total Ammonical Nitrogen	CCW TL	1	mg/l						Single Occaision
		0.5							$ Consecutive Occaisions
Sulphate (as SO4?)	EQS	400	mg/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	Non-statutory	
	DWS	250	mg/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
	CCW TL	300	mg/l						
Chloride	EQS	250	mg/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	Non-statutory	
	DWS	250	mg/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
	CCW TL	300	mg/l						
Cyanide	EQS	1	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	
Cyanide	EQS	5	ug/l	Q95	Good	Rivers & Freshwater Lakes	WFD-SP	?	
Cyanide Free (CN / l)	EQS	0.26	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	
Cyanide Free (CN / l)	EQS	2.8	ug/l	S-T	N/A	Freshwater	PNEC	Non-statutory	
Cyanide Free (CN / l)	DWS	50	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Phosphorous	EQS	120	mg/l	Q90	Good	Rivers	WFD-GRC	Statutory	Type 3n
Orthophosphate	CCW TL	1	mg/l						
Total Suspended Solids	CCW TL	250	mg/l						Single Occasion
		100							3 Consecutive Samples
		60+							4 Consecutive Samples
Electrical Conductivity	CCW TL	2000	MS/cm						
pH	EQS	6-9	pH units	MAC	N/A	Inland Surface Waters	Operational EQS (DSD)	?	
	CCW TL	6.8-8.5	pH units						

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Summary of Water Quality Assessment Criteria

Determinand	Standard Type	Value	Unit	Type	WFD Classification	Water Body	Driver	Status	Additional Notes
Organic Parameters									
Petrochemicals	CCW TL	2	mg/l						
Total Oil and Grease	CCW TL	2	mg/l						
Benzene	EQS	10	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	50	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	1	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Toluene	EQS	50	ug/l	AA	N/A	Rivers & Freshwater Lakes	WFD-SP	?	
	EQS	380	ug/l	Q95	N/A	Rivers & Freshwater Lakes	WFD-SP	?	
	EQS	74	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	
Ethyl benzene	EQS	20	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	Only on EA Chem Database
	EQS	200	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	Only on EA Chem Database
Xylenes	EQS	30	ug/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	?	List II under SW(DS)Reg98 not specific pollutants
2-Chlorophenol	EQS	50	ug/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	?	List II under SW(DS)Reg98 not specific pollutants
Methylphenols	EQS	100	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	total methylphenols
	EQS	300	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
2,4-Dichlorophenol	EQS	20	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	?	
	EQS	4.2	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	
	EQS	140	ug/l	S-T	N/A	Freshwater	PNEC	Non-statutory	
4-Chloro-3-methylphenol	EQS	40	ug/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	?	List II under SW(DS)Reg98 not specific pollutants
Pentachlorophenol (PCP)	EQS	0.4	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	1	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Phenol	EQS	7.7	ug/l	AA	Good	Rivers & Freshwater Lakes	WFD-SP	Statutory	
	EQS	46	ug/l	Q95	Good	Rivers & Freshwater Lakes	WFD-SP	Statutory	
Anthracene	EQS	0.1	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	0.1	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Benzo(a)pyrene	EQS	0.00017	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	0.27	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	0.01	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Benzo(b)fluoranthene	EQS	N/A	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	0.017	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	0.1	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	Sum of 4 [B(b)F, b(k)f, b(ghi)p, I(123)p]
Benzo(k)fluoranthene	EQS	N/A	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	0.017	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	0.1	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	Sum of 4 [B(b)F, b(k)f, b(ghi)p, I(123)p]
Benzo(k)fluoranthene	EQS	N/A	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	0.0082	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	0.1	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	Sum of 4 [B(b)F, b(k)f, b(ghi)p, I(123)p]
Indeno(123cd)pyrene	EQS	N/A	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	N/A	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	0.1	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	Sum of 4 [B(b)F, b(k)f, b(ghi)p, I(123)p]
Fluoranthene	EQS	0.0063	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	0.12	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Naphthalene	EQS	2	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	EQS	130	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Bis(2-ethylhexyl) phthalate (DEHP or Diethylexyl phthalate)	EQS	1.3	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	

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Summary of Water Quality Assessment Criteria

Determinand	Standard Type	Value	Unit	Type	WFD Classification	Water Body	Driver	Status	Additional Notes
Butylbenzyl phthalate (BBP)	EQS	20	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
	EQS	100	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
	EQS	7.5	ug/l	L-T	N/A	Freshwater	PNEC	Non-statutory	
	EQS	51	ug/l	S-T	N/A	Freshwater	PNEC	Non-statutory	
Di-n-butyl phthalate (DBP)	EQS	8	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
	EQS	40	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
Di-n-Octyl phthalate (DOPs)	EQS	20	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
	EQS	40	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
Diethyl phthalate (DEP)	EQS	200	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
	EQS	1000	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
Dimethyl phthalate (DMP)	EQS	800	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
	EQS	4000	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
1,1,1-Trichloroethane	EQS	100	ug/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	?	List II under SW(DS)Reg98 not specific pollutants
1,1,2-Trichloroethane	EQS	400	ug/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	?	List II under SW(DS)Reg98 not specific pollutants
Trichlorobenzenes	EQS	0.4	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Dichlorobenzenes	EQS	20	ug/l	AA	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
(sum of all isomers)	EQS	40	ug/l	MAC	N/A	Freshwater	Operational EQS (DSD)	Non-statutory	
1,2-Dichloroethane	EQS	10	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	3	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Trihalomethanes (total)	DWS	100	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	chloroform, bromoform, dibromochloromethane, bromodichlorometane
Chloroform (Trichloromethane)	EQS	2.5	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
	DWS	trihalomethane	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Dichloromethane	EQS	20	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Hexachlorobutadiene (HCBD)	EQS	0.6	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Styrene	EQS	50	ug/l	AA	N/A	Inland Surface Waters	Operational EQS (DSD)	Non-statutory	
	EQS	500	ug/l	MAC	N/A	Inland Surface Waters	Operational EQS (DSD)	Non-statutory	
Tetrachloroethene (tetrachloroethlyene or perchloroethlyene or Perc)	EQS	10	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Tetrachloroethene and Trichlorethene (Total)	DWS	10	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Tetrachloromethane (Carbon Tetrachloride)	EQS	12	ug/l	AA	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	
Vinyl Chloride	DWS	0.5	ug/l	Tap	N/A	Drinking Water	WSR2000	Statutory	
Hexachlorobenzene (HCB)	EQS	0.05	ug/l	MAC	N/A	Inland Surface Waters	PS D2013/39/EC	Statutory	

Annex D: Surface Water Salinity Data

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
1.1		W	Q1			26/05/2015	RPS 2015 SW	CL	Chloride	TM184	30.2		30.2	30.2	30.2	mg/l	2
1.2		W	Q1			26/05/2015	RPS 2015 SW	CL	Chloride	TM184	29.3		29.3	29.3	29.3	mg/l	2
11.1		W	Q1			02/06/2015	RPS 2015 SW	CL	Chloride	TM184	37.7		37.7	37.7	37.7	mg/l	2
12.1		W	Q1			01/06/2015	RPS 2015 SW	CL	Chloride	TM184	38.2		38.2	38.2	38.2	mg/l	2
12.2		W	Q1			01/06/2015	RPS 2015 SW	CL	Chloride	TM184	30.5		30.5	30.5	30.5	mg/l	2
13.1		W	Q1			02/06/2015	RPS 2015 SW	CL	Chloride	TM184	31.5		31.5	31.5	31.5	mg/l	2
13.2		W	Q1			01/06/2015	RPS 2015 SW	CL	Chloride	TM184	64		64	64	64	mg/l	2
14.2		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	31.3		31.3	31.3	31.3	mg/l	2
15.1		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	24.2		24.2	24.2	24.2	mg/l	2
15.3		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	24.6		24.6	24.6	24.6	mg/l	2
16.2		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	24.9		24.9	24.9	24.9	mg/l	2
17.1		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	32.3		32.3	32.3	32.3	mg/l	2
17.2		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	248		248	248	248	mg/l	2
17.3		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	785		785	785	785	mg/l	2
18.1		W	Q1			05/06/2015	RPS 2015 SW	CL	Chloride	TM184	24		24	24	24	mg/l	2
18137	NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN	W	31/03/2014			31/03/2014	NRW	CL	Chloride		59.1		59.1	59.1	59.1	mg/l	
18137	NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN	W	28/02/2014			28/02/2014	NRW	CL	Chloride		40.8		40.8	40.8	40.8	mg/l	
18137	NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN	W	02/06/2014			06/02/2014	NRW	CL	Chloride		28		28	28	28	mg/l	
19.1		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	125		125	125	125	mg/l	2
19.2		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	38.9		38.9	38.9	38.9	mg/l	2
2.1		W	Q1			05/06/2015	RPS 2015 SW	CL	Chloride	TM184	84.2		84.2	84.2	84.2	mg/l	2
2.2		W	Q1			27/05/2015	RPS 2015 SW	CL	Chloride	TM184	33.9		33.9	33.9	33.9	mg/l	2
20.1		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	49.3		49.3	49.3	49.3	mg/l	2
20.1 [old]		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	7.4		7.4	7.4	7.4	mg/l	2
22.1		W	Q1			03/06/2015	RPS 2015 SW	CL	Chloride	TM184	28.7		28.7	28.7	28.7	mg/l	2
3.1		W	Q1			26/05/2015	RPS 2015 SW	CL	Chloride	TM184	13.7		13.7	13.7	13.7	mg/l	2
4.2		W	Q1			27/05/2015	RPS 2015 SW	CL	Chloride	TM184	16.3		16.3	16.3	16.3	mg/l	2
4.3		W	Q1			05/06/2015	RPS 2015 SW	CL	Chloride	TM184	27		27	27	27	mg/l	2
4.4		W	Q1			27/05/2015	RPS 2015 SW	CL	Chloride	TM184	23.9		23.9	23.9	23.9	mg/l	2
41282	NEWPORT WETLANDS- POINT 1 (NWT01)	W	10/04/2014A			10/04/2014	NRW	CL	Chloride		16.8		16.8	16.8	16.8	mg/l	
41283	NEWPORT WETLANDS- POINT 5 (NWT05)	W	28/10/2014			28/10/2014	NRW	CL	Chloride		53.7		53.7	53.7	53.7	mg/l	
41283	NEWPORT WETLANDS- POINT 5 (NWT05)	W	04/10/2014			10/04/2014	NRW	CL	Chloride		32.2		32.2	32.2	32.2	mg/l	
41284	NEWPORT WETLANDS- POINT 10A (NWT10A)	W	04/10/2014			10/04/2014	NRW	CL	Chloride		22.7		22.7	22.7	22.7	mg/l	
41284	NEWPORT WETLANDS- POINT 10A (NWT10A)	W	28/10/2014			28/10/2014	NRW	CL	Chloride		22.4		22.4	22.4	22.4	mg/l	
41285	NEWPORT WETLANDS- POINT 14 (NWT14)	W	10/04/2014A			10/04/2014	NRW	CL	Chloride		56		56	56	56	mg/l	
41286	NEWPORT WETLANDS- POINT 21 (NWT21)	W	04/10/2014			10/04/2014	NRW	CL	Chloride		21.4		21.4	21.4	21.4	mg/l	
41288	NEWPORT WETLANDS- POINT 24 (NWT24) 2005-2018	W	04/10/2014			10/04/2014	NRW	CL	Chloride		43.4		43.4	43.4	43.4	mg/l	
41290	NEWPORT WETLANDS- POINT 39 (NWT39)	W	04/10/2014			10/04/2014	NRW	CL	Chloride		24.3		24.3	24.3	24.3	mg/l	
5.1		W	Q1			27/05/2015	RPS 2015 SW	CL	Chloride	TM184	18.2		18.2	18.2	18.2	mg/l	2
5.2 [old]		W	Q1			27/05/2015	RPS 2015 SW	CL	Chloride	TM184	127		127	127	127	mg/l	2
6.1		W	Q1			28/05/2015	RPS 2015 SW	CL	Chloride	TM184	13.7		13.7	13.7	13.7	mg/l	2
7.1		W	Q1			29/05/2015	RPS 2015 SW	CL	Chloride	TM184	17.5		17.5	17.5	17.5	mg/l	2
7.2		W	Q1			29/05/2015	RPS 2015 SW	CL	Chloride	TM184	61.8		61.8	61.8	61.8	mg/l	2
7.3		W	Q1			29/05/2015	RPS 2015 SW	CL	Chloride	TM184	38.4		38.4	38.4	38.4	mg/l	2
7.4		W	Q1			29/05/2015	RPS 2015 SW	CL	Chloride	TM184	58.3		58.3	58.3	58.3	mg/l	2
8.1		W	Q1			28/05/2015	RPS 2015 SW	CL	Chloride	TM184	15.6		15.6	15.6	15.6	mg/l	2
8.2		W	Q1			28/05/2015	RPS 2015 SW	CL	Chloride	TM184	15.8		15.8	15.8	15.8	mg/l	2
SW501		EW	1	0		01/04/2015	2015 GI	CL	Chloride	1220	51		51	51	51	mg/l	1
SW501		EW	2	0		15/04/2015	2015 GI	CL	Chloride	1220	85		85	85	85	mg/l	1
SW501		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	40		40	40	40	mg/l	1
SW502		EW	1	0		01/04/2015	2015 GI	CL	Chloride	1220	92		92	92	92	mg/l	1
SW502		EW	2	0		15/04/2015	2015 GI	CL	Chloride	1220	120		120	120	120	mg/l	1
SW502		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	130		130	130	130	mg/l	1
SW503		EW	1	0		01/04/2015	2015 GI	CL	Chloride	1220	30		30	30	30	mg/l	1
SW503		EW	2	0		15/04/2015	2015 GI	CL	Chloride	1220	36		36	36	36	mg/l	1
SW503		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	41		41	41	41	mg/l	1
SW504		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	22		22	22	22	mg/l	1
SW504		EW	1	0		01/04/2015	2015 GI	CL	Chloride	1220	28		28	28	28	mg/l	1
SW504		EW	2	0		15/04/2015	2015 GI	CL	Chloride	1220	21		21	21	21	mg/l	1
SW505		EW	1	0		01/04/2015	2015 GI	CL	Chloride	1220	23		23	23	23	mg/l	1
SW505		EW	2	0		15/04/2015	2015 GI	CL	Chloride	1220	24		24	24	24	mg/l	1
SW505		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	25		25	25	25	mg/l	1
SW506		EW	2	0		15/04/2015	2015 GI	CL	Chloride	1220	52		52	52	52	mg/l	1
SW506		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	55		55	55	55	mg/l	1
SW506		EW	1	0		01/04/2015	2015 GI	CL	Chloride	1220	49		49	49	49	mg/l	1
SW507		EW	3	0		22/04/2015	2015 GI	CL	Chloride	1220	320		320	320	320	mg/l	1

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
SW507		EW	1	0		01/04/2015	2015 GI	**CL**	Chloride	1220	210		**210**	**210**	**210**	mg/l	1
SW507		EW	2	0		15/04/2015	2015 GI	**CL**	Chloride	1220	250		**250**	**250**	**250**	mg/l	1
SW508		EW	1	0		01/04/2015	2015 GI	**CL**	Chloride	1220	41		**41**	**41**	**41**	mg/l	1
SW508		EW	2	0		22/04/2015	2015 GI	**CL**	Chloride	1220	44		**44**	**44**	**44**	mg/l	1
SW509		EW	1	0		01/04/2015	2015 GI	**CL**	Chloride	1220	31		**31**	**31**	**31**	mg/l	1
SW509		EW	2	0		15/04/2015	2015 GI	**CL**	Chloride	1220	31		**31**	**31**	**31**	mg/l	1
SW509		EW	3	0		22/04/2015	2015 GI	**CL**	Chloride	1220	34		**34**	**34**	**34**	mg/l	1
SW510		EW	1	0		01/04/2015	2015 GI	**CL**	Chloride	1220	23		**23**	**23**	**23**	mg/l	1
SW510		EW	2	0		15/04/2015	2015 GI	**CL**	Chloride	1220	39		**39**	**39**	**39**	mg/l	1
SW510		EW	3	0		22/04/2015	2015 GI	**CL**	Chloride	1220	35		**35**	**35**	**35**	mg/l	1
R1		W	1			05/12/2007	2007/8 Titan	**CL**	Chloride as Cl		27		**27**	**27**	**27**	mg/l	
R1		W	2			19/03/2008	2007/8 Titan	**CL**	Chloride as Cl		26		**26**	**26**	**26**	mg/l	
R1		W	4			25/09/2008	2007/8 Titan	**CL**	Chloride as Cl		20		**20**	**20**	**20**	mg/l	
R10		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		28		**28**	**28**	**28**	mg/l	
R10		W	3			24/06/2008	2007/8 Titan	**CL**	Chloride as Cl		17		**17**	**17**	**17**	mg/l	
R10		W	2			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		62		**62**	**62**	**62**	mg/l	
R10		W	1			11/12/2007	2007/8 Titan	**CL**	Chloride as Cl		35		**35**	**35**	**35**	mg/l	
R11		W	1			11/12/2007	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R11		W	2			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		17		**17**	**17**	**17**	mg/l	
R11		W	3			24/06/2008	2007/8 Titan	**CL**	Chloride as Cl		23		**23**	**23**	**23**	mg/l	
R11		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R12		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		16		**16**	**16**	**16**	mg/l	
R12		W	3			24/06/2008	2007/8 Titan	**CL**	Chloride as Cl		22		**22**	**22**	**22**	mg/l	
R12		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		14		**14**	**14**	**14**	mg/l	
R12		W	1			11/12/2007	2007/8 Titan	**CL**	Chloride as Cl		17		**17**	**17**	**17**	mg/l	
R13		W	1			07/12/2007	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R13		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		18		**18**	**18**	**18**	mg/l	
R13		W	3			24/06/2008	2007/8 Titan	**CL**	Chloride as Cl		31		**31**	**31**	**31**	mg/l	
R13		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		19		**19**	**19**	**19**	mg/l	
R14		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		34		**34**	**34**	**34**	mg/l	
R14		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		25		**25**	**25**	**25**	mg/l	
R14		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		22		**22**	**22**	**22**	mg/l	
R14		W	1			11/12/2007	2007/8 Titan	**CL**	Chloride as Cl		39		**39**	**39**	**39**	mg/l	
R15		W	1			11/12/2007	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R15		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		28		**28**	**28**	**28**	mg/l	
R15		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		38		**38**	**38**	**38**	mg/l	
R15		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R16		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		29		**29**	**29**	**29**	mg/l	
R16		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		37		**37**	**37**	**37**	mg/l	
R16		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		25		**25**	**25**	**25**	mg/l	
R16		W	1			11/12/2007	2007/8 Titan	**CL**	Chloride as Cl		28		**28**	**28**	**28**	mg/l	
R17		W	1			07/12/2007	2007/8 Titan	**CL**	Chloride as Cl		31		**31**	**31**	**31**	mg/l	
R17		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		11		**11**	**11**	**11**	mg/l	
R17		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		28		**28**	**28**	**28**	mg/l	
R17		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		23		**23**	**23**	**23**	mg/l	
R18		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		127		**127**	**127**	**127**	mg/l	
R18		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		63		**63**	**63**	**63**	mg/l	
R18		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		68		**68**	**68**	**68**	mg/l	
R18		W	1			07/12/2007	2007/8 Titan	**CL**	Chloride as Cl		99		**99**	**99**	**99**	mg/l	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
R19		W	1			07/12/2007	2007/8 Titan	**CL**	Chloride as Cl		15		**15**	**15**	**15**	mg/l	
R19		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		14		**14**	**14**	**14**	mg/l	
R19		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		12		**12**	**12**	**12**	mg/l	
R19		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		13		**13**	**13**	**13**	mg/l	
R2		W	4			25/09/2008	2007/8 Titan	**CL**	Chloride as Cl		45		**45**	**45**	**45**	mg/l	
R2		W	3			25/06/2008	2007/8 Titan	**CL**	Chloride as Cl		54		**54**	**54**	**54**	mg/l	
R2		W	2			19/03/2008	2007/8 Titan	**CL**	Chloride as Cl		49		**49**	**49**	**49**	mg/l	
R2		W	1			05/12/2007	2007/8 Titan	**CL**	Chloride as Cl		28		**28**	**28**	**28**	mg/l	
R20		W	1			07/12/2007	2007/8 Titan	**CL**	Chloride as Cl		13		**13**	**13**	**13**	mg/l	
R20		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		19		**19**	**19**	**19**	mg/l	
R21		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		25		**25**	**25**	**25**	mg/l	
R21		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		25		**25**	**25**	**25**	mg/l	
R21		W	2			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		29		**29**	**29**	**29**	mg/l	
R22		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		23		**23**	**23**	**23**	mg/l	
R22		W	3			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R3		W	3			25/06/2008	2007/8 Titan	**CL**	Chloride as Cl		22		**22**	**22**	**22**	mg/l	
R3		W	4			25/09/2008	2007/8 Titan	**CL**	Chloride as Cl		17		**17**	**17**	**17**	mg/l	
R3		W	1			05/12/2007	2007/8 Titan	**CL**	Chloride as Cl		19		**19**	**19**	**19**	mg/l	
R3		W	2			19/03/2008	2007/8 Titan	**CL**	Chloride as Cl		19		**19**	**19**	**19**	mg/l	
R4		W	2			19/03/2008	2007/8 Titan	**CL**	Chloride as Cl		18		**18**	**18**	**18**	mg/l	
R4		W	1			05/12/2007	2007/8 Titan	**CL**	Chloride as Cl		20		**20**	**20**	**20**	mg/l	
R4		W	4			25/09/2008	2007/8 Titan	**CL**	Chloride as Cl		17		**17**	**17**	**17**	mg/l	
R4		W	3			25/06/2008	2007/8 Titan	**CL**	Chloride as Cl		17		**17**	**17**	**17**	mg/l	
R5		W	4			25/09/2008	2007/8 Titan	**CL**	Chloride as Cl		14		**14**	**14**	**14**	mg/l	
R5		W	1			06/12/2007	2007/8 Titan	**CL**	Chloride as Cl		12		**12**	**12**	**12**	mg/l	
R5		W	2			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		15		**15**	**15**	**15**	mg/l	
R6		W	2			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		7		**7**	**7**	**7**	mg/l	
R6		W	1			05/12/2007	2007/8 Titan	**CL**	Chloride as Cl		20		**20**	**20**	**20**	mg/l	
R6		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		12		**12**	**12**	**12**	mg/l	
R6		W	3			24/06/2008	2007/8 Titan	**CL**	Chloride as Cl		14		**14**	**14**	**14**	mg/l	
R7		W	3			24/06/2008	2007/8 Titan	**CL**	Chloride as Cl		14		**14**	**14**	**14**	mg/l	
R7		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		12		**12**	**12**	**12**	mg/l	
R7		W	1			06/12/2007	2007/8 Titan	**CL**	Chloride as Cl		19		**19**	**19**	**19**	mg/l	
R7		W	2			18/03/2008	2007/8 Titan	**CL**	Chloride as Cl		18		**18**	**18**	**18**	mg/l	
R8		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		14		**14**	**14**	**14**	mg/l	
R8		W	1			06/12/2007	2007/8 Titan	**CL**	Chloride as Cl		20		**20**	**20**	**20**	mg/l	
R8		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		20		**20**	**20**	**20**	mg/l	
R8		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		42		**42**	**42**	**42**	mg/l	
R9		W	3			23/06/2008	2007/8 Titan	**CL**	Chloride as Cl		38		**38**	**38**	**38**	mg/l	
R9		W	4			24/09/2008	2007/8 Titan	**CL**	Chloride as Cl		51		**51**	**51**	**51**	mg/l	
R9		W	1			06/12/2007	2007/8 Titan	**CL**	Chloride as Cl		21		**21**	**21**	**21**	mg/l	
R9		W	2			17/03/2008	2007/8 Titan	**CL**	Chloride as Cl		28		**28**	**28**	**28**	mg/l	
R1		W	1			05/12/2007	2007/8 Titan	**CONDW**	Conductivity		477		**477**	**477**	**477**	uS/cm	
R1		W	2			19/03/2008	2007/8 Titan	**CONDW**	Conductivity		311		**311**	**311**	**311**	uS/cm	
R1		W	4			25/09/2008	2007/8 Titan	**CONDW**	Conductivity		475		**475**	**475**	**475**	uS/cm	
R10		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		671		**671**	**671**	**671**	uS/cm	
R10		W	3			24/06/2008	2007/8 Titan	**CONDW**	Conductivity		552		**552**	**552**	**552**	uS/cm	
R10		W	2			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		666		**666**	**666**	**666**	uS/cm	
R10		W	1			11/12/2007	2007/8 Titan	**CONDW**	Conductivity		277		**277**	**277**	**277**	uS/cm	
R11		W	1			11/12/2007	2007/8 Titan	**CONDW**	Conductivity		414		**414**	**414**	**414**	uS/cm	
R11		W	2			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		620		**620**	**620**	**620**	uS/cm	
R11		W	3			24/06/2008	2007/8 Titan	**CONDW**	Conductivity		626		**626**	**626**	**626**	uS/cm	
R11		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		719		**719**	**719**	**719**	uS/cm	
R12		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		445		**445**	**445**	**445**	uS/cm	
R12		W	3			24/06/2008	2007/8 Titan	**CONDW**	Conductivity		506		**506**	**506**	**506**	uS/cm	
R12		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		427		**427**	**427**	**427**	uS/cm	
R12		W	1			11/12/2007	2007/8 Titan	**CONDW**	Conductivity		402		**402**	**402**	**402**	uS/cm	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
R13		W	1			07/12/2007	2007/8 Titan	**CONDW**	Conductivity		490		**490**	**490**	**490**	uS/cm	
R13		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		443		**443**	**443**	**443**	uS/cm	
R13		W	3			24/06/2008	2007/8 Titan	**CONDW**	Conductivity		574		**574**	**574**	**574**	uS/cm	
R13		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		450		**450**	**450**	**450**	uS/cm	
R14		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		645		**645**	**645**	**645**	uS/cm	
R14		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		733		**733**	**733**	**733**	uS/cm	
R14		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		385		**385**	**385**	**385**	uS/cm	
R14		W	1			11/12/2007	2007/8 Titan	**CONDW**	Conductivity		521		**521**	**521**	**521**	uS/cm	
R15		W	1			11/12/2007	2007/8 Titan	**CONDW**	Conductivity		422		**422**	**422**	**422**	uS/cm	
R15		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		425		**425**	**425**	**425**	uS/cm	
R15		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		598		**598**	**598**	**598**	uS/cm	
R15		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		483		**483**	**483**	**483**	uS/cm	
R16		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		660		**660**	**660**	**660**	uS/cm	
R16		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		651		**651**	**651**	**651**	uS/cm	
R16		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		373		**373**	**373**	**373**	uS/cm	
R16		W	1			11/12/2007	2007/8 Titan	**CONDW**	Conductivity		476		**476**	**476**	**476**	uS/cm	
R17		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		424		**424**	**424**	**424**	uS/cm	
R17		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		911		**911**	**911**	**911**	uS/cm	
R17		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		845		**845**	**845**	**845**	uS/cm	
R17		W	1			07/12/2007	2007/8 Titan	**CONDW**	Conductivity		678		**678**	**678**	**678**	uS/cm	
R18		W	1			07/12/2007	2007/8 Titan	**CONDW**	Conductivity		1058		**1058**	**1058**	**1058**	uS/cm	
R18		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		1045		**1045**	**1045**	**1045**	uS/cm	
R18		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		1164		**1164**	**1164**	**1164**	uS/cm	
R18		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		701		**701**	**701**	**701**	uS/cm	
R19		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		393		**393**	**393**	**393**	uS/cm	
R19		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		402		**402**	**402**	**402**	uS/cm	
R19		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		427		**427**	**427**	**427**	uS/cm	
R19		W	1			07/12/2007	2007/8 Titan	**CONDW**	Conductivity		395		**395**	**395**	**395**	uS/cm	
R2		W	1			05/12/2007	2007/8 Titan	**CONDW**	Conductivity		364		**364**	**364**	**364**	uS/cm	
R2		W	4			25/09/2008	2007/8 Titan	**CONDW**	Conductivity		611		**611**	**611**	**611**	uS/cm	
R2		W	3			25/06/2008	2007/8 Titan	**CONDW**	Conductivity		670		**670**	**670**	**670**	uS/cm	
R2		W	2			19/03/2008	2007/8 Titan	**CONDW**	Conductivity		647		**647**	**647**	**647**	uS/cm	
R20		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		666		**666**	**666**	**666**	uS/cm	
R20		W	1			07/12/2007	2007/8 Titan	**CONDW**	Conductivity		237		**237**	**237**	**237**	uS/cm	
R21		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		797		**797**	**797**	**797**	uS/cm	
R21		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		710		**710**	**710**	**710**	uS/cm	
R21		W	2			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		573		**573**	**573**	**573**	uS/cm	
R22		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		838		**838**	**838**	**838**	uS/cm	
R22		W	3			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		760		**760**	**760**	**760**	uS/cm	
R3		W	3			25/06/2008	2007/8 Titan	**CONDW**	Conductivity		463		**463**	**463**	**463**	uS/cm	
R3		W	4			25/09/2008	2007/8 Titan	**CONDW**	Conductivity		445		**445**	**445**	**445**	uS/cm	
R3		W	2			19/03/2008	2007/8 Titan	**CONDW**	Conductivity		381		**381**	**381**	**381**	uS/cm	
R3		W	1			05/12/2007	2007/8 Titan	**CONDW**	Conductivity		283		**283**	**283**	**283**	uS/cm	
R4		W	2			19/03/2008	2007/8 Titan	**CONDW**	Conductivity		382		**382**	**382**	**382**	uS/cm	
R4		W	4			25/09/2008	2007/8 Titan	**CONDW**	Conductivity		436		**436**	**436**	**436**	uS/cm	
R4		W	3			25/06/2008	2007/8 Titan	**CONDW**	Conductivity		460		**460**	**460**	**460**	uS/cm	
R4		W	1			05/12/2007	2007/8 Titan	**CONDW**	Conductivity		307		**307**	**307**	**307**	uS/cm	
R5		W	1			06/12/2007	2007/8 Titan	**CONDW**	Conductivity		284		**284**	**284**	**284**	uS/cm	
R5		W	4			25/09/2008	2007/8 Titan	**CONDW**	Conductivity		475		**475**	**475**	**475**	uS/cm	
R5		W	2			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		297		**297**	**297**	**297**	uS/cm	
R6		W	2			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		206		**206**	**206**	**206**	uS/cm	
R6		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		441		**441**	**441**	**441**	uS/cm	
R6		W	3			24/06/2008	2007/8 Titan	**CONDW**	Conductivity		489		**489**	**489**	**489**	uS/cm	
R6		W	1			05/12/2007	2007/8 Titan	**CONDW**	Conductivity		308		**308**	**308**	**308**	uS/cm	
R7		W	3			24/06/2008	2007/8 Titan	**CONDW**	Conductivity		493		**493**	**493**	**493**	uS/cm	
R7		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		423		**423**	**423**	**423**	uS/cm	
R7		W	2			18/03/2008	2007/8 Titan	**CONDW**	Conductivity		359		**359**	**359**	**359**	uS/cm	
R7		W	1			06/12/2007	2007/8 Titan	**CONDW**	Conductivity		343		**343**	**343**	**343**	uS/cm	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
R8		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		360		**360**	**360**	**360**	uS/cm	
R8		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		572		**572**	**572**	**572**	uS/cm	
R8		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		762		**762**	**762**	**762**	uS/cm	
R8		W	1			06/12/2007	2007/8 Titan	**CONDW**	Conductivity		364		**364**	**364**	**364**	uS/cm	
R9		W	4			24/09/2008	2007/8 Titan	**CONDW**	Conductivity		918		**918**	**918**	**918**	uS/cm	
R9		W	3			23/06/2008	2007/8 Titan	**CONDW**	Conductivity		654		**654**	**654**	**654**	uS/cm	
R9		W	2			17/03/2008	2007/8 Titan	**CONDW**	Conductivity		565		**565**	**565**	**565**	uS/cm	
R9		W	1			06/12/2007	2007/8 Titan	**CONDW**	Conductivity		442		**442**	**442**	**442**	uS/cm	
11.1		W	Q1			02/06/2015	RPS 2015 SW	**CONDW**	Conductivity @ 20 deg.C	TM120	0.591		**0.591**	**0.591**	**0.591**	mS/cm	0.005
13.1		W	Q1			02/06/2015	RPS 2015 SW	**CONDW**	Conductivity @ 20 deg.C	TM120	0.527		**0.527**	**0.527**	**0.527**	mS/cm	0.005
41282	**NEWPORT WETLANDS- POINT 1 (NWT01)**	W	16/01/2015			16/01/2015	NRW	**CONDW**	Conductivity at 20 C		328		**328**	**328**	**328**	uS/cm	
41282	**NEWPORT WETLANDS- POINT 1 (NWT01)**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		1460		**1460**	**1460**	**1460**	uS/cm	
41282	**NEWPORT WETLANDS- POINT 1 (NWT01)**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		513		**513**	**513**	**513**	uS/cm	
41282	**NEWPORT WETLANDS- POINT 1 (NWT01)**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		396		**396**	**396**	**396**	uS/cm	
41283	**NEWPORT WETLANDS- POINT 5 (NWT05)**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		494		**494**	**494**	**494**	uS/cm	
41283	**NEWPORT WETLANDS- POINT 5 (NWT05)**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		654		**654**	**654**	**654**	uS/cm	
41283	**NEWPORT WETLANDS- POINT 5 (NWT05)**	W	16/01/2015			16/01/2015	NRW	**CONDW**	Conductivity at 20 C		253		**253**	**253**	**253**	uS/cm	
41283	**NEWPORT WETLANDS- POINT 5 (NWT05)**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		467		**467**	**467**	**467**	uS/cm	
41284	**NEWPORT WETLANDS- POINT 10A (NWT10A)**	W	16/01/2015			16/01/2015	NRW	**CONDW**	Conductivity at 20 C		370		**370**	**370**	**370**	uS/cm	
41284	**NEWPORT WETLANDS- POINT 10A (NWT10A)**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		418		**418**	**418**	**418**	uS/cm	
41284	**NEWPORT WETLANDS- POINT 10A (NWT10A)**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		336		**336**	**336**	**336**	uS/cm	
41284	**NEWPORT WETLANDS- POINT 10A (NWT10A)**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		431		**431**	**431**	**431**	uS/cm	
41285	**NEWPORT WETLANDS- POINT 14 (NWT14)**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		451		**451**	**451**	**451**	uS/cm	
41285	**NEWPORT WETLANDS- POINT 14 (NWT14)**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		496		**496**	**496**	**496**	uS/cm	
41285	**NEWPORT WETLANDS- POINT 14 (NWT14)**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		547		**547**	**547**	**547**	uS/cm	
41285	**NEWPORT WETLANDS- POINT 14 (NWT14)**	W	16/01/2015			16/01/2015	NRW	**CONDW**	Conductivity at 20 C		545		**545**	**545**	**545**	uS/cm	
41286	**NEWPORT WETLANDS- POINT 21 (NWT21)**	W	16/01/2015			16/01/2015	NRW	**CONDW**	Conductivity at 20 C		393		**393**	**393**	**393**	uS/cm	
41286	**NEWPORT WETLANDS- POINT 21 (NWT21)**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		505		**505**	**505**	**505**	uS/cm	
41286	**NEWPORT WETLANDS- POINT 21 (NWT21)**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		349		**349**	**349**	**349**	uS/cm	
41286	**NEWPORT WETLANDS- POINT 21 (NWT21)**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		454		**454**	**454**	**454**	uS/cm	
41288	**NEWPORT WETLANDS- POINT 24 (NWT24) 2005-2015**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		369		**369**	**369**	**369**	uS/cm	
41288	**NEWPORT WETLANDS- POINT 24 (NWT24) 2005-2016**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		333		**333**	**333**	**333**	uS/cm	
41288	**NEWPORT WETLANDS- POINT 24 (NWT24) 2005-2017**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		363		**363**	**363**	**363**	uS/cm	
41290	**NEWPORT WETLANDS- POINT 39 (NWT39)**	W	16/01/2015			16/01/2015	NRW	**CONDW**	Conductivity at 20 C		235		**235**	**235**	**235**	uS/cm	
41290	**NEWPORT WETLANDS- POINT 39 (NWT39)**	W	28/10/2014			28/10/2014	NRW	**CONDW**	Conductivity at 20 C		328		**328**	**328**	**328**	uS/cm	
41290	**NEWPORT WETLANDS- POINT 39 (NWT39)**	W	07/08/2014			08/07/2014	NRW	**CONDW**	Conductivity at 20 C		307		**307**	**307**	**307**	uS/cm	
41290	**NEWPORT WETLANDS- POINT 39 (NWT39)**	W	04/10/2014			10/04/2014	NRW	**CONDW**	Conductivity at 20 C		303		**303**	**303**	**303**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2015**	W	30/01/2007			30/01/2007	NRW	**CONDW**	Conductivity at 20 C		378		**378**	**378**	**378**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2016**	W	19/03/2007			19/03/2007	NRW	**CONDW**	Conductivity at 20 C		470		**470**	**470**	**470**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2017**	W	02/12/2007			12/02/2007	NRW	**CONDW**	Conductivity at 20 C		403		**403**	**403**	**403**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2019**	W	03/07/2008			07/03/2008	NRW	**CONDW**	Conductivity at 20 C		547		**547**	**547**	**547**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2022**	W	04/10/2007			10/04/2007	NRW	**CONDW**	Conductivity at 20 C		408		**408**	**408**	**408**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2024**	W	14/05/2007			14/05/2007	NRW	**CONDW**	Conductivity at 20 C		370		**370**	**370**	**370**	uS/cm	
18137	**NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN**	W	02/06/2014			06/02/2014	NRW	**CONDW**	Conductivity at 25 C		441		**441**	**441**	**441**	uS/cm	
18137	**NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN**	W	28/02/2014			28/02/2014	NRW	**CONDW**	Conductivity at 25 C		509		**509**	**509**	**509**	uS/cm	
18137	**NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN**	W	31/03/2014			31/03/2014	NRW	**CONDW**	Conductivity at 25 C		784		**784**	**784**	**784**	uS/cm	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
41057	BROADWAY REEN AT CIDWELLY ARCH	W	22/05/2013			22/05/2013	NRW	CONDW	Conductivity at 25 C		429		429	429	429	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	18/04/2013			18/04/2013	NRW	CONDW	Conductivity at 25 C		432		432	432	432	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	14/02/2013			14/02/2013	NRW	CONDW	Conductivity at 25 C		122		122	122	122	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	17/10/2013			17/10/2013	NRW	CONDW	Conductivity at 25 C		365		365	365	365	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	25/09/2013			25/09/2013	NRW	CONDW	Conductivity at 25 C		428		428	428	428	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	01/06/2014			06/01/2014	NRW	CONDW	Conductivity at 25 C		318		318	318	318	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	03/03/2014			03/03/2014	NRW	CONDW	Conductivity at 25 C		406		406	406	406	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	20/11/2013			20/11/2013	NRW	CONDW	Conductivity at 25 C		479		479	479	479	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	02/06/2014			06/02/2014	NRW	CONDW	Conductivity at 25 C		366		366	366	366	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	05/01/2014			01/05/2014	NRW	CONDW	Conductivity at 25 C		411		411	411	411	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	30/10/2013			30/10/2013	NRW	CONDW	Conductivity at 25 C		456		456	456	456	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	04/02/2014			02/04/2014	NRW	CONDW	Conductivity at 25 C		414		414	414	414	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	21/07/2014			21/07/2014	NRW	CONDW	Conductivity at 25 C		432		432	432	432	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	09/10/2014			10/09/2014	NRW	CONDW	Conductivity at 25 C		429		429	429	429	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	10/01/2014			01/10/2014	NRW	CONDW	Conductivity at 25 C		484		484	484	484	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	21/08/2014			21/08/2014	NRW	CONDW	Conductivity at 25 C		396		396	396	396	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	30/09/2014			30/09/2014	NRW	CONDW	Conductivity at 25 C		483		483	483	483	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	06/06/2014			06/06/2014	NRW	CONDW	Conductivity at 25 C		401		401	401	401	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	13/08/2014			13/08/2014	NRW	CONDW	Conductivity at 25 C		357		357	357	357	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	16/10/2014			16/10/2014	NRW	CONDW	Conductivity at 25 C		402		402	402	402	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	09/09/2014			09/09/2014	NRW	CONDW	Conductivity at 25 C		423		423	423	423	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	12/02/2014			02/12/2014	NRW	CONDW	Conductivity at 25 C		485		485	485	485	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	17/11/2014			17/11/2014	NRW	CONDW	Conductivity at 25 C		406		406	406	406	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	23/02/2015			23/02/2015	NRW	CONDW	Conductivity at 25 C		397.4		397.4	397.4	397.4	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	18/06/2015			18/06/2015	NRW	CONDW	Conductivity at 25 C		413		413	413	413	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	02/05/2015			05/02/2015	NRW	CONDW	Conductivity at 25 C		652.1		652.1	652.1	652.1	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	16/03/2015			16/03/2015	NRW	CONDW	Conductivity at 25 C		438		438	438	438	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	23/01/2015			23/01/2015	NRW	CONDW	Conductivity at 25 C		472		472	472	472	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	19/05/2015			19/05/2015	NRW	CONDW	Conductivity at 25 C		349.3		349.3	349.3	349.3	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	04/08/2013			08/04/2013	NRW	CONDW	Conductivity at 25 C		485		485	485	485	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	21/02/2013			21/02/2013	NRW	CONDW	Conductivity at 25 C		474		474	474	474	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	07/04/2013			04/07/2013	NRW	CONDW	Conductivity at 25 C		439		439	439	439	uS/cm	
41057	BROADWAY REEN AT CIDWELLY ARCH	W	30/08/2013			30/08/2013	NRW	CONDW	Conductivity at 25 C		436		436	436	436	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	23/01/2015			23/01/2015	NRW	CONDW	Conductivity at 25 C		446		446	446	446	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	02/05/2015			05/02/2015	NRW	CONDW	Conductivity at 25 C		620		620	620	620	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	16/10/2014			16/10/2014	NRW	CONDW	Conductivity at 25 C		523		523	523	523	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	04/08/2013			08/04/2013	NRW	CONDW	Conductivity at 25 C		437		437	437	437	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	25/09/2013			25/09/2013	NRW	CONDW	Conductivity at 25 C		547		547	547	547	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	07/04/2013			04/07/2013	NRW	CONDW	Conductivity at 25 C		510		510	510	510	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	22/05/2013			22/05/2013	NRW	CONDW	Conductivity at 25 C		409		409	409	409	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	21/02/2013			21/02/2013	NRW	CONDW	Conductivity at 25 C		487		487	487	487	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	14/02/2013			14/02/2013	NRW	CONDW	Conductivity at 25 C		334		334	334	334	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	18/04/2013			18/04/2013	NRW	CONDW	Conductivity at 25 C		461		461	461	461	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	31/10/2013			31/10/2013	NRW	CONDW	Conductivity at 25 C		420		420	420	420	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	10/07/2013			07/10/2013	NRW	CONDW	Conductivity at 25 C		616		616	616	616	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	13/08/2013			13/08/2013	NRW	CONDW	Conductivity at 25 C		429		429	429	429	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	06/06/2014			06/06/2014	NRW	CONDW	Conductivity at 25 C		377		377	377	377	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	04/02/2014			02/04/2014	NRW	CONDW	Conductivity at 25 C		249		249	249	249	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	20/11/2013			20/11/2013	NRW	CONDW	Conductivity at 25 C		604		604	604	604	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	05/01/2014			01/05/2014	NRW	CONDW	Conductivity at 25 C		447		447	447	447	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	02/06/2014			06/02/2014	NRW	CONDW	Conductivity at 25 C		323		323	323	323	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	01/06/2014			06/01/2014	NRW	CONDW	Conductivity at 25 C		300		300	300	300	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	21/07/2014			21/07/2014	NRW	CONDW	Conductivity at 25 C		526		526	526	526	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	03/03/2014			03/03/2014	NRW	CONDW	Conductivity at 25 C		378		378	378	378	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	09/10/2014			10/09/2014	NRW	CONDW	Conductivity at 25 C		538		538	538	538	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	30/09/2014			30/09/2014	NRW	CONDW	Conductivity at 25 C		595		595	595	595	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	09/09/2014			09/09/2014	NRW	CONDW	Conductivity at 25 C		501		501	501	501	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	21/08/2014			21/08/2014	NRW	CONDW	Conductivity at 25 C		505		505	505	505	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	10/01/2014			01/10/2014	NRW	CONDW	Conductivity at 25 C		589		589	589	589	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	13/08/2014			13/08/2014	NRW	CONDW	Conductivity at 25 C		430		430	430	430	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	18/06/2015			18/06/2015	NRW	CONDW	Conductivity at 25 C		453		453	453	453	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	17/11/2014			17/11/2014	NRW	CONDW	Conductivity at 25 C		441		441	441	441	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	19/05/2015			19/05/2015	NRW	CONDW	Conductivity at 25 C		461.6		461.6	461.6	461.6	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	12/02/2014			02/12/2014	NRW	CONDW	Conductivity at 25 C		560.9		560.9	560.9	560.9	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	23/02/2015			23/02/2015	NRW	CONDW	Conductivity at 25 C		356.7		356.7	356.7	356.7	uS/cm	
41064	HAWSE REEN AT COAST ROAD (ST2856 8163)	W	16/03/2015			16/03/2015	NRW	CONDW	Conductivity at 25 C		427		427	427	427	uS/cm	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
41069	**MONKS DITCH AT WHITSON ARCH**	W	01/06/2011			06/01/2011	NRW	**CONDW**	Conductivity at 25 C		693		**693**	**693**	**693**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	10/05/2010			05/10/2010	NRW	**CONDW**	Conductivity at 25 C		446		**446**	**446**	**446**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	29/03/2011			29/03/2011	NRW	**CONDW**	Conductivity at 25 C		450		**450**	**450**	**450**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	02/02/2011			02/02/2011	NRW	**CONDW**	Conductivity at 25 C		506		**506**	**506**	**506**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	11/09/2010			09/11/2010	NRW	**CONDW**	Conductivity at 25 C		443		**443**	**443**	**443**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	03/11/2011			11/03/2011	NRW	**CONDW**	Conductivity at 25 C		493		**493**	**493**	**493**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	26/10/2010			26/10/2010	NRW	**CONDW**	Conductivity at 25 C		438		**438**	**438**	**438**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	17/02/2012			17/02/2012	NRW	**CONDW**	Conductivity at 25 C		313		**313**	**313**	**313**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	05/11/2011			11/05/2011	NRW	**CONDW**	Conductivity at 25 C		430		**430**	**430**	**430**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	22/08/2011			22/08/2011	NRW	**CONDW**	Conductivity at 25 C		419		**419**	**419**	**419**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	27/01/2012			27/01/2012	NRW	**CONDW**	Conductivity at 25 C		301		**301**	**301**	**301**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	13/12/2011			13/12/2011	NRW	**CONDW**	Conductivity at 25 C		339		**339**	**339**	**339**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	06/06/2011			06/06/2011	NRW	**CONDW**	Conductivity at 25 C		440		**440**	**440**	**440**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	07/06/2011			06/07/2011	NRW	**CONDW**	Conductivity at 25 C		440.7		**440.7**	**440.7**	**440.7**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	12/09/2011			09/12/2011	NRW	**CONDW**	Conductivity at 25 C		307		**307**	**307**	**307**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	23/10/2012			23/10/2012	NRW	**CONDW**	Conductivity at 25 C		424		**424**	**424**	**424**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	07/02/2012			02/07/2012	NRW	**CONDW**	Conductivity at 25 C		407		**407**	**407**	**407**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	14/08/2012			14/08/2012	NRW	**CONDW**	Conductivity at 25 C		439		**439**	**439**	**439**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	28/09/2012			28/09/2012	NRW	**CONDW**	Conductivity at 25 C		397		**397**	**397**	**397**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	31/08/2012			31/08/2012	NRW	**CONDW**	Conductivity at 25 C		410		**410**	**410**	**410**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	05/04/2012			04/05/2012	NRW	**CONDW**	Conductivity at 25 C		413		**413**	**413**	**413**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	06/01/2012			01/06/2012	NRW	**CONDW**	Conductivity at 25 C		444		**444**	**444**	**444**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	03/12/2012			12/03/2012	NRW	**CONDW**	Conductivity at 25 C		489		**489**	**489**	**489**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	19/11/2012			19/11/2012	NRW	**CONDW**	Conductivity at 25 C		449		**449**	**449**	**449**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	04/12/2012			12/04/2012	NRW	**CONDW**	Conductivity at 25 C		106		**106**	**106**	**106**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	03/01/2013			01/03/2013	NRW	**CONDW**	Conductivity at 25 C		435		**435**	**435**	**435**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	19/06/2013			19/06/2013	NRW	**CONDW**	Conductivity at 25 C		488		**488**	**488**	**488**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	04/10/2013			10/04/2013	NRW	**CONDW**	Conductivity at 25 C		501		**501**	**501**	**501**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	02/11/2013			11/02/2013	NRW	**CONDW**	Conductivity at 25 C		379		**379**	**379**	**379**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	17/04/2013			17/04/2013	NRW	**CONDW**	Conductivity at 25 C		459		**459**	**459**	**459**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	27/06/2013			27/06/2013	NRW	**CONDW**	Conductivity at 25 C		453		**453**	**453**	**453**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	01/06/2014			06/01/2014	NRW	**CONDW**	Conductivity at 25 C		293		**293**	**293**	**293**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	19/11/2013			19/11/2013	NRW	**CONDW**	Conductivity at 25 C		430		**430**	**430**	**430**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	04/02/2014			02/04/2014	NRW	**CONDW**	Conductivity at 25 C		432		**432**	**432**	**432**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	03/06/2014			06/03/2014	NRW	**CONDW**	Conductivity at 25 C		363		**363**	**363**	**363**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	08/09/2013			09/08/2013	NRW	**CONDW**	Conductivity at 25 C		439		**439**	**439**	**439**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	20/09/2013			20/09/2013	NRW	**CONDW**	Conductivity at 25 C		432		**432**	**432**	**432**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	10/07/2013			07/10/2013	NRW	**CONDW**	Conductivity at 25 C		482		**482**	**482**	**482**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	31/10/2013			31/10/2013	NRW	**CONDW**	Conductivity at 25 C		322		**322**	**322**	**322**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	02/07/2014			07/02/2014	NRW	**CONDW**	Conductivity at 25 C		252		**252**	**252**	**252**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	16/10/2014			16/10/2014	NRW	**CONDW**	Conductivity at 25 C		437		**437**	**437**	**437**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	22/09/2014			22/09/2014	NRW	**CONDW**	Conductivity at 25 C		466		**466**	**466**	**466**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	11/03/2014			03/11/2014	NRW	**CONDW**	Conductivity at 25 C		434		**434**	**434**	**434**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	18/08/2014			18/08/2014	NRW	**CONDW**	Conductivity at 25 C		452		**452**	**452**	**452**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	09/10/2014			10/09/2014	NRW	**CONDW**	Conductivity at 25 C		473		**473**	**473**	**473**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	06/11/2014			11/06/2014	NRW	**CONDW**	Conductivity at 25 C		423		**423**	**423**	**423**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	05/02/2014			02/05/2014	NRW	**CONDW**	Conductivity at 25 C		455		**455**	**455**	**455**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	10/02/2014			02/10/2014	NRW	**CONDW**	Conductivity at 25 C		520		**520**	**520**	**520**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	31/07/2014			31/07/2014	NRW	**CONDW**	Conductivity at 25 C		447		**447**	**447**	**447**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	03/05/2015			05/03/2015	NRW	**CONDW**	Conductivity at 25 C		455		**455**	**455**	**455**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	05/07/2015			07/05/2015	NRW	**CONDW**	Conductivity at 25 C		453		**453**	**453**	**453**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	06/12/2015			12/06/2015	NRW	**CONDW**	Conductivity at 25 C		421		**421**	**421**	**421**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	01/07/2015			07/01/2015	NRW	**CONDW**	Conductivity at 25 C		400.7		**400.7**	**400.7**	**400.7**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	15/09/2010			15/09/2010	NRW	**CONDW**	Conductivity at 25 C		460		**460**	**460**	**460**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	02/04/2015			04/02/2015	NRW	**CONDW**	Conductivity at 25 C		447		**447**	**447**	**447**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	17/02/2015			17/02/2015	NRW	**CONDW**	Conductivity at 25 C		525.2		**525.2**	**525.2**	**525.2**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	07/01/2015			01/07/2015	NRW	**CONDW**	Conductivity at 25 C		596		**596**	**596**	**596**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	08/10/2010			10/08/2010	NRW	**CONDW**	Conductivity at 25 C		380		**380**	**380**	**380**	uS/cm	
41069	**MONKS DITCH AT WHITSON ARCH**	W	01/10/2013			10/01/2013	NRW	**CONDW**	Conductivity at 25 C		459		**459**	**459**	**459**	uS/cm	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
41071	WINDMILL PILL	W	04/10/2013			10/04/2013	NRW	CONDW	Conductivity at 25 C		740		740	740	740	uS/cm	
41071	WINDMILL PILL	W	06/12/2015			12/06/2015	NRW	CONDW	Conductivity at 25 C		1313		1313	1313	1313	uS/cm	
41071	WINDMILL PILL	W	07/01/2015			01/07/2015	NRW	CONDW	Conductivity at 25 C		1092		1092	1092	1092	uS/cm	
41071	WINDMILL PILL	W	02/02/2011			02/02/2011	NRW	CONDW	Conductivity at 25 C		793		793	793	793	uS/cm	
41071	WINDMILL PILL	W	01/06/2011			06/01/2011	NRW	CONDW	Conductivity at 25 C		1209		1209	1209	1209	uS/cm	
41071	WINDMILL PILL	W	26/10/2010			26/10/2010	NRW	CONDW	Conductivity at 25 C		1682		1682	1682	1682	uS/cm	
41071	WINDMILL PILL	W	11/09/2010			09/11/2010	NRW	CONDW	Conductivity at 25 C		657		657	657	657	uS/cm	
41071	WINDMILL PILL	W	10/05/2010			05/10/2010	NRW	CONDW	Conductivity at 25 C		574		574	574	574	uS/cm	
41071	WINDMILL PILL	W	29/03/2011			29/03/2011	NRW	CONDW	Conductivity at 25 C		726		726	726	726	uS/cm	
41071	WINDMILL PILL	W	15/09/2010			15/09/2010	NRW	CONDW	Conductivity at 25 C		3629		3629	3629	3629	uS/cm	
41071	WINDMILL PILL	W	05/10/2011			10/05/2011	NRW	CONDW	Conductivity at 25 C		632		632	632	632	uS/cm	
41071	WINDMILL PILL	W	03/11/2011			11/03/2011	NRW	CONDW	Conductivity at 25 C		996		996	996	996	uS/cm	
41071	WINDMILL PILL	W	12/09/2011			09/12/2011	NRW	CONDW	Conductivity at 25 C		207		207	207	207	uS/cm	
41071	WINDMILL PILL	W	13/12/2011			13/12/2011	NRW	CONDW	Conductivity at 25 C		208		208	208	208	uS/cm	
41071	WINDMILL PILL	W	23/11/2011			23/11/2011	NRW	CONDW	Conductivity at 25 C		208		208	208	208	uS/cm	
41071	WINDMILL PILL	W	17/02/2012			17/02/2012	NRW	CONDW	Conductivity at 25 C		218		218	218	218	uS/cm	
41071	WINDMILL PILL	W	07/06/2011			06/07/2011	NRW	CONDW	Conductivity at 25 C		542.7		542.7	542.7	542.7	uS/cm	
41071	WINDMILL PILL	W	27/01/2012			27/01/2012	NRW	CONDW	Conductivity at 25 C		377		377	377	377	uS/cm	
41071	WINDMILL PILL	W	06/06/2011			06/06/2011	NRW	CONDW	Conductivity at 25 C		665		665	665	665	uS/cm	
41071	WINDMILL PILL	W	22/08/2011			22/08/2011	NRW	CONDW	Conductivity at 25 C		531		531	531	531	uS/cm	
41071	WINDMILL PILL	W	10/01/2012			01/10/2012	NRW	CONDW	Conductivity at 25 C		602		602	602	602	uS/cm	
41071	WINDMILL PILL	W	24/10/2012			24/10/2012	NRW	CONDW	Conductivity at 25 C		677		677	677	677	uS/cm	
41071	WINDMILL PILL	W	05/11/2012			11/05/2012	NRW	CONDW	Conductivity at 25 C		313		313	313	313	uS/cm	
41071	WINDMILL PILL	W	03/08/2012			08/03/2012	NRW	CONDW	Conductivity at 25 C		208		208	208	208	uS/cm	
41071	WINDMILL PILL	W	06/01/2012			01/06/2012	NRW	CONDW	Conductivity at 25 C		681		681	681	681	uS/cm	
41071	WINDMILL PILL	W	20/09/2012			20/09/2012	NRW	CONDW	Conductivity at 25 C		707		707	707	707	uS/cm	
41071	WINDMILL PILL	W	09/07/2012			07/09/2012	NRW	CONDW	Conductivity at 25 C		673		673	673	673	uS/cm	
41071	WINDMILL PILL	W	07/02/2012			02/07/2012	NRW	CONDW	Conductivity at 25 C		605		605	605	605	uS/cm	
41071	WINDMILL PILL	W	16/04/2012			16/04/2012	NRW	CONDW	Conductivity at 25 C		813		813	813	813	uS/cm	
41071	WINDMILL PILL	W	01/10/2013			10/01/2013	NRW	CONDW	Conductivity at 25 C		699		699	699	699	uS/cm	
41071	WINDMILL PILL	W	21/02/2013			21/02/2013	NRW	CONDW	Conductivity at 25 C		675		675	675	675	uS/cm	
41071	WINDMILL PILL	W	02/01/2013			01/02/2013	NRW	CONDW	Conductivity at 25 C		385		385	385	385	uS/cm	
41071	WINDMILL PILL	W	12/05/2012			05/12/2012	NRW	CONDW	Conductivity at 25 C		644		644	644	644	uS/cm	
41071	WINDMILL PILL	W	06/05/2013			05/06/2013	NRW	CONDW	Conductivity at 25 C		626		626	626	626	uS/cm	
41071	WINDMILL PILL	W	04/04/2014			04/04/2014	NRW	CONDW	Conductivity at 25 C		791		791	791	791	uS/cm	
41071	WINDMILL PILL	W	10/11/2013			11/10/2013	NRW	CONDW	Conductivity at 25 C		803		803	803	803	uS/cm	
41071	WINDMILL PILL	W	20/09/2013			20/09/2013	NRW	CONDW	Conductivity at 25 C		558		558	558	558	uS/cm	
41071	WINDMILL PILL	W	14/02/2014			14/02/2014	NRW	CONDW	Conductivity at 25 C		517		517	517	517	uS/cm	
41071	WINDMILL PILL	W	19/11/2013			19/11/2013	NRW	CONDW	Conductivity at 25 C		682		682	682	682	uS/cm	
41071	WINDMILL PILL	W	11/01/2013			01/11/2013	NRW	CONDW	Conductivity at 25 C		490		490	490	490	uS/cm	
41071	WINDMILL PILL	W	19/04/2013			19/04/2013	NRW	CONDW	Conductivity at 25 C		730		730	730	730	uS/cm	
41071	WINDMILL PILL	W	07/08/2013			08/07/2013	NRW	CONDW	Conductivity at 25 C		612		612	612	612	uS/cm	
41071	WINDMILL PILL	W	21/01/2014			21/01/2014	NRW	CONDW	Conductivity at 25 C		530		530	530	530	uS/cm	
41071	WINDMILL PILL	W	08/05/2013			05/08/2013	NRW	CONDW	Conductivity at 25 C		613		613	613	613	uS/cm	
41071	WINDMILL PILL	W	28/02/2014			28/02/2014	NRW	CONDW	Conductivity at 25 C		520		520	520	520	uS/cm	
41071	WINDMILL PILL	W	16/10/2014			16/10/2014	NRW	CONDW	Conductivity at 25 C		650		650	650	650	uS/cm	
41071	WINDMILL PILL	W	10/09/2014			09/10/2014	NRW	CONDW	Conductivity at 25 C		620		620	620	620	uS/cm	
41071	WINDMILL PILL	W	05/07/2014			07/05/2014	NRW	CONDW	Conductivity at 25 C		680		680	680	680	uS/cm	
41071	WINDMILL PILL	W	25/09/2014			25/09/2014	NRW	CONDW	Conductivity at 25 C		742		742	742	742	uS/cm	
41071	WINDMILL PILL	W	09/08/2014			08/09/2014	NRW	CONDW	Conductivity at 25 C		654		654	654	654	uS/cm	
41071	WINDMILL PILL	W	18/08/2014			18/08/2014	NRW	CONDW	Conductivity at 25 C		608		608	608	608	uS/cm	
41071	WINDMILL PILL	W	16/07/2014			16/07/2014	NRW	CONDW	Conductivity at 25 C		638		638	638	638	uS/cm	
41071	WINDMILL PILL	W	06/03/2014			03/06/2014	NRW	CONDW	Conductivity at 25 C		565		565	565	565	uS/cm	
41071	WINDMILL PILL	W	02/04/2015			04/02/2015	NRW	CONDW	Conductivity at 25 C		742		742	742	742	uS/cm	
41071	WINDMILL PILL	W	11/03/2014			03/11/2014	NRW	CONDW	Conductivity at 25 C		629		629	629	629	uS/cm	
41071	WINDMILL PILL	W	17/02/2015			17/02/2015	NRW	CONDW	Conductivity at 25 C		791		791	791	791	uS/cm	
41071	WINDMILL PILL	W	01/07/2015			07/01/2015	NRW	CONDW	Conductivity at 25 C		639		639	639	639	uS/cm	
41071	WINDMILL PILL	W	03/05/2015			05/03/2015	NRW	CONDW	Conductivity at 25 C		668		668	668	668	uS/cm	
41071	WINDMILL PILL	W	05/07/2015			07/05/2015	NRW	CONDW	Conductivity at 25 C		769		769	769	769	uS/cm	
41071	WINDMILL PILL	W	08/10/2010			10/08/2010	NRW	CONDW	Conductivity at 25 C		4382		4382	4382	4382	uS/cm	
41283	NEWPORT WETLANDS- POINT 5 (NWT05)	W	28/10/2014A			28/10/2014	NRW	CONDW	Conductivity at 25 C		726		726	726	726	uS/cm	

Location	Details	Type	Reference	Top	Base	Date	Zone/Phase	Det. (Short)	Determinand (Full)	Method	Detected Result	LoD Result	Result	Result	Result	Unit	LoD
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2018**	W	07/04/2008			04/07/2008	NRW	**CONDW**	Conductivity at 25 C		457		**457**	**457**	**457**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2020**	W	06/07/2007			07/06/2007	NRW	**CONDW**	Conductivity at 25 C		476		**476**	**476**	**476**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2021**	W	21/02/2013			21/02/2013	NRW	**CONDW**	Conductivity at 25 C		412		**412**	**412**	**412**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2023**	W	02/08/2008			08/02/2008	NRW	**CONDW**	Conductivity at 25 C		437		**437**	**437**	**437**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2025**	W	14/02/2013			14/02/2013	NRW	**CONDW**	Conductivity at 25 C		329		**329**	**329**	**329**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2026**	W	13/08/2013			13/08/2013	NRW	**CONDW**	Conductivity at 25 C		469		**469**	**469**	**469**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2027**	W	01/06/2014			06/01/2014	NRW	**CONDW**	Conductivity at 25 C		326		**326**	**326**	**326**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2028**	W	27/06/2013			27/06/2013	NRW	**CONDW**	Conductivity at 25 C		457		**457**	**457**	**457**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2029**	W	11/01/2013			01/11/2013	NRW	**CONDW**	Conductivity at 25 C		363		**363**	**363**	**363**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2030**	W	21/11/2013			21/11/2013	NRW	**CONDW**	Conductivity at 25 C		453		**453**	**453**	**453**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2031**	W	04/10/2013			10/04/2013	NRW	**CONDW**	Conductivity at 25 C		464		**464**	**464**	**464**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2032**	W	06/05/2013			05/06/2013	NRW	**CONDW**	Conductivity at 25 C		453		**453**	**453**	**453**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2033**	W	19/04/2013			19/04/2013	NRW	**CONDW**	Conductivity at 25 C		436		**436**	**436**	**436**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2034**	W	20/09/2013			20/09/2013	NRW	**CONDW**	Conductivity at 25 C		460		**460**	**460**	**460**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2035**	W	16/10/2013			16/10/2013	NRW	**CONDW**	Conductivity at 25 C		425		**425**	**425**	**425**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2036**	W	05/07/2014			07/05/2014	NRW	**CONDW**	Conductivity at 25 C		433		**433**	**433**	**433**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2037**	W	04/04/2014			04/04/2014	NRW	**CONDW**	Conductivity at 25 C		451		**451**	**451**	**451**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2038**	W	06/11/2014			11/06/2014	NRW	**CONDW**	Conductivity at 25 C		424		**424**	**424**	**424**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2039**	W	18/08/2014			18/08/2014	NRW	**CONDW**	Conductivity at 25 C		480		**480**	**480**	**480**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2040**	W	09/09/2014			09/09/2014	NRW	**CONDW**	Conductivity at 25 C		453		**453**	**453**	**453**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2041**	W	03/03/2014			03/03/2014	NRW	**CONDW**	Conductivity at 25 C		381		**381**	**381**	**381**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2042**	W	16/07/2014			16/07/2014	NRW	**CONDW**	Conductivity at 25 C		463		**463**	**463**	**463**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2043**	W	02/07/2014			07/02/2014	NRW	**CONDW**	Conductivity at 25 C		308		**308**	**308**	**308**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2044**	W	16/10/2014			16/10/2014	NRW	**CONDW**	Conductivity at 25 C		434		**434**	**434**	**434**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2045**	W	10/02/2014			02/10/2014	NRW	**CONDW**	Conductivity at 25 C		477		**477**	**477**	**477**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2046**	W	01/07/2015			07/01/2015	NRW	**CONDW**	Conductivity at 25 C		401.7		**401.7**	**401.7**	**401.7**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2047**	W	11/03/2014			03/11/2014	NRW	**CONDW**	Conductivity at 25 C		440		**440**	**440**	**440**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2048**	W	09/10/2014			10/09/2014	NRW	**CONDW**	Conductivity at 25 C		465		**465**	**465**	**465**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2049**	W	02/04/2015			04/02/2015	NRW	**CONDW**	Conductivity at 25 C		447		**447**	**447**	**447**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2050**	W	24/03/2015			24/03/2015	NRW	**CONDW**	Conductivity at 25 C		435.7		**435.7**	**435.7**	**435.7**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2051**	W	17/02/2015			17/02/2015	NRW	**CONDW**	Conductivity at 25 C		513.1		**513.1**	**513.1**	**513.1**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2052**	W	04/10/2015			10/04/2015	NRW	**CONDW**	Conductivity at 25 C		451.6		**451.6**	**451.6**	**451.6**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2053**	W	05/07/2015			07/05/2015	NRW	**CONDW**	Conductivity at 25 C		454		**454**	**454**	**454**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2054**	W	15/06/2015			15/06/2015	NRW	**CONDW**	Conductivity at 25 C		442		**442**	**442**	**442**	uS/cm	
45317	**MONKSDITCH AT LLANWERN ROAD BRIDGE 2005-2055**	W	07/01/2015			01/07/2015	NRW	**CONDW**	Conductivity at 25 C		465.1		**465.1**	**465.1**	**465.1**	uS/cm	
18137	**NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN**	W	28/02/2014			28/02/2014	NRW	**SAL**	Salinity			<1	**<1**	**<1**	**<1**	ppt	
18137	**NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN**	W	31/03/2014			31/03/2014	NRW	**SAL**	Salinity			<1	**<1**	**<1**	**<1**	ppt	
18137	**NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN**	W	02/06/2014			06/02/2014	NRW	**SAL**	Salinity			<1	**<1**	**<1**	**<1**	ppt	

Annex E: NRW Surface Water Monitoring Dataset

Location		BROADWAY REEN AT CIDWELLY ARCH												
		2010					2011							
Date	Units	17/08/2010	26/08/2010	09/10/2010	22/10/2010	18/11/2010	06/01/2011	20/01/2011	11/03/2011	02/04/2011	17/05/2011	09/06/2011	30/06/2011	04/08/2011
General Parameters														
Alkalinity to pH 4.5 as CaCO3	mg/l													
Ammonia un-ionised as N	mg/l	0.00093	<LOD	<LOD	<LOD	0.00066	0.00075	0.0003	0.00032	<LOD	<LOD	0.00099	0.00097	0.00207
Ammoniacal Nitrogen as N	mg/l	0.038	<LOD	<LOD	<LOD	0.058	0.061	0.05	0.038	<LOD	<LOD	0.097	0.099	0.194
Bicarbonate as HCO3	mg/l													
BOD : 5 Day ATU	mg/l	1.3	<LOD	2.9	1.9	2.9	2	2.1	2.2	1.1	1.8	3	2.7	1.5
Calcium	mg/l													
Calcium, Dissolved	mg/l													
Carbon, Organic, Dissolved as C :- {DOC}	mg/l													
Chemical Oxygen Demand :- {COD}	mg/l													
Chloride	mg/l													
Conductivity at 20 C	uS/cm													
Conductivity at 25 C	uS/cm													
Hardness, Total as CaCO3	mg/l													
Magnesium	mg/l													
Magnesium, Dissolved	mg/l													
Manganese	ug/l													
Manganese, Dissolved	ug/l													
Nitrate as N	mg/l	0.255	<LOD	<LOD	<LOD	0.346	0.416	<LOD	1.74	<LOD	0.703	0.306	<LOD	<LOD
Nitrite as N	mg/l	0.0048	<LOD	<LOD	<LOD	<LOD	0.0042	<LOD	0.0135	<LOD	0.0072	<LOD	<LOD	<LOD
Nitrogen, Total as N	mg/l													
Nitrogen, Total Oxidised as N	mg/l	0.26	<LOD	<LOD	<LOD	0.35	0.42	<LOD	1.75	<LOD	0.71	0.31	<LOD	<LOD
Orthophosphate, reactive as P	mg/l	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.09	<LOD	<LOD	<LOD	0.194	<LOD
Oxygen, Dissolved as O2	mg/l	9.72	9.93	9.8	11.3	12.3	9.52	11.7	10.4	11	10.1	9.96	9.62	10.3
Oxygen, Dissolved, % Saturation	%	97.2	94.3	88.7	96.4	102.3	94.2	92.8	93.2	92.4	95.2	95.3	92.7	94.6
pH	pH Units	7.96	7.84	7.63	7.95	7.88	7.67	7.67	7.65	7.64	7.73	7.64	7.61	7.71
pH : In Situ	pH Units													
Phosphorus, Total as P	mg/l													
Salinity	ppt													
Salinity : In Situ	ppt													
Solids, Suspended at 105 C	mg/l													
Sulphate as SO4	mg/l													
Temperature of Water	degC	15.27	12.92	10.83	8.41	7.22	14.8	5.32	10.37	7.91	12.47	13.26	13.59	11.65
Metals														
Aluminium	ug/l													
Aluminium, Dissolved	ug/l													
Antimony	ug/l													
Arsenic	ug/l													
Arsenic, Dissolved	ug/l													
Barium	ug/l													
Barium, Dissolved	ug/l													
Boron	ug/l													
Boron, Dissolved	ug/l													
Cadmium	ug/l													
Cadmium : Dry Wt	mg/kg													
Cadmium, Dissolved	ug/l													
Chromium	ug/l													
Chromium Hexavalent	ug/l													
Chromium, Dissolved	ug/l													
Copper	ug/l													
Copper, Dissolved	ug/l	2.28	1.78	<LOD	1.63	1.28	1.56	<LOD	3.94	<LOD	1.61	2.09	1.72	4.25
Iron	ug/l													
Iron, Dissolved	ug/l													
Lead	ug/l													
Lead, Dissolved	ug/l													
Lithium	ug/l													
Lithium, Dissolved	ug/l													
Magnesium	ug/l													
Magnesium, Dissolved	ug/l													
Manganese	ug/l													
Manganese, Dissolved	ug/l													
Mercury	ug/l													
Mercury : Dry Wt	mg/kg													
Mercury, Dissolved	ug/l													
Nickel	ug/l													
Nickel, Dissolved	ug/l													
Strontium	ug/l													
Strontium, Filtered	ug/l													
Tin	ug/l													
Titanium	ug/l													
Uranium	ug/l													
Vanadium	ug/l													
Zinc	ug/l	<LOD	<LOD	<LOD	13	20.9	<LOD	10.4	28.4	<LOD	6.79	25.8	8.72	<LOD
Zinc, Dissolved	ug/l													
BTEX Compounds														
Benzene	ug/l													
Ethylbenzene	ug/l													
Toluene :- {Methylbenzene}	ug/l													
Other Organic Compounds														
Acenaphthene	ug/l													
Acenaphthylene	ug/l													
Benzo(a)Anthracene	ug/l													
Benzo(a)Pyrene	ug/l													
Benzo(b)Fluoranthene	ug/l													
Benzo(e)Pyrene	ug/l													
Benzo(g,h,i)Perylene	ug/l													
Benzo(k)Fluoranthene	ug/l													
Fluoranthene	ug/l													
Fluorene	ug/l													
Indeno(1,2,3-cd)pyrene	ug/l													
Iodofenphos	ug/l													
Naphthalene	ug/l													
Phenol	ug/l													
Pyrene	ug/l													
1,1,1,2-Tetrachloroethane	ug/l													
1,1,1-Trichloroethane	ug/l													
1,1,2,2-Tetrachloroethane	ug/l													
1,1,2-Trichloroethane	ug/l													
1,1-Dichloroethane	ug/l													
1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l													
1,2-Dichloroethane	ug/l													
1,2-Dimethylbenzene :- {o-Xylene}	ug/l													
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l													
2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l													
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l													
2,4,5-Trichlorophenol	ug/l													
2,4,6-Trichlorophenol	ug/l													
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l													
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l													
2,4-Dichlorophenol	ug/l													

Location		BROADWAY REEN AT CIDWELLY ARCH												
		2010					2011							
Date	Units	17/08/2010	26/08/2010	09/10/2010	22/10/2010	18/11/2010	06/01/2011	20/01/2011	11/03/2011	02/04/2011	17/05/2011	09/06/2011	30/06/2011	04/08/2011
2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l													
2,5-Dichlorophenol	ug/l													
2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l													
2,6-Dichlorophenol	ug/l													
2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l													
2-Chlorophenol	ug/l													
2-Methylphenol :- {o-Cresol}	ug/l													
3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l													
3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l													
3-Chlorophenol	ug/l													
3-Methylphenol :- {m-Cresol}	ug/l													
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l													
4-Chlorophenol	ug/l													
4-Methylphenol :- {p-cresol}	ug/l													
Antimony	ug/l													
Atrazine	ug/l													
Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l													
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l													
Azinphos-ethyl	ug/l													
Azinphos-methyl	ug/l													
Benazolin	ug/l													
Bendiocarb	ug/l													
Bentazone	ug/l													
Bromodichloromethane	ug/l													
Bromoform :- {Tribromomethane}	ug/l													
Bromoxynil	ug/l													
Bupirimate	ug/l													
Carbon tetrachloride :- {Tetrachloromethane}	ug/l													
Carbophenothion	ug/l													
Chlorfenvinphos	ug/l													
Chlorobenzene	ug/l													
Chlorodibromomethane	ug/l													
Chloroform :- {Trichloromethane}	ug/l													
Chlorpyrifos-ethyl	ug/l													
Chlorpyrifos-methyl	ug/l													
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l													
Clopyralid	ug/l													
Cobalt	ug/l													
Coumaphos	ug/l													
Cyanazine	ug/l													
Desmetryn	ug/l													
Diazinon	ug/l													
Dibenzo(a,h)Anthracene	ug/l													
Dicamba	ug/l													
Dichlorprop :- {2,4-DP}	ug/l													
Dichlorvos	ug/l													
Dimethoate	ug/l													
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l													
Ethion	ug/l													
Ethofumesate	ug/l													
Ethyl tert-butyl ether :- {ETBE}	ug/l													
Fenchlorphos :- {Ronnel}	ug/l													
Fenitrothion	ug/l													
Fenoprop	ug/l													
Fenpropimorph	ug/l													
Fenthion	ug/l													
Fluoranthene	ug/l													
Fluroxypyr	ug/l													
Fonofos	ug/l													
Ioxynil	ug/l													
Iprodione	ug/l													
Irgarol 1051	ug/l													
Malathion	ug/l													
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l													
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l													
Metalaxyl	ug/l													
Metazachlor	ug/l													
Mevinphos	ug/l													
Molybdenum	ug/l													
Napropamide	ug/l													
Parathion-ethyl :- {Parathion}	ug/l													
Parathion-methyl	ug/l													
Pentachlorophenol	ug/l													
Perylene	ug/l													
Phenanthrene	ug/l													
Phenol	ug/l													
Phorate	ug/l													
Picloram	ug/l													
Pirimicarb	ug/l													
Pirimiphos-ethyl	ug/l													
Pirimiphos-methyl	ug/l													
Prochloraz	ug/l													
Prometryn	ug/l													
Propazine	ug/l													
Propetamphos	ug/l													
Propyzamide	ug/l													
Silica, reactive as SiO2	ug/l													
Styrene :- {Vinylbenzene}	ug/l													
Terbutryn	ug/l													
tert-Amyl methyl ether :- {TAME}	ug/l													
Tetrachloroethylene :- {Perchloroethylene}	ug/l													
Thallium : Total	ug/l													
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l													
Triazophos	ug/l													
Trichloroethylene :- {Trichloroethene}	ug/l													
Triclopyr	ug/l													
Trietazine	ug/l													
Trihalomethanes : Total :- {THM}	ug/l													
Vinyl chloride :- {Chloroethylene}	ug/l													

Location															
					2012										
Date	08/08/2011	20/09/2011	03/10/2011	11/11/2011	26/01/2012	15/02/2012	27/02/2012	15/05/2012	28/05/2012	25/06/2012	31/08/2012	08/09/2012	11/09/2012	27/09/2012	19/11/2012
General Parameters															
Alkalinity to pH 4.5 as CaCO3															
Ammonia un-ionised as N	0.00084	0.00078	0.00091	0.00028	0.0156	0.00103	0.00558	<LOD	0.00227	0.00302	0.0017	0.00109	0.00129	0.00111	0.00598
Ammoniacal Nitrogen as N	0.081	0.091	0.05	0.033	1.61	0.167	0.398	<LOD	0.059	0.35	0.354	0.162	0.215	0.328	0.856
Bicarbonate as HCO3															
BOD : 5 Day ATU	1.3	2.9	7.6	1.9	4.6	1.7	1.5	1.8	2.1	1.9	2	1	1.45	2.9	2.03
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C															
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	0.214	0.18	2.4	1.8	0.72	3.02	1.3	1.69	2	1.22	1.03	0.935	2.14	1.04	1.42
Nitrite as N	0.0156	0.0196	0.0087	<LOD	0.0301	0.0112	0.0161	0.0092	0.0415	0.0167	0.0097	0.0148	0.0139	0.0132	0.0254
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	0.23	<LOD	2.41	1.8	0.75	3.03	1.32	1.7	2.04	1.24	1.04	0.95	2.15	1.05	1.45
Orthophosphate, reactive as P	0.355	0.261	0.187	<LOD	0.773	0.127	0.268	0.114	0.029	0.448	0.443	0.36	0.23	0.417	0.382
Oxygen, Dissolved as O2	7.59	9.72	10.4	10.5	11.7	11.5	11.4	10.2	8.11	10.1	6.35	7.13	10.7	7.53	9.46
Oxygen, Dissolved, % Saturation	77.4	88.6	92.3	94.8	97.4	95.5	100.3	91.9	89.9	102.6	61.1	74.3	94.6	70.8	80.2
pH	7.55	7.63	8.04	7.64	7.81	7.61	7.9	7.54	8.26	7.47	7.3	7.33	7.52	7.18	7.64
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	16.21	11.14	9.9	10.9	7.23	7.3	9.5	10.6	20.3	16.2	13.5	17.2	9.7	12.5	8.1
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved	1.21	3.96	1.37	2.4	4.98	1.92	1.3	1.73	1.47	3.07	2.23	1.15	1.62	8.03	1.19
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc	<LOD	8.62	<LOD	43.9	20.1	13.3	27.6	9.36	<LOD	13.5	14.5	<LOD	17.6	21.3	23.1
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location															
					2012										
Date	08/08/2011	20/09/2011	03/10/2011	11/11/2011	26/01/2012	15/02/2012	27/02/2012	15/05/2012	28/05/2012	25/06/2012	31/08/2012	08/09/2012	11/09/2012	27/09/2012	19/11/2012
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location														
	2013													
Date	29/01/2013	14/02/2013	21/02/2013	07/04/2013	18/04/2013	22/05/2013	04/08/2013	30/08/2013	25/09/2013	01/10/2013	17/10/2013	30/10/2013	20/11/2013	05/01/2014
General Parameters														
Alkalinity to pH 4.5 as CaCO3		93	174	150	144	161	151	137	146		105	119	176	146
Ammonia un-ionised as N	0.00036	0.00009	0.00705	0.00209	<LOD	0.00066	<LOD	0.00054	0.00042	0.00593	0.00088	0.00603	0.00611	0.00076
Ammoniacal Nitrogen as N	0.056	0.087	0.592	0.069	<LOD	0.034	<LOD	0.092	0.067	0.747	0.131	0.369	0.595	0.04
Bicarbonate as HCO3														
BOD : 5 Day ATU	2.31									1.34				
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C		122	474	439	432	429	485	436	428		365	456	479	411
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	1.03	1.23	1.71	0.728	1.98	1.59	0.758	0.289	0.47	1.54	4.05	1.49	1.49	1.2
Nitrite as N	0.0055	0.0071	0.0107	0.0119	0.015	0.0168	0.0117	0.0112	0.0099	0.0172	0.0327	0.0751	0.0127	0.009
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	1.04	1.24	1.72	0.74	1.99	1.61	0.77	0.3	0.48	1.56	4.08	1.57	1.5	1.21
Orthophosphate, reactive as P	0.118	0.114	0.196	0.281	0.137	0.127	0.096	0.417	0.298	0.224	0.169	0.455	0.282	0.115
Oxygen, Dissolved as O2	9.61	9.56	12.1	9.41	12	10.2	14.3	3.94	6.01	10.8	7.6	6.3	10.2	9.08
Oxygen, Dissolved, % Saturation	82.3	75.9	93	98.8	107	101.9	121.5	40.7	59.1	86.1	71	53.9	82.3	87
pH	7.59	6.9	8.25	7.98	8.07	7.86	8.75	7.28	7.38	7.77	7.49	8.02	7.87	7.91
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	8.5	5.5	4.2	17.6	10.3	15.2	8.2	16.8	14.5	5.8	12.2	8.5	6.2	13.3
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved	3.92									3.62				
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc	49									20.1				
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location														
	2013													
Date	29/01/2013	14/02/2013	21/02/2013	07/04/2013	18/04/2013	22/05/2013	04/08/2013	30/08/2013	25/09/2013	01/10/2013	17/10/2013	30/10/2013	20/11/2013	05/01/2014
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2014													
Date	10/01/2014	04/02/2014	12/02/2014	03/03/2014	01/06/2014	02/06/2014	06/06/2014	21/07/2014	13/08/2014	21/08/2014	09/09/2014	30/09/2014	09/10/2014	16/10/2014
General Parameters														
Alkalinity to pH 4.5 as CaCO3	164	141	168	146	106	118	155	140	112	145	152	163	155	127
Ammonia un-ionised as N	0.00071	0.00079	0.0035	0.00238	0.00478	0.00307	0.00221	0.00111	0.00072	<LOD	<LOD	0.00027	<LOD	0.0007
Ammoniacal Nitrogen as N	0.032	0.055	0.685	0.64	0.52	0.612	0.436	0.088	0.156	<LOD	<LOD	0.033	<LOD	0.162
Bicarbonate as HCO3														
BOD : 5 Day ATU														
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	484	414	485	406	318	366	401	432	357	396	423	483	429	402
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	0.703	1.32	1.1	0.426	1.49	0.656	0.557	0.597	166	1.25	1.09	0.481	1.99	2.77
Nitrite as N	0.007	0.011	0.009	0.004	0.015	<LOD	0.013	0.023	0.027	0.015	0.009	0.009	<LOD	0.058
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	0.71	1.33	1.11	0.43	1.5	0.66	0.57	0.62	166	1.26	1.1	0.49	1.99	2.83
Orthophosphate, reactive as P	0.27	0.125	0.306	0.427	0.34	0.48	0.614	0.243	0.242	0.227	0.183	0.36	0.182	0.258
Oxygen, Dissolved as O2	7.15	9.72	9.13	9.61	9.4	9.07	7.11	6.26	6.81	9.08	6.44	7.35	8.54	7.29
Oxygen, Dissolved, % Saturation	71.2	88.3	77	78.7	80.3	74.3	70.1	66.7	68.9	88.5	63.9	73.1	83.6	69.8
pH	7.92	7.86	7.51	7.41	7.75	7.54	7.29	7.57	7.21	7.66	6.87	7.48	7.67	7.26
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	15.1	11	7.9	6.7	8.4	6.7	14.6	18.3	15.8	14.1	14.9	15	14.3	13.3
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved														
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2014													
Date	10/01/2014	04/02/2014	12/02/2014	03/03/2014	01/06/2014	02/06/2014	06/06/2014	21/07/2014	13/08/2014	21/08/2014	09/09/2014	30/09/2014	09/10/2014	16/10/2014
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location								HAWSE REEN AT COAST ROAD (ST2856 8163)			
			2015					2010			
Date	17/11/2014	23/01/2015	23/02/2015	16/03/2015	02/05/2015	19/05/2015	18/06/2015	17/08/2010	26/08/2010	09/10/2010	22/10/2010
General Parameters											
Alkalinity to pH 4.5 as CaCO3	146	159	128	144	213	93.7	144				
Ammonia un-ionised as N	<LOD	0.00139	0.00119	0.00174	0.00474	0.00022	0.00091	<LOD	0.00057	0.0004	0.00054
Ammoniacal Nitrogen as N	<LOD	0.659	0.632	0.245	1.32	0.034	0.065	<LOD	0.048	0.047	0.033
Bicarbonate as HCO3											
BOD : 5 Day ATU								2.4	1.7	3.2	<LOD
Calcium											
Calcium, Dissolved											
Carbon, Organic, Dissolved as C :- {DOC}											
Chemical Oxygen Demand :- {COD}											
Chloride											
Conductivity at 20 C											
Conductivity at 25 C	406	472	397.4	438	652.1	349.3	413				
Hardness, Total as CaCO3											
Magnesium											
Magnesium, Dissolved											
Manganese											
Manganese, Dissolved											
Nitrate as N	1.43	0.541	0.72	1.22	0.494	1.68	1.14	0.715	0.416	0.226	<LOD
Nitrite as N	0.012	0.009	0.01	0.022	0.006	0.007	0.013	0.0049	<LOD	<LOD	<LOD
Nitrogen, Total as N											
Nitrogen, Total Oxidised as N	1.44	0.55	0.73	1.24	0.5	1.69	1.15	0.72	0.42	0.23	<LOD
Orthophosphate, reactive as P	<LOD	0.411	0.363	0.194	0.412	0.175	0.268	<LOD	<LOD	<LOD	<LOD
Oxygen, Dissolved as O2	8.41	10.9	8.52	10.8	10.2	8.44	8.24	9.75	9.64	10	11
Oxygen, Dissolved, % Saturation	75.5	80.3	65.6	87.7	72.6	77.8	84.1	99.7	93.2	91.6	94.7
pH	7.38	7.29	7.19	7.7	7.57	7.5	7.68	7.83	7.69	7.63	8.04
pH : In Situ											
Phosphorus, Total as P											
Salinity											
Salinity : In Situ											
Solids, Suspended at 105 C											
Sulphate as SO4											
Temperature of Water	10.5	2.8	4.3	6.5	1.3	11.6	16.2	16.31	13.7	11.21	8.59
Metals											
Aluminium											
Aluminium, Dissolved											
Antimony											
Arsenic											
Arsenic, Dissolved											
Barium											
Barium, Dissolved											
Boron											
Boron, Dissolved											
Cadmium											
Cadmium : Dry Wt											
Cadmium, Dissolved											
Chromium											
Chromium Hexavalent											
Chromium, Dissolved											
Copper											
Copper, Dissolved								8.28	1.9	2.15	1.89
Iron											
Iron, Dissolved											
Lead											
Lead, Dissolved											
Lithium											
Lithium, Dissolved											
Magnesium											
Magnesium, Dissolved											
Manganese											
Manganese, Dissolved											
Mercury											
Mercury : Dry Wt											
Mercury, Dissolved											
Nickel											
Nickel, Dissolved											
Strontium											
Strontium, Filtered											
Tin											
Titanium											
Uranium											
Vanadium											
Zinc								7.3	14.7	5.4	6
Zinc, Dissolved											
BTEX Compounds											
Benzene											
Ethylbenzene											
Toluene :- {Methylbenzene}											
Other Organic Compounds											
Acenaphthene											
Acenaphthylene											
Benzo(a)Anthracene											
Benzo(a)Pyrene											
Benzo(b)Fluoranthene											
Benzo(e)Pyrene											
Benzo(g,h,i)Perylene											
Benzo(k)Fluoranthene											
Fluoranthene											
Fluorene											
Indeno(1,2,3-cd)pyrene											
Iodofenphos											
Naphthalene											
Phenol											
Pyrene											
1,1,1,2-Tetrachloroethane											
1,1,1-Trichloroethane											
1,1,2,2-Tetrachloroethane											
1,1,2-Trichloroethane											
1,1-Dichloroethane											
1,1-Dichloroethylene :- {1,1-Dichloroethene}											
1,2-Dichloroethane											
1,2-Dimethylbenzene :- {o-Xylene}											
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}											
2,3-Dimethylphenol :- {2,3-Xylenol}											
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}											
2,4,5-Trichlorophenol											
2,4,6-Trichlorophenol											
2,4-D :- {2,4-Dichlorophenoxyacetic acid}											
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}											
2,4-Dichlorophenol											

Location								HAWSE REEN AT COAST ROAD (ST2856 8163)			
			2015					2010			
Date	17/11/2014	23/01/2015	23/02/2015	16/03/2015	02/05/2015	19/05/2015	18/06/2015	17/08/2010	26/08/2010	09/10/2010	22/10/2010
2,4-Dimethylphenol :- {2,4-Xylenol}											
2,5-Dichlorophenol											
2,5-Dimethylphenol :- {2,5-Xylenol}											
2,6-Dichlorophenol											
2,6-Dimethylphenol :- {2,6-Xylenol}											
2-Chlorophenol											
2-Methylphenol :- {o-Cresol}											
3,4-Dimethylphenol :- {3,4-Xylenol}											
3,5-Dimethylphenol :- {3,5-Xylenol}											
3-Chlorophenol											
3-Methylphenol :- {m-Cresol}											
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}											
4-Chlorophenol											
4-Methylphenol :- {p-cresol}											
Antimony											
Atrazine											
Atrazine-desethyl :- {Atrazine-de-ethyl}											
Atrazine-desisopropyl :- {Atrazine de-isopropyl}											
Azinphos-ethyl											
Azinphos-methyl											
Benazolin											
Bendiocarb											
Bentazone											
Bromodichloromethane											
Bromoform :- {Tribromomethane}											
Bromoxynil											
Bupirimate											
Carbon tetrachloride :- {Tetrachloromethane}											
Carbophenothion											
Chlorfenvinphos											
Chlorobenzene											
Chlorodibromomethane											
Chloroform :- {Trichloromethane}											
Chlorpyrifos-ethyl											
Chlorpyrifos-methyl											
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}											
Clopyralid											
Cobalt											
Coumaphos											
Cyanazine											
Desmetryn											
Diazinon											
Dibenzo(a,h)Anthracene											
Dicamba											
Dichlorprop :- {2,4-DP}											
Dichlorvos											
Dimethoate											
Dimethylbenzene : Sum of isomers (1,3- 1,4-)											
Ethion											
Ethofumesate											
Ethyl tert-butyl ether :- {ETBE}											
Fenchlorphos :- {Ronnel}											
Fenitrothion											
Fenoprop											
Fenpropimorph											
Fenthion											
Fluoranthene											
Fluroxypyr											
Fonofos											
Ioxynil											
Iprodione											
Irgarol 1051											
Malathion											
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}											
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}											
Metalaxyl											
Metazachlor											
Mevinphos											
Molybdenum											
Napropamide											
Parathion-ethyl :- {Parathion}											
Parathion-methyl											
Pentachlorophenol											
Perylene											
Phenanthrene											
Phenol											
Phorate											
Picloram											
Pirimicarb											
Pirimiphos-ethyl											
Pirimiphos-methyl											
Prochloraz											
Prometryn											
Propazine											
Propetamphos											
Propyzamide											
Silica, reactive as SiO2											
Styrene :- {Vinylbenzene}											
Terbutryn											
tert-Amyl methyl ether :- {TAME}											
Tetrachloroethylene :- {Perchloroethylene}											
Thallium : Total											
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}											
Triazophos											
Trichloroethylene :- {Trichloroethene}											
Triclopyr											
Trietazine											
Trihalomethanes : Total :- {THM}											
Vinyl chloride :- {Chloroethylene}											

Location															
		2011													
Date	18/11/2010	06/01/2011	20/01/2011	11/03/2011	02/04/2011	17/05/2011	09/06/2011	30/06/2011	04/08/2011	08/08/2011	20/09/2011	03/10/2011	11/11/2011	26/01/2012	15/02/2012
General Parameters															
Alkalinity to pH 4.5 as CaCO3															
Ammonia un-ionised as N	0.00368	0.0027	<LOD	<LOD	0.00032	<LOD	<LOD	<LOD	<LOD	0.00056	0.00067	0.0414	0.00033	0.00597	0.00427
Ammoniacal Nitrogen as N	0.317	0.203	<LOD	<LOD	0.036	<LOD	<LOD	<LOD	<LOD	0.174	0.067	3.12	0.041	0.393	0.601
Bicarbonate as HCO3															
BOD : 5 Day ATU	6.5	2.8	1.9	1.1	1.3	4.4	2.4	1.4	1.3	2.3	3	8.2	1.8	2.7	3.2
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C															
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	1.14	<LOD	0.636	0.556	0.276	0.934	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.386	1.62	1.25
Nitrite as N	<LOD	<LOD	<LOD	<LOD	<LOD	0.0265	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0179	0.0117
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	1.14	<LOD	0.64	0.56	0.28	0.96	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.39	1.64	1.26
Orthophosphate, reactive as P	0.169	<LOD	0.092	<LOD	0.02	0.053	<LOD	0.39	<LOD	0.318	0.216	1.21	<LOD	0.264	0.307
Oxygen, Dissolved as O2	12.1	9.85	12.3	10.7	11.1	9.95	10.3	9.88	10.4	4.72	10.2	10.7	10.6	12	11.2
Oxygen, Dissolved, % Saturation	99.3	95.2	94.7	96.7	94.3	94.3	97.4	93.8	95.3	48.6	92.4	91.3	96.3	100.3	94.3
pH	7.9	7.74	7.91	7.73	7.75	7.69	7.68	7.7	7.76	7.03	7.71	7.91	7.61	8.05	7.66
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	6.94	13.73	4.23	10.94	8.16	12.84	12.78	12.9	11.52	16.6	10.83	8.43	10.89	7.51	7.7
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved	5.32	<LOD	<LOD	3.95	<LOD	1.04	1.15	<LOD	2.03	1.02	1.09	3.25	2.88	2.25	1.25
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc	19.4	5.2	20.1	11.9	6.78	8.08	<LOD	<LOD	<LOD	<LOD	7.8	11.2	12.2	18.5	7.04
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location															
		2011													
Date	18/11/2010	06/01/2011	20/01/2011	11/03/2011	02/04/2011	17/05/2011	09/06/2011	30/06/2011	04/08/2011	08/08/2011	20/09/2011	03/10/2011	11/11/2011	26/01/2012	15/02/2012
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2012													
Date	27/02/2012	26/03/2012	15/05/2012	28/05/2012	25/06/2012	31/08/2012	08/09/2012	27/09/2012	14/11/2012	19/11/2012	29/01/2013	14/02/2013	21/02/2013	07/04/2013
General Parameters														
Alkalinity to pH 4.5 as CaCO3												117	145	186
Ammonia un-ionised as N	0.00359	0.00101	0.0213	0.00161	0.00099	0.0019	0.00116	0.00064	0.00363	0.0124	0.00088	0.00316	0.0112	0.00101
Ammoniacal Nitrogen as N	0.688	0.046	3.93	0.199	0.387	0.588	0.305	0.365	1.19	1.54	0.275	0.592	1.02	0.112
Bicarbonate as HCO3														
BOD : 5 Day ATU	2.4	5.1	3.4	3.1	<LOD	10.2	<LOD	4.2	1.65	2.86	3.1			
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C												334	487	510
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	0.902	0.191	0.2	0.168	<LOD	<LOD	<LOD	<LOD	0.553	1.83	0.528	0.623	1.16	<LOD
Nitrite as N	0.0378	0.009	0.07	0.0324	<LOD	<LOD	<LOD	<LOD	0.0372	0.0771	0.0116	0.0166	0.0159	<LOD
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	0.94	<LOD	0.27	<LOD	<LOD	<LOD	<LOD	<LOD	0.59	1.91	0.54	0.64	1.18	<LOD
Orthophosphate, reactive as P	0.208	0.111	1.14	0.725	0.626	0.69	0.414	0.517	0.309	0.299	0.255	0.304	0.063	0.626
Oxygen, Dissolved as O2	9.16	10.5	3.27	3.75	6.01	1.1	1.6	2.77	7.28	5.88	8.63	8.87	12.5	3.74
Oxygen, Dissolved, % Saturation	80.2	99.4	31.3	40.8	60.4	10.8	17	26	65.4	49.6	73.2	70.8	93.4	38.9
pH	7.47	8.25	7.36	7.34	6.96	7.1	7.05	6.9	7.2	7.71	7.3	7.6	8.1	7.46
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	9.41	12.6	13.3	19.3	15.5	14.4	18.1	12.4	10.5	7.9	8.1	5.7	3.1	17.1
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved	2.12	1.34	3.08	1.7	3.53	1.43	<LOD	5.45	4.14	1.45	3.68			
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc	35.4	8.05	9.01	<LOD	12	6.44	<LOD	19.3	28.4	20.1	37.3			
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2012													
Date	27/02/2012	26/03/2012	15/05/2012	28/05/2012	25/06/2012	31/08/2012	08/09/2012	27/09/2012	14/11/2012	19/11/2012	29/01/2013	14/02/2013	21/02/2013	07/04/2013
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2013													
Date	18/04/2013	22/05/2013	10/07/2013	04/08/2013	13/08/2013	25/09/2013	01/10/2013	31/10/2013	20/11/2013	05/01/2014	10/01/2014	04/02/2014	12/02/2014	03/03/2014
General Parameters														
Alkalinity to pH 4.5 as CaCO3	146	133	129	140	132	163		131	208	150	185	147	220	129
Ammonia un-ionised as N	0.00087	0.0018	0.0046	<LOD	0.00051	0.00017	0.00573	0.00156	0.012	0.00233	0.00064	0.00172	0.0043	0.00092
Ammoniacal Nitrogen as N	0.042	0.183	1.29	<LOD	0.07	0.055	0.834	0.559	1.63	0.176	0.106	0.204	1.26	0.31
Bicarbonate as HCO3														
BOD : 5 Day ATU							1.78							
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	461	409	616	437	429	547		420	604	447	589	249	560.9	378
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	1.16	0.177	<LOD	0.698	<LOD	0.194	1.01	0.268	0.189	0.226	1.06	0.53	0.196	0.276
Nitrite as N	0.0239	0.0227	<LOD	0.0123	<LOD	0.0063	0.0235	0.0319	0.0114	0.024	<LOD	0.02	0.004	<LOD
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	1.18	<LOD	<LOD	0.71	<LOD	<LOD	1.03	0.3	<LOD	0.25	1.06	0.55	<LOD	0.28
Orthophosphate, reactive as P	0.155	0.255	0.92	0.042	0.157	0.172	0.258	0.529	0.124	0.307	0.34	0.408	0.625	0.36
Oxygen, Dissolved as O2	13.1	6.55	2.29	15.5	2.03	2.08	8.77	4.74	7.23	7.15	1.5	8.69	5.48	8.68
Oxygen, Dissolved, % Saturation	121.2	67.1	23.1	133.6	20.6	20.5	69.5	43	57.7	71.4	15.1	80.6	45.7	70.7
pH	8.2	7.52	7.1	8.93	7.4	7.08	7.72	7.15	7.74	7.69	7.33	7.6	7.35	7.32
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	11.7	16.4	15.7	8.7	16	14.7	5.4	10.9	5.7	15.2	15.6	11.9	7.4	6.5
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved							2.91							
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc							34.3							
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2013													
Date	18/04/2013	22/05/2013	10/07/2013	04/08/2013	13/08/2013	25/09/2013	01/10/2013	31/10/2013	20/11/2013	05/01/2014	10/01/2014	04/02/2014	12/02/2014	03/03/2014
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2014											20		
Date	01/06/2014	02/06/2014	06/06/2014	21/07/2014	13/08/2014	21/08/2014	09/09/2014	30/09/2014	09/10/2014	16/10/2014	17/11/2014	23/01/2015	23/02/2015	16/03/2015
General Parameters														
Alkalinity to pH 4.5 as CaCO3	103	108	146	174	132	176	199	187	200	177	168	146	115	120
Ammonia un-ionised as N	0.00183	0.00144	0.00041	0.00142	0.00076	0.00051	0.00009	0.00044	0.00085	0.00179	<LOD	0.00085	0.00068	0.00172
Ammoniacal Nitrogen as N	0.37	0.306	0.113	0.272	0.276	0.158	0.03	0.144	0.209	0.693	<LOD	0.42	0.39	0.219
Bicarbonate as HCO3														
BOD : 5 Day ATU														
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	300	323	377	526	430	505	501	595	538	523	441	446	356.7	427
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	0.869	0.416	0.186	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.37	0.575	0.72
Nitrite as N	0.011	<LOD	0.014	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.01	0.005	0.01
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	0.88	0.42	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.38	0.58	0.73
Orthophosphate, reactive as P	0.35	0.348	0.635	0.616	0.48	0.549	0.6	0.36	0.633	0.869	<LOD	0.26	0.269	0.205
Oxygen, Dissolved as O2	7.41	8.53	2.93	1.3	1.6	1.55	1.97	1.84	2.1	2.08	2.15	9.28	8.34	11.2
Oxygen, Dissolved, % Saturation	62.8	69.5	29.3	14	16.3	15.3	20	18.5	20.5	19.7	19.2	68.1	64.2	90.4
pH	7.49	7.52	7.12	7.16	6.97	7.09	7.03	7.04	7.21	7.05	7.16	7.28	7.16	7.75
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	8.1	6.5	15.3	19	16.2	14.8	16	15.5	14.1	12.9	10.2	2.5	4.3	6.3
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved														
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2014											20		
Date	01/06/2014	02/06/2014	06/06/2014	21/07/2014	13/08/2014	21/08/2014	09/09/2014	30/09/2014	09/10/2014	16/10/2014	17/11/2014	23/01/2015	23/02/2015	16/03/2015
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location				NEWPORT WETLANDS- POINT 1 (NWT01)					
	15			2014					2015
Date	02/05/2015	19/05/2015	18/06/2015	10/04/2014	07/08/2014	04/10/2014	28/10/2014	28/10/2014	16/01/2015
General Parameters									
Alkalinity to pH 4.5 as CaCO3	184	158	153						
Ammonia un-ionised as N	0.00371	0.00219	0.00024						
Ammoniacal Nitrogen as N	1.09	0.322	0.034						
Bicarbonate as HCO3									
BOD : 5 Day ATU					2.56	1.51	3.83		2.44
Calcium									
Calcium, Dissolved									
Carbon, Organic, Dissolved as C :- {DOC}									
Chemical Oxygen Demand :- {COD}									
Chloride				16.8					
Conductivity at 20 C					513	396	1460		328
Conductivity at 25 C	620	461.6	453						
Hardness, Total as CaCO3									
Magnesium									
Magnesium, Dissolved									
Manganese									
Manganese, Dissolved									
Nitrate as N	0.306	0.299	<LOD		1.73	2.23	<LOD		1.01
Nitrite as N	<LOD	0.031	<LOD		0.039	0.01	<LOD		0.005
Nitrogen, Total as N								3.85	
Nitrogen, Total Oxidised as N	0.31	0.33	<LOD		1.77	2.24	<LOD		1.01
Orthophosphate, reactive as P	0.209	0.308	0.603		0.103	0.092	0.862		0.157
Oxygen, Dissolved as O2	10	7	4.57						
Oxygen, Dissolved, % Saturation	71.5	66.6	46.5						
pH	7.54	7.47	7.39		7.65	8.02	8.12		7.53
pH : In Situ									
Phosphorus, Total as P					0.108		0.999		0.226
Salinity									
Salinity : In Situ									
Solids, Suspended at 105 C				<LOD					
Sulphate as SO4									
Temperature of Water	1.5	13	16.1						
Metals									
Aluminium									
Aluminium, Dissolved									
Antimony									
Arsenic									
Arsenic, Dissolved									
Barium									
Barium, Dissolved									
Boron									
Boron, Dissolved									
Cadmium									
Cadmium : Dry Wt									
Cadmium, Dissolved									
Chromium									
Chromium Hexavalent									
Chromium, Dissolved									
Copper									
Copper, Dissolved									
Iron									
Iron, Dissolved									
Lead									
Lead, Dissolved									
Lithium									
Lithium, Dissolved									
Magnesium									
Magnesium, Dissolved									
Manganese									
Manganese, Dissolved									
Mercury									
Mercury : Dry Wt									
Mercury, Dissolved									
Nickel									
Nickel, Dissolved									
Strontium									
Strontium, Filtered									
Tin									
Titanium									
Uranium									
Vanadium									
Zinc									
Zinc, Dissolved									
BTEX Compounds									
Benzene									
Ethylbenzene									
Toluene :- {Methylbenzene}									
Other Organic Compounds									
Acenaphthene									
Acenaphthylene									
Benzo(a)Anthracene									
Benzo(a)Pyrene									
Benzo(b)Fluoranthene									
Benzo(e)Pyrene									
Benzo(g,h,i)Perylene									
Benzo(k)Fluoranthene									
Fluoranthene									
Fluorene									
Indeno(1,2,3-cd)pyrene									
Iodofenphos									
Naphthalene									
Phenol									
Pyrene									
1,1,1,2-Tetrachloroethane									
1,1,1-Trichloroethane									
1,1,2,2-Tetrachloroethane									
1,1,2-Trichloroethane									
1,1-Dichloroethane									
1,1-Dichloroethylene :- {1,1-Dichloroethene}									
1,2-Dichloroethane									
1,2-Dimethylbenzene :- {o-Xylene}									
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}									
2,3-Dimethylphenol :- {2,3-Xylenol}									
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}									
2,4,5-Trichlorophenol									
2,4,6-Trichlorophenol									
2,4-D :- {2,4-Dichlorophenoxyacetic acid}									
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}									
2,4-Dichlorophenol									

Location				NEWPORT WETLANDS- POINT 1 (NWT01)					
	15			2014					2015
Date	02/05/2015	19/05/2015	18/06/2015	10/04/2014	07/08/2014	04/10/2014	28/10/2014	28/10/2014	16/01/2015
2,4-Dimethylphenol :- {2,4-Xylenol}									
2,5-Dichlorophenol									
2,5-Dimethylphenol :- {2,5-Xylenol}									
2,6-Dichlorophenol									
2,6-Dimethylphenol :- {2,6-Xylenol}									
2-Chlorophenol									
2-Methylphenol :- {o-Cresol}									
3,4-Dimethylphenol :- {3,4-Xylenol}									
3,5-Dimethylphenol :- {3,5-Xylenol}									
3-Chlorophenol									
3-Methylphenol :- {m-Cresol}									
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}									
4-Chlorophenol									
4-Methylphenol :- {p-cresol}									
Antimony									
Atrazine									
Atrazine-desethyl :- {Atrazine-de-ethyl}									
Atrazine-desisopropyl :- {Atrazine de-isopropyl}									
Azinphos-ethyl									
Azinphos-methyl									
Benazolin									
Bendiocarb									
Bentazone									
Bromodichloromethane									
Bromoform :- {Tribromomethane}									
Bromoxynil									
Bupirimate									
Carbon tetrachloride :- {Tetrachloromethane}									
Carbophenothion									
Chlorfenvinphos									
Chlorobenzene									
Chlorodibromomethane									
Chloroform :- {Trichloromethane}									
Chlorpyrifos-ethyl									
Chlorpyrifos-methyl									
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}									
Clopyralid									
Cobalt									
Coumaphos									
Cyanazine									
Desmetryn									
Diazinon									
Dibenzo(a,h)Anthracene									
Dicamba									
Dichlorprop :- {2,4-DP}									
Dichlorvos									
Dimethoate									
Dimethylbenzene : Sum of isomers (1,3- 1,4-)									
Ethion									
Ethofumesate									
Ethyl tert-butyl ether :- {ETBE}									
Fenchlorphos :- {Ronnel}									
Fenitrothion									
Fenoprop									
Fenpropimorph									
Fenthion									
Fluoranthene									
Fluroxypyr									
Fonofos									
Ioxynil									
Iprodione									
Irgarol 1051									
Malathion									
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}									
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}									
Metalaxyl									
Metazachlor									
Mevinphos									
Molybdenum									
Napropamide									
Parathion-ethyl :- {Parathion}									
Parathion-methyl									
Pentachlorophenol									
Perylene									
Phenanthrene									
Phenol									
Phorate									
Picloram									
Pirimicarb									
Pirimiphos-ethyl									
Pirimiphos-methyl									
Prochloraz									
Prometryn									
Propazine									
Propetamphos									
Propyzamide									
Silica, reactive as SiO2									
Styrene :- {Vinylbenzene}									
Terbutryn									
tert-Amyl methyl ether :- {TAME}									
Tetrachloroethylene :- {Perchloroethylene}									
Thallium : Total									
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}									
Triazophos									
Trichloroethylene :- {Trichloroethene}									
Triclopyr									
Trietazine									
Trihalomethanes : Total :- {THM}									
Vinyl chloride :- {Chloroethylene}									

Location	NEWPORT WETLANDS- POINT 10A (NWT10A)						NEWPORT WETLANDS- POINT 14 (NWT14)				
	2014					2015	2014				
Date	10/04/2014	07/08/2014	04/10/2014	28/10/2014	28/10/2014	16/01/2015	10/04/2014	07/08/2014	04/10/2014	28/10/2014	28/10/2014
General Parameters											
Alkalinity to pH 4.5 as CaCO3				194							
Ammonia un-ionised as N											
Ammoniacal Nitrogen as N				<LOD							
Bicarbonate as HCO3											
BOD : 5 Day ATU		4.95	1.9	2.47		2.36		3.42	2.59	1.08	
Calcium											
Calcium, Dissolved											
Carbon, Organic, Dissolved as C :- {DOC}											
Chemical Oxygen Demand :- {COD}											
Chloride			22.7	22.4			56				
Conductivity at 20 C		336	418	431		370		496	451	547	
Conductivity at 25 C											
Hardness, Total as CaCO3											
Magnesium											
Magnesium, Dissolved											
Manganese											
Manganese, Dissolved											
Nitrate as N		<LOD	<LOD	<LOD		<LOD		<LOD	0.476	<LOD	
Nitrite as N		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	
Nitrogen, Total as N					1.18						1.2
Nitrogen, Total Oxidised as N		<LOD	<LOD	<LOD		<LOD		<LOD	0.48	<LOD	
Orthophosphate, reactive as P		0.102	<LOD	0.059		0.312		0.045	0.053	0.05	
Oxygen, Dissolved as O2											
Oxygen, Dissolved, % Saturation											
pH		7.4	7.62	8.17		7.56		7.65	7.64	8.38	
pH : In Situ											
Phosphorus, Total as P		0.126		0.0975				0.085		0.127	
Salinity											
Salinity : In Situ											
Solids, Suspended at 105 C	<LOD						<LOD				
Sulphate as SO4											
Temperature of Water											
Metals											
Aluminium											
Aluminium, Dissolved											
Antimony											
Arsenic											
Arsenic, Dissolved											
Barium											
Barium, Dissolved											
Boron											
Boron, Dissolved											
Cadmium											
Cadmium : Dry Wt											
Cadmium, Dissolved											
Chromium											
Chromium Hexavalent											
Chromium, Dissolved											
Copper											
Copper, Dissolved											
Iron											
Iron, Dissolved											
Lead											
Lead, Dissolved											
Lithium											
Lithium, Dissolved											
Magnesium											
Magnesium, Dissolved											
Manganese											
Manganese, Dissolved											
Mercury											
Mercury : Dry Wt											
Mercury, Dissolved											
Nickel											
Nickel, Dissolved											
Strontium											
Strontium, Filtered											
Tin											
Titanium											
Uranium											
Vanadium											
Zinc											
Zinc, Dissolved											
BTEX Compounds											
Benzene											
Ethylbenzene											
Toluene :- {Methylbenzene}											
Other Organic Compounds											
Acenaphthene											
Acenaphthylene											
Benzo(a)Anthracene											
Benzo(a)Pyrene											
Benzo(b)Fluoranthene											
Benzo(e)Pyrene											
Benzo(g,h,i)Perylene											
Benzo(k)Fluoranthene											
Fluoranthene											
Fluorene											
Indeno(1,2,3-cd)pyrene											
Iodofenphos											
Naphthalene											
Phenol											
Pyrene											
1,1,1,2-Tetrachloroethane											
1,1,1-Trichloroethane											
1,1,2,2-Tetrachloroethane											
1,1,2-Trichloroethane											
1,1-Dichloroethane											
1,1-Dichloroethylene :- {1,1-Dichloroethene}											
1,2-Dichloroethane											
1,2-Dimethylbenzene :- {o-Xylene}											
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}											
2,3-Dimethylphenol :- {2,3-Xylenol}											
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}											
2,4,5-Trichlorophenol											
2,4,6-Trichlorophenol											
2,4-D :- {2,4-Dichlorophenoxyacetic acid}											
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}											
2,4-Dichlorophenol											

Location	NEWPORT WETLANDS- POINT 10A (NWT10A)						NEWPORT WETLANDS- POINT 14 (NWT14)				
	2014					2015	2014				
Date	10/04/2014	07/08/2014	04/10/2014	28/10/2014	28/10/2014	16/01/2015	10/04/2014	07/08/2014	04/10/2014	28/10/2014	28/10/2014
2,4-Dimethylphenol :- {2,4-Xylenol}											
2,5-Dichlorophenol											
2,5-Dimethylphenol :- {2,5-Xylenol}											
2,6-Dichlorophenol											
2,6-Dimethylphenol :- {2,6-Xylenol}											
2-Chlorophenol											
2-Methylphenol :- {o-Cresol}											
3,4-Dimethylphenol :- {3,4-Xylenol}											
3,5-Dimethylphenol :- {3,5-Xylenol}											
3-Chlorophenol											
3-Methylphenol :- {m-Cresol}											
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}											
4-Chlorophenol											
4-Methylphenol :- {p-cresol}											
Antimony											
Atrazine											
Atrazine-desethyl :- {Atrazine-de-ethyl}											
Atrazine-desisopropyl :- {Atrazine de-isopropyl}											
Azinphos-ethyl											
Azinphos-methyl											
Benazolin											
Bendiocarb											
Bentazone											
Bromodichloromethane											
Bromoform :- {Tribromomethane}											
Bromoxynil											
Bupirimate											
Carbon tetrachloride :- {Tetrachloromethane}											
Carbophenothion											
Chlorfenvinphos											
Chlorobenzene											
Chlorodibromomethane											
Chloroform :- {Trichloromethane}											
Chlorpyrifos-ethyl											
Chlorpyrifos-methyl											
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}											
Clopyralid											
Cobalt											
Coumaphos											
Cyanazine											
Desmetryn											
Diazinon											
Dibenzo(a,h)Anthracene											
Dicamba											
Dichlorprop :- {2,4-DP}											
Dichlorvos											
Dimethoate											
Dimethylbenzene : Sum of isomers (1,3- 1,4-)											
Ethion											
Ethofumesate											
Ethyl tert-butyl ether :- {ETBE}											
Fenchlorphos :- {Ronnel}											
Fenitrothion											
Fenoprop											
Fenpropimorph											
Fenthion											
Fluoranthene											
Fluroxypyr											
Fonofos											
Ioxynil											
Iprodione											
Irgarol 1051											
Malathion											
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}											
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}											
Metalaxyl											
Metazachlor											
Mevinphos											
Molybdenum											
Napropamide											
Parathion-ethyl :- {Parathion}											
Parathion-methyl											
Pentachlorophenol											
Perylene											
Phenanthrene											
Phenol											
Phorate											
Picloram											
Pirimicarb											
Pirimiphos-ethyl											
Pirimiphos-methyl											
Prochloraz											
Prometryn											
Propazine											
Propetamphos											
Propyzamide											
Silica, reactive as SiO2				5.26							
Styrene :- {Vinylbenzene}											
Terbutryn											
tert-Amyl methyl ether :- {TAME}											
Tetrachloroethylene :- {Perchloroethylene}											
Thallium : Total											
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}											
Triazophos											
Trichloroethylene :- {Trichloroethene}											
Triclopyr											
Trietazine											
Trihalomethanes : Total :- {THM}											
Vinyl chloride :- {Chloroethylene}											

Location		NEWPORT WETLANDS- POINT 21 (NWT21)				NEWPORT WETLANDS- POINT 24 (NWT24) 2005-2015			NEWPORT WETLANDS- POINT 39 (NWT39)				NEWPORT WETLANDS
	2015	2014			2015	2014						2015	
Date	16/01/2015	07/08/2014	04/10/2014	28/10/2014	16/01/2015	07/08/2014	04/10/2014	28/10/2014	07/08/2014	04/10/2014	28/10/2014	16/01/2015	10/04/2014
General Parameters													
Alkalinity to pH 4.5 as CaCO3													
Ammonia un-ionised as N													
Ammoniacal Nitrogen as N													
Bicarbonate as HCO3													
BOD : 5 Day ATU	2.07	3.21	2.03	1.46	2.94	2.88	5.83	2.16	1.98	2.7	10.2	2.4	
Calcium													
Calcium, Dissolved													
Carbon, Organic, Dissolved as C :- {DOC}													
Chemical Oxygen Demand :- {COD}													
Chloride			21.4				43.4			24.3			
Conductivity at 20 C	545	349	454	505	393	363	333	369	307	303	328	235	
Conductivity at 25 C													
Hardness, Total as CaCO3													
Magnesium													
Magnesium, Dissolved													
Manganese													
Manganese, Dissolved													
Nitrate as N	<LOD	<LOD	0.196	<LOD	0.306	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Nitrite as N	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Nitrogen, Total as N				1.13				1.12			2.19		
Nitrogen, Total Oxidised as N	<LOD	<LOD	0.2	<LOD	0.31	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	
Orthophosphate, reactive as P	0.077	0.126	0.234	0.115	0.307	0.073	0.249	0.075	0.105	0.042	0.048	0.224	
Oxygen, Dissolved as O2													
Oxygen, Dissolved, % Saturation													
pH	7.97	7.04	7.17	8.15	7.18	7.51	7.54	8.23	7.25	7.53	8.07	7.58	
pH : In Situ													
Phosphorus, Total as P	0.108	0.193		0.151	0.409	0.136		0.0893	0.148		0.246		
Salinity													
Salinity : In Situ													
Solids, Suspended at 105 C			32			5	9.5	3.5		<LOD			5
Sulphate as SO4													
Temperature of Water													
Metals													
Aluminium													
Aluminium, Dissolved													
Antimony													
Arsenic						7.25	9.33	4.61					
Arsenic, Dissolved													
Barium													
Barium, Dissolved													
Boron							197	230					
Boron, Dissolved													
Cadmium													
Cadmium : Dry Wt													
Cadmium, Dissolved													
Chromium													
Chromium Hexavalent													
Chromium, Dissolved													
Copper													
Copper, Dissolved													
Iron													
Iron, Dissolved													
Lead													
Lead, Dissolved													
Lithium													
Lithium, Dissolved													
Magnesium													
Magnesium, Dissolved													
Manganese													
Manganese, Dissolved													
Mercury													
Mercury : Dry Wt													
Mercury, Dissolved													
Nickel													
Nickel, Dissolved													
Strontium													
Strontium, Filtered													
Tin													
Titanium													
Uranium													
Vanadium													
Zinc													
Zinc, Dissolved													
BTEX Compounds													
Benzene													
Ethylbenzene													
Toluene :- {Methylbenzene}													
Other Organic Compounds													
Acenaphthene													
Acenaphthylene													
Benzo(a)Anthracene													
Benzo(a)Pyrene													
Benzo(b)Fluoranthene													
Benzo(e)Pyrene													
Benzo(g,h,i)Perylene													
Benzo(k)Fluoranthene													
Fluoranthene													
Fluorene													
Indeno(1,2,3-cd)pyrene													
Iodofenphos													
Naphthalene													
Phenol													
Pyrene													
1,1,1,2-Tetrachloroethane													
1,1,1-Trichloroethane													
1,1,2,2-Tetrachloroethane													
1,1,2-Trichloroethane													
1,1-Dichloroethane													
1,1-Dichloroethylene :- {1,1-Dichloroethene}													
1,2-Dichloroethane													
1,2-Dimethylbenzene :- {o-Xylene}													
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}													
2,3-Dimethylphenol :- {2,3-Xylenol}													
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}													
2,4,5-Trichlorophenol													
2,4,6-Trichlorophenol													
2,4-D :- {2,4-Dichlorophenoxyacetic acid}													
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}													
2,4-Dichlorophenol													

Location		NEWPORT WETLANDS- POINT 21 (NWT21)				NEWPORT WETLANDS- POINT 24 (NWT24) 2005-2015			NEWPORT WETLANDS- POINT 39 (NWT39)				NEWPORT WETLANDS
	2015	2014			2015	2014						2015	
Date	16/01/2015	07/08/2014	04/10/2014	28/10/2014	16/01/2015	07/08/2014	04/10/2014	28/10/2014	07/08/2014	04/10/2014	28/10/2014	16/01/2015	10/04/2014
2,4-Dimethylphenol :- {2,4-Xylenol}													
2,5-Dichlorophenol													
2,5-Dimethylphenol :- {2,5-Xylenol}													
2,6-Dichlorophenol													
2,6-Dimethylphenol :- {2,6-Xylenol}													
2-Chlorophenol													
2-Methylphenol :- {o-Cresol}													
3,4-Dimethylphenol :- {3,4-Xylenol}													
3,5-Dimethylphenol :- {3,5-Xylenol}													
3-Chlorophenol													
3-Methylphenol :- {m-Cresol}													
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}													
4-Chlorophenol													
4-Methylphenol :- {p-cresol}													
Antimony													
Atrazine													
Atrazine-desethyl :- {Atrazine-de-ethyl}													
Atrazine-desisopropyl :- {Atrazine de-isopropyl}													
Azinphos-ethyl													
Azinphos-methyl													
Benazolin													
Bendiocarb													
Bentazone													
Bromodichloromethane													
Bromoform :- {Tribromomethane}													
Bromoxynil													
Bupirimate													
Carbon tetrachloride :- {Tetrachloromethane}													
Carbophenothion													
Chlorfenvinphos													
Chlorobenzene													
Chlorodibromomethane													
Chloroform :- {Trichloromethane}													
Chlorpyrifos-ethyl													
Chlorpyrifos-methyl													
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}													
Clopyralid													
Cobalt													
Coumaphos													
Cyanazine													
Desmetryn													
Diazinon													
Dibenzo(a,h)Anthracene													
Dicamba													
Dichlorprop :- {2,4-DP}													
Dichlorvos													
Dimethoate													
Dimethylbenzene : Sum of isomers (1,3- 1,4-)													
Ethion													
Ethofumesate													
Ethyl tert-butyl ether :- {ETBE}													
Fenchlorphos :- {Ronnel}													
Fenitrothion													
Fenoprop													
Fenpropimorph													
Fenthion													
Fluoranthene													
Fluroxypyr													
Fonofos													
Ioxynil													
Iprodione													
Irgarol 1051													
Malathion													
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}													
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}													
Metalaxyl													
Metazachlor													
Mevinphos													
Molybdenum													
Napropamide													
Parathion-ethyl :- {Parathion}													
Parathion-methyl													
Pentachlorophenol													
Perylene													
Phenanthrene													
Phenol													
Phorate													
Picloram													
Pirimicarb													
Pirimiphos-ethyl													
Pirimiphos-methyl													
Prochloraz													
Prometryn													
Propazine													
Propetamphos													
Propyzamide													
Silica, reactive as SiO2													
Styrene :- {Vinylbenzene}													
Terbutryn													
tert-Amyl methyl ether :- {TAME}													
Tetrachloroethylene :- {Perchloroethylene}													
Thallium : Total													
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}													
Triazophos													
Trichloroethylene :- {Trichloroethene}													
Triclopyr													
Trietazine													
Trihalomethanes : Total :- {THM}													
Vinyl chloride :- {Chloroethylene}													

Location	· POINT 5 (NWT05)					NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN			WINDMILL PILL				
	2014				2015	2014			2010				
Date	07/08/2014	04/10/2014	28/10/2014	28/10/2014	16/01/2015	28/02/2014	31/03/2014	02/06/2014	10/05/2010	11/09/2010	15/09/2010	08/10/2010	26/10/2010
General Parameters													
Alkalinity to pH 4.5 as CaCO3		230		<LOD					165	212	194	185	234
Ammonia un-ionised as N						0.0006	0.027	0.00047	0.00074	0.0011	0.00113	<LOD	0.00054
Ammoniacal Nitrogen as N		<LOD		0.204		0.09	2.83	0.12	0.105	0.247	0.067	<LOD	0.065
Bicarbonate as HCO3													
BOD : 5 Day ATU	2.04	4.12	4.6		3.23	1.69	3.45	1.42	1.8	2.4	1.3	2.7	1.6
Calcium													
Calcium, Dissolved													
Carbon, Organic, Dissolved as C :- {DOC}													
Chemical Oxygen Demand :- {COD}						16.7	41.6	24.9					
Chloride		32.2	53.7			40.8	59.1	28					
Conductivity at 20 C	467	494	654		253								
Conductivity at 25 C				726		509	784	441	574	657	3629	4382	1682
Hardness, Total as CaCO3													
Magnesium													
Magnesium, Dissolved													
Manganese													
Manganese, Dissolved													
Nitrate as N	<LOD	0.196	<LOD		0.326				1.72	3.32	<LOD	<LOD	0.194
Nitrite as N	<LOD	<LOD	<LOD		<LOD	0.009	0.08	0.005	0.0888	0.109	<LOD	<LOD	0.0062
Nitrogen, Total as N				1.88									
Nitrogen, Total Oxidised as N	<LOD	0.2	<LOD		0.33	0.38	0.69	<LOD	1.81	3.43	<LOD	<LOD	<LOD
Orthophosphate, reactive as P	0.166	0.197	0.333		0.223	0.108	0.057	0.085	0.164	0.191	0.31	0.514	0.184
Oxygen, Dissolved as O2									5.11	7.56	6.05	6.32	10.1
Oxygen, Dissolved, % Saturation						92.7	93.6	56.1	49.8	64.7	58.7	67.7	86
pH	7.1	7.37	7.54		7.56	7.65	7.64	7.44	7.45	7.43	7.84	7.77	7.71
pH : In Situ													
Phosphorus, Total as P	0.215		0.416		0.221								
Salinity						<LOD	<LOD	<LOD					
Salinity : In Situ													
Solids, Suspended at 105 C						7.5	3.5	14					
Sulphate as SO4													
Temperature of Water						7.1	12.3	6.5	14.08	8.5	13.91	18.54	8.16
Metals													
Aluminium						223	106	461					
Aluminium, Dissolved													
Antimony													
Arsenic													
Arsenic, Dissolved													
Barium													
Barium, Dissolved													
Boron													
Boron, Dissolved													
Cadmium						<LOD	<LOD	<LOD					
Cadmium : Dry Wt													
Cadmium, Dissolved													
Chromium						0.94	1.67	1.73					
Chromium Hexavalent													
Chromium, Dissolved													
Copper						2.21	3.33	3.08					
Copper, Dissolved									1.54	1.73	<LOD	<LOD	<LOD
Iron													
Iron, Dissolved													
Lead						<LOD	<LOD	2.24					
Lead, Dissolved													
Lithium													
Lithium, Dissolved													
Magnesium													
Magnesium, Dissolved													
Manganese													
Manganese, Dissolved													
Mercury													
Mercury : Dry Wt													
Mercury, Dissolved													
Nickel						1.89	2.59	2.25					
Nickel, Dissolved													
Strontium													
Strontium, Filtered													
Tin													
Titanium													
Uranium													
Vanadium													
Zinc						11.8	12.8	14.2	18.4	22.9	11	8.7	11.6
Zinc, Dissolved													
BTEX Compounds													
Benzene													
Ethylbenzene													
Toluene :- {Methylbenzene}													
Other Organic Compounds													
Acenaphthene						<LOD	<LOD						
Acenaphthylene						<LOD	<LOD						
Benzo(a)Anthracene						0.0206	<LOD						
Benzo(a)Pyrene						0.0366	0.0123						
Benzo(b)Fluoranthene						0.0621	0.0232						
Benzo(e)Pyrene						0.0377	0.0123						
Benzo(g,h,i)Perylene						0.0386	0.0124						
Benzo(k)Fluoranthene						0.0251	<LOD						
Fluoranthene						0.0333	0.0185						
Fluorene						<LOD	<LOD						
Indeno(1,2,3-cd)pyrene						0.0382	0.0125						
Iodofenphos													
Naphthalene						<LOD	<LOD						
Phenol													
Pyrene						0.0281	0.0152						
1,1,1,2-Tetrachloroethane													
1,1,1-Trichloroethane													
1,1,2,2-Tetrachloroethane													
1,1,2-Trichloroethane													
1,1-Dichloroethane													
1,1-Dichloroethylene :- {1,1-Dichloroethene}													
1,2-Dichloroethane													
1,2-Dimethylbenzene :- {o-Xylene}													
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}													
2,3-Dimethylphenol :- {2,3-Xylenol}													
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}													
2,4,5-Trichlorophenol													
2,4,6-Trichlorophenol													
2,4-D :- {2,4-Dichlorophenoxyacetic acid}													
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}													
2,4-Dichlorophenol													

Location	· POINT 5 (NWT05)					NORTH OF B4239 C/W TORWICK REEN & RHOSOG FAWR REEN			WINDMILL PILL				
	2014				2015	2014			2010				
Date	07/08/2014	04/10/2014	28/10/2014	28/10/2014	16/01/2015	28/02/2014	31/03/2014	02/06/2014	10/05/2010	11/09/2010	15/09/2010	08/10/2010	26/10/2010
2,4-Dimethylphenol :- {2,4-Xylenol}													
2,5-Dichlorophenol													
2,5-Dimethylphenol :- {2,5-Xylenol}													
2,6-Dichlorophenol													
2,6-Dimethylphenol :- {2,6-Xylenol}													
2-Chlorophenol													
2-Methylphenol :- {o-Cresol}													
3,4-Dimethylphenol :- {3,4-Xylenol}													
3,5-Dimethylphenol :- {3,5-Xylenol}													
3-Chlorophenol													
3-Methylphenol :- {m-Cresol}													
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}													
4-Chlorophenol													
4-Methylphenol :- {p-cresol}													
Antimony													
Atrazine													
Atrazine-desethyl :- {Atrazine-de-ethyl}													
Atrazine-desisopropyl :- {Atrazine de-isopropyl}													
Azinphos-ethyl													
Azinphos-methyl													
Benazolin													
Bendiocarb													
Bentazone													
Bromodichloromethane													
Bromoform :- {Tribromomethane}													
Bromoxynil													
Bupirimate													
Carbon tetrachloride :- {Tetrachloromethane}													
Carbophenothion													
Chlorfenvinphos													
Chlorobenzene													
Chlorodibromomethane													
Chloroform :- {Trichloromethane}													
Chlorpyrifos-ethyl													
Chlorpyrifos-methyl													
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}													
Clopyralid													
Cobalt													
Coumaphos													
Cyanazine													
Desmetryn													
Diazinon													
Dibenzo(a,h)Anthracene						0.0174	<LOD						
Dicamba													
Dichlorprop :- {2,4-DP}													
Dichlorvos													
Dimethoate													
Dimethylbenzene : Sum of isomers (1,3- 1,4-)													
Ethion													
Ethofumesate													
Ethyl tert-butyl ether :- {ETBE}													
Fenchlorphos :- {Ronnel}													
Fenitrothion													
Fenoprop													
Fenpropimorph													
Fenthion													
Fluoranthene						0.0333	0.0185						
Fluroxypyr													
Fonofos													
Ioxynil													
Iprodione													
Irgarol 1051													
Malathion													
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}													
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}													
Metalaxyl													
Metazachlor													
Mevinphos													
Molybdenum													
Napropamide													
Parathion-ethyl :- {Parathion}													
Parathion-methyl													
Pentachlorophenol													
Perylene						0.0116	<LOD						
Phenanthrene						<LOD	<LOD						
Phenol													
Phorate													
Picloram													
Pirimicarb													
Pirimiphos-ethyl													
Pirimiphos-methyl													
Prochloraz													
Prometryn													
Propazine													
Propetamphos													
Propyzamide													
Silica, reactive as SiO2		2.06		6.01									
Styrene :- {Vinylbenzene}													
Terbutryn													
tert-Amyl methyl ether :- {TAME}													
Tetrachloroethylene :- {Perchloroethylene}													
Thallium : Total													
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}													
Triazophos													
Trichloroethylene :- {Trichloroethene}													
Triclopyr													
Trietazine													
Trihalomethanes : Total :- {THM}													
Vinyl chloride :- {Chloroethylene}													

Location															
	2011														
Date	02/02/2011	29/03/2011	01/06/2011	06/06/2011	07/06/2011	22/08/2011	12/09/2011	05/10/2011	03/11/2011	23/11/2011	13/12/2011	06/01/2012	10/01/2012	27/01/2012	07/02/2012
General Parameters															
Alkalinity to pH 4.5 as CaCO3	287	250	257	206	178	193	115	236	345	181	134	257	224	223	247
Ammonia un-ionised as N	0.00206	<LOD	0.00086	<LOD	<LOD	0.00021	0.00056	<LOD	0.0245	0.00038	0.00084	<LOD	0.00101	0.00181	<LOD
Ammoniacal Nitrogen as N	0.27	<LOD	0.387	<LOD	<LOD	0.035	0.079	<LOD	5.97	0.045	0.136	<LOD	0.205	0.229	<LOD
Bicarbonate as HCO3															
BOD : 5 Day ATU															
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C	793	726	1209	665	542.7	531	207	632	996	208	208	681	602	377	605
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	2.07	0.533	3.74	<LOD	<LOD	<LOD	2.7	<LOD	1.32	3.12	2.69	0.195	0.718	3.41	0.238
Nitrite as N	0.0152	0.0071	0.04	<LOD	<LOD	<LOD	0.0182	<LOD	0.0644	0.0208	0.0306	0.0051	0.042	0.0465	0.0225
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	2.09	0.54	3.78	<LOD	<LOD	<LOD	2.72	<LOD	1.38	3.14	2.72	<LOD	0.76	3.46	0.26
Orthophosphate, reactive as P	0.114	0.021	0.182	0.297	0.348	0.52	0.031	0.197	1.09	0.071	0.13	0.304	0.254	0.202	0.208
Oxygen, Dissolved as O2	11.6	13.5	8.78	8.72	5.8	2.68	11.1	7.79	10	10.7	11	5.09	3.5	11.2	6.97
Oxygen, Dissolved, % Saturation	88.5	123.4	67.9	91.5	64.3	27.8	96.4	81.5	85.6	95.7	93.2	56.6	33.5	94.2	71.9
pH	7.81	7.85	7.26	7.98	7.7	7.28	7.62	7.62	7.4	7.65	7.59	7.65	7.32	7.7	7.59
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	4.01	11.33	4.46	17.53	20.3	17.02	8.91	17.4	8.35	10.41	7.93	20.4	13.3	7.89	16.7
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved															
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc															
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location															
	2011														
Date	02/02/2011	29/03/2011	01/06/2011	06/06/2011	07/06/2011	22/08/2011	12/09/2011	05/10/2011	03/11/2011	23/11/2011	13/12/2011	06/01/2012	10/01/2012	27/01/2012	07/02/2012
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2012													
Date	17/02/2012	16/04/2012	12/05/2012	09/07/2012	03/08/2012	20/09/2012	24/10/2012	05/11/2012	02/01/2013	11/01/2013	21/02/2013	19/04/2013	06/05/2013	08/05/2013
General Parameters														
Alkalinity to pH 4.5 as CaCO3	256	240	245	282	257	285	270	185	145	151	251	274	222	209
Ammonia un-ionised as N	<LOD	<LOD	0.0016	0.0004	<LOD	0.00025	0.00263	0.00175	0.00201	0.00043	0.00492	<LOD	<LOD	0.0002
Ammoniacal Nitrogen as N	<LOD	<LOD	0.424	0.054	<LOD	0.031	0.449	0.213	0.574	0.095	0.445	<LOD	<LOD	0.035
Bicarbonate as HCO3														
BOD : 5 Day ATU														
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	218	813	644	673	208	707	677	313	385	490	675	730	626	613
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	1.97	<LOD	1.57	0.21	1.58	0.19	1.09	1.54	0.494	1.59	2.28	1.19	0.456	<LOD
Nitrite as N	0.0114	<LOD	0.0205	0.0396	0.0122	0.0103	0.0525	0.0378	0.0163	0.0312	0.0191	0.0153	0.0245	<LOD
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	1.98	<LOD	1.59	0.25	1.59	<LOD	1.14	1.58	0.51	1.62	2.3	1.21	0.48	<LOD
Orthophosphate, reactive as P	0.071	0.023	0.251	0.357	0.077	0.176	0.317	0.274	0.363	0.195	0.072	0.091	0.024	0.516
Oxygen, Dissolved as O2	11.8	11.1	8.19	3.59	10.5	6.69	8.52	10.9	7.69	6.09	10.7	12.7	17.5	1.89
Oxygen, Dissolved, % Saturation	94.7	98.9	63.7	36.2	94.4	65.2	80.7	95.8	63.1	56.5	79.8	117.6	191.3	20.1
pH	7.61	8.23	7.48	7.42	7.66	7.51	7.41	7.66	7.38	7.33	8.16	8.25	8.75	7.23
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	5.8	10.2	4.7	15.7	10.5	14.1	12.8	9.7	6.8	11.9	3.2	11.7	19.5	18.2
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved														
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2012													
Date	17/02/2012	16/04/2012	12/05/2012	09/07/2012	03/08/2012	20/09/2012	24/10/2012	05/11/2012	02/01/2013	11/01/2013	21/02/2013	19/04/2013	06/05/2013	08/05/2013
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2013							2014							
Date	13/05/2013	07/08/2013	20/09/2013	01/10/2013	04/10/2013	10/11/2013	19/11/2013	21/01/2014	14/02/2014	28/02/2014	06/03/2014	11/03/2014	04/04/2014	05/07/2014	16/07/2014
General Parameters															
Alkalinity to pH 4.5 as CaCO3	260	209	163	281		189	251	187	172	182	226	227	261	262	257
Ammonia un-ionised as N	<LOD	<LOD	<LOD	0.00342		0.00081	0.00292	0.00075	0.00119	0.001	0.00216	0.00085	0.00175	<LOD	<LOD
Ammoniacal Nitrogen as N	<LOD	<LOD	<LOD	0.44		0.136	0.515	0.17	0.28	0.188	0.128	0.264	0.124	<LOD	<LOD
Bicarbonate as HCO3															
BOD : 5 Day ATU															
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C		612	558	699	740	803	682	530	517	520	565	629	791	680	638
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	<LOD	<LOD	<LOD	1.96		0.178	1.81	1.5	1.18	1.26	0.524	0.589	0.909	<LOD	1.64
Nitrite as N	<LOD	<LOD	<LOD	0.0323		0.0218	0.0349	0.014	0.013	0.01	0.036	0.041	0.021	<LOD	<LOD
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	<LOD	<LOD	<LOD	1.99		<LOD	1.84	1.51	1.19	1.27	0.56	0.63	0.93	<LOD	1.64
Orthophosphate, reactive as P	0.167	0.234	0.144	0.253		0.202	0.219	0.137	0.196	0.166	0.216	0.285	0.096	0.05	0.222
Oxygen, Dissolved as O2		7	3.12	8.22	13.9	4.29	7.16	9.32	10.1	10.2	7.39	3.44	9.02	11.9	5.29
Oxygen, Dissolved, % Saturation		76.9	29.2	66.9	120.8	39.4	58.3	75	79.1	85.1	78.6	31.9	85.2	117.5	57.2
pH	8.32	7.54	7.29	7.74	8.28	7.46	7.6	7.51	7.52	7.54	7.7	7.18	7.8	7.96	7.48
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	13.8	19.8	12.3	6.46	9	11.5	6.5	6	5.1	7.5	18.2	11.9	12.7	14.8	19
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved															
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc															
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location	2013							2014							
Date	13/05/2013	07/08/2013	20/09/2013	01/10/2013	04/10/2013	10/11/2013	19/11/2013	21/01/2014	14/02/2014	28/02/2014	06/03/2014	11/03/2014	04/04/2014	05/07/2014	16/07/2014
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location												
						2015						
Date	09/08/2014	18/08/2014	10/09/2014	25/09/2014	16/10/2014	07/01/2015	17/02/2015	02/04/2015	03/05/2015	01/07/2015	05/07/2015	06/12/2015
General Parameters												
Alkalinity to pH 4.5 as CaCO3	260	225	224	267	223	198	287	281	228	230	181	183
Ammonia un-ionised as N	0.00028	0.00034	0.0002	0.00021	0.00127	<LOD	0.00231	0.00224	0.00079	0.00172		<LOD
Ammoniacal Nitrogen as N	0.046	0.058	0.041	0.045	0.37	<LOD	0.38	0.329	0.109	0.304	0.051	<LOD
Bicarbonate as HCO3												
BOD : 5 Day ATU												
Calcium												
Calcium, Dissolved												
Carbon, Organic, Dissolved as C :- {DOC}												
Chemical Oxygen Demand :- {COD}												
Chloride												
Conductivity at 20 C												
Conductivity at 25 C	654	608	620	742	650	1092	791	742	668	639	769	1313
Hardness, Total as CaCO3												
Magnesium												
Magnesium, Dissolved												
Manganese												
Manganese, Dissolved												
Nitrate as N	<LOD	0.194	0.184	<LOD	1.56	<LOD	1.39	2.1	1.27	1.62		<LOD
Nitrite as N	<LOD	0.006	0.016	<LOD	0.165	<LOD	0.013	0.012	0.007	0.018	0.043	<LOD
Nitrogen, Total as N												
Nitrogen, Total Oxidised as N	<LOD	<LOD	<LOD	<LOD	1.72	<LOD	1.4	2.11	1.28	1.64	2.62	<LOD
Orthophosphate, reactive as P	0.284	0.234	0.176	0.388	0.258	0.159	0.183	0.088	0.119	0.157	0.107	0.079
Oxygen, Dissolved as O2	1.22	4	3.49	3.84	3.26	7.05	9.76	9.45	10.8	9.99		10.3
Oxygen, Dissolved, % Saturation	12.6	41.3	32.9	37.8	31	79	78.9	69.4	87.6	81.4	87.7	107.3
pH	7.3	7.28	7.33	7.25	7.17	7.77	7.64	7.81	7.71	7.6	7.79	8.05
pH : In Situ												
Phosphorus, Total as P												
Salinity												
Salinity : In Situ												
Solids, Suspended at 105 C												
Sulphate as SO4												
Temperature of Water	16.8	16.8	12.6	14.5	13	20.8	6.2	2.5	6.4	6.5	14.2	17.1
Metals												
Aluminium												
Aluminium, Dissolved												
Antimony												
Arsenic												
Arsenic, Dissolved												
Barium												
Barium, Dissolved												
Boron												
Boron, Dissolved												
Cadmium												
Cadmium : Dry Wt												
Cadmium, Dissolved												
Chromium												
Chromium Hexavalent												
Chromium, Dissolved												
Copper												
Copper, Dissolved												
Iron												
Iron, Dissolved												
Lead												
Lead, Dissolved												
Lithium												
Lithium, Dissolved												
Magnesium												
Magnesium, Dissolved												
Manganese												
Manganese, Dissolved												
Mercury												
Mercury : Dry Wt												
Mercury, Dissolved												
Nickel												
Nickel, Dissolved												
Strontium												
Strontium, Filtered												
Tin												
Titanium												
Uranium												
Vanadium												
Zinc												
Zinc, Dissolved												
BTEX Compounds												
Benzene												
Ethylbenzene												
Toluene :- {Methylbenzene}												
Other Organic Compounds												
Acenaphthene												
Acenaphthylene												
Benzo(a)Anthracene												
Benzo(a)Pyrene												
Benzo(b)Fluoranthene												
Benzo(e)Pyrene												
Benzo(g,h,i)Perylene												
Benzo(k)Fluoranthene												
Fluoranthene												
Fluorene												
Indeno(1,2,3-cd)pyrene												
Iodofenphos												
Naphthalene												
Phenol												
Pyrene												
1,1,1,2-Tetrachloroethane												
1,1,1-Trichloroethane												
1,1,2,2-Tetrachloroethane												
1,1,2-Trichloroethane												
1,1-Dichloroethane												
1,1-Dichloroethylene :- {1,1-Dichloroethene}												
1,2-Dichloroethane												
1,2-Dimethylbenzene :- {o-Xylene}												
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}												
2,3-Dimethylphenol :- {2,3-Xylenol}												
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}												
2,4,5-Trichlorophenol												
2,4,6-Trichlorophenol												
2,4-D :- {2,4-Dichlorophenoxyacetic acid}												
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}												
2,4-Dichlorophenol												

Location												
						2015						
Date	09/08/2014	18/08/2014	10/09/2014	25/09/2014	16/10/2014	07/01/2015	17/02/2015	02/04/2015	03/05/2015	01/07/2015	05/07/2015	06/12/2015
2,4-Dimethylphenol :- {2,4-Xylenol}												
2,5-Dichlorophenol												
2,5-Dimethylphenol :- {2,5-Xylenol}												
2,6-Dichlorophenol												
2,6-Dimethylphenol :- {2,6-Xylenol}												
2-Chlorophenol												
2-Methylphenol :- {o-Cresol}												
3,4-Dimethylphenol :- {3,4-Xylenol}												
3,5-Dimethylphenol :- {3,5-Xylenol}												
3-Chlorophenol												
3-Methylphenol :- {m-Cresol}												
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}												
4-Chlorophenol												
4-Methylphenol :- {p-cresol}												
Antimony												
Atrazine												
Atrazine-desethyl :- {Atrazine-de-ethyl}												
Atrazine-desisopropyl :- {Atrazine de-isopropyl}												
Azinphos-ethyl												
Azinphos-methyl												
Benazolin												
Bendiocarb												
Bentazone												
Bromodichloromethane												
Bromoform :- {Tribromomethane}												
Bromoxynil												
Bupirimate												
Carbon tetrachloride :- {Tetrachloromethane}												
Carbophenothion												
Chlorfenvinphos												
Chlorobenzene												
Chlorodibromomethane												
Chloroform :- {Trichloromethane}												
Chlorpyrifos-ethyl												
Chlorpyrifos-methyl												
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}												
Clopyralid												
Cobalt												
Coumaphos												
Cyanazine												
Desmetryn												
Diazinon												
Dibenzo(a,h)Anthracene												
Dicamba												
Dichlorprop :- {2,4-DP}												
Dichlorvos												
Dimethoate												
Dimethylbenzene : Sum of isomers (1,3- 1,4-)												
Ethion												
Ethofumesate												
Ethyl tert-butyl ether :- {ETBE}												
Fenchlorphos :- {Ronnel}												
Fenitrothion												
Fenoprop												
Fenpropimorph												
Fenthion												
Fluoranthene												
Fluroxypyr												
Fonofos												
Ioxynil												
Iprodione												
Irgarol 1051												
Malathion												
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}												
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}												
Metalaxyl												
Metazachlor												
Mevinphos												
Molybdenum												
Napropamide												
Parathion-ethyl :- {Parathion}												
Parathion-methyl												
Pentachlorophenol												
Perylene												
Phenanthrene												
Phenol												
Phorate												
Picloram												
Pirimicarb												
Pirimiphos-ethyl												
Pirimiphos-methyl												
Prochloraz												
Prometryn												
Propazine												
Propetamphos												
Propyzamide												
Silica, reactive as SiO2												
Styrene :- {Vinylbenzene}												
Terbutryn												
tert-Amyl methyl ether :- {TAME}												
Tetrachloroethylene :- {Perchloroethylene}												
Thallium : Total												
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}												
Triazophos												
Trichloroethylene :- {Trichloroethene}												
Triclopyr												
Trietazine												
Trihalomethanes : Total :- {THM}												
Vinyl chloride :- {Chloroethylene}												

Location	Surface Water Dataset Summary						
				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters	**General Parameters**						
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l	129	128	99.2%	93 - 345	185.638
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	189	149	78.8%	0.00009 - 0.0414	0.003
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	193	151	78.2%	0.03 - 5.97	0.398
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	96	92	95.8%	1 - 10.2	2.766
Calcium	Calcium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Calcium, Dissolved	Calcium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l	3	3	100.0%	16.7 - 41.6	27.733
Chloride	Chloride	mg/l	12	12	100.0%	16.8 - 59.1	35.067
Conductivity at 20 C	Conductivity at 20 C	uS/cm	27	27	100.0%	235 - 1460	448.074
Conductivity at 25 C	Conductivity at 25 C	uS/cm	130	130	100.0%	122 - 4382	596.705
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nitrate as N	Nitrate as N	mg/l	213	147	69.0%	0.168 - 166	2.194
Nitrite as N	Nitrite as N	mg/l	217	129	59.4%	0.004 - 0.165	0.022
Nitrogen, Total as N	Nitrogen, Total as N	mg/l	7	7	100.0%	1.12 - 3.85	1.793
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l	217	136	62.7%	0.2 - 166	2.399
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l	217	193	88.9%	0.02 - 1.21	0.273
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l	186	186	100.0%	1.1 - 17.5	8.181
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	190	190	100.0%	10.8 - 191.3	73.787
pH	pH	pH Units	218	218	100.0%	6.87 - 8.93	7.601
pH : In Situ	pH : In Situ	pH Units	0	0	None > LOD	No Analyses	No Analyses
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	18	18	100.0%	0.085 - 0.999	0.228
Salinity	Salinity	ppt	3	0	None > LOD	None > LOD	None > LOD
Salinity : In Situ	Salinity : In Situ	ppt	0	0	None > LOD	No Analyses	No Analyses
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l	12	8	66.7%	3.5 - 32	10.000
Sulphate as SO4	Sulphate as SO4	mg/l	0	0	None > LOD	No Analyses	No Analyses
Temperature of Water	Temperature of Water	degC	191	191	100.0%	1.3 - 20.8	11.411
Metals	**Metals**						
Aluminium	Aluminium	ug/l	3	3	100.0%	106 - 461	263.333
Aluminium, Dissolved	Aluminium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic	Arsenic	ug/l	3	3	100.0%	4.61 - 9.33	7.063
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium	Barium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium, Dissolved	Barium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron	Boron	ug/l	2	2	100.0%	197 - 230	213.500
Boron, Dissolved	Boron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium	Cadmium	ug/l	3	0	None > LOD	None > LOD	None > LOD
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium	Chromium	ug/l	3	3	100.0%	0.94 - 1.73	1.447
Chromium Hexavalent	Chromium Hexavalent	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium, Dissolved	Chromium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper	Copper	ug/l	3	3	100.0%	2.21 - 3.33	2.873
Copper, Dissolved	Copper, Dissolved	ug/l	66	55	83.3%	1.02 - 8.28	2.561
Iron	Iron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iron, Dissolved	Iron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead	Lead	ug/l	3	1	33.3%	2.24	2.240
Lead, Dissolved	Lead, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium	Lithium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium, Dissolved	Lithium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury	Mercury	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Mercury, Dissolved	Mercury, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel	Nickel	ug/l	3	3	100.0%	1.89 - 2.59	2.243
Nickel, Dissolved	Nickel, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium	Strontium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium, Filtered	Strontium, Filtered	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tin	Tin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Titanium	Titanium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Uranium	Uranium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vanadium	Vanadium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Zinc	Zinc	ug/l	69	53	76.8%	5.2 - 49	16.590
Zinc, Dissolved	Zinc, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
BTEX Compounds	**BTEX Compounds**						
Benzene	Benzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethylbenzene	Ethylbenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Other Organic Compounds	**Other Organic Compounds**						
Acenaphthene	Acenaphthene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Acenaphthylene	Acenaphthylene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l	2	1	50.0%	0.0206	0.021
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	2	2	100.0%	0.0123 - 0.0366	0.024
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	2	2	100.0%	0.0232 - 0.0621	0.043
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l	2	2	100.0%	0.0123 - 0.0377	0.025
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l	2	2	100.0%	0.0124 - 0.0386	0.026
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	2	1	50.0%	0.0251	0.025
Fluoranthene	Fluoranthene	ug/l	2	2	100.0%	0.0185 - 0.0333	0.026
Fluorene	Fluorene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l	2	2	100.0%	0.0125 - 0.0382	0.025
Iodofenphos	Iodofenphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Naphthalene	Naphthalene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pyrene	Pyrene	ug/l	2	2	100.0%	0.0152 - 0.0281	0.022
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethane	1,1-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses

	Surface Water Dataset Summary						
Location				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Chlorophenol	2-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Chlorophenol	3-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chlorophenol	4-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine	Atrazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-ethyl	Azinphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-methyl	Azinphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benazolin	Benazolin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bendiocarb	Bendiocarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bentazone	Bentazone	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromodichloromethane	Bromodichloromethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoxynil	Bromoxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bupirimate	Bupirimate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbophenothion	Carbophenothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorfenvinphos	Chlorfenvinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorobenzene	Chlorobenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorodibromomethane	Chlorodibromomethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Clopyralid	Clopyralid	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cobalt	Cobalt	ug/l	0	0	None > LOD	No Analyses	No Analyses
Coumaphos	Coumaphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cyanazine	Cyanazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Desmetryn	Desmetryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Diazinon	Diazinon	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l	2	1	50.0%	0.0174	0.017
Dicamba	Dicamba	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorvos	Dichlorvos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethoate	Dimethoate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethion	Ethion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethofumesate	Ethofumesate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenitrothion	Fenitrothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenoprop	Fenoprop	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenpropimorph	Fenpropimorph	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenthion	Fenthion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	Fluoranthene	ug/l	2	2	100.0%	0.0185 - 0.0333	0.026
Fluroxypyr	Fluroxypyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fonofos	Fonofos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ioxynil	Ioxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iprodione	Iprodione	ug/l	0	0	None > LOD	No Analyses	No Analyses
Irgarol 1051	Irgarol 1051	ug/l	0	0	None > LOD	No Analyses	No Analyses
Malathion	Malathion	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metalaxyl	Metalaxyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metazachlor	Metazachlor	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mevinphos	Mevinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Molybdenum	Molybdenum	ug/l	0	0	None > LOD	No Analyses	No Analyses
Napropamide	Napropamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-methyl	Parathion-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pentachlorophenol	Pentachlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Perylene	Perylene	ug/l	2	1	50.0%	0.0116	0.012
Phenanthrene	Phenanthrene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phorate	Phorate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Picloram	Picloram	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimicarb	Pirimicarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-methyl	Pirimiphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prochloraz	Prochloraz	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prometryn	Prometryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propazine	Propazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propetamphos	Propetamphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propyzamide	Propyzamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l	3	3	100.0%	2.06 - 6.01	4.443
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Terbutryn	Terbutryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Thallium : Total	Thallium : Total	ug/l	0	0	None > LOD	No Analyses	No Analyses
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triazophos	Triazophos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triclopyr	Triclopyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trietazine	Trietazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses

	Surface Water Data Screening										
Location				Analysis above EQS				Analyses Above CCW TL			
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min
General Parameters	**General Parameters**										
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l		No EQS				No TL			93
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	0.6	0	0.0%		1	0	0.00%		0.00009
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	0.6	0	0.0%		1	13	6.74%		0.03
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l		No EQS				No TL			
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	5	0	0.0%		18	0	0.00%		1
Calcium	Calcium	mg/l		No EQS			300000	No Analyses	#VALUE!		
Calcium, Dissolved	Calcium, Dissolved	mg/l		No EQS			300000	No Analyses	#VALUE!		
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l		No EQS				No TL			
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l		No EQS				No TL			16.7
Chloride	Chloride	mg/l	250	0	0.0%		300	0	0.00%		16.8
Conductivity at 20 C	Conductivity at 20 C	uS/cm		No EQS				No TL			235
Conductivity at 25 C	Conductivity at 25 C	uS/cm		No EQS				No TL			122
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l		No EQS				No TL			
Magnesium	Magnesium	mg/l		No EQS				No TL			
Magnesium, Dissolved	Magnesium, Dissolved	mg/l		No EQS				No TL			
Manganese	Manganese	ug/l	30	No Analyses				No TL			
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL			
Nitrate as N	Nitrate as N	mg/l		No EQS			1	73	34.27%		0.168
Nitrite as N	Nitrite as N	mg/l		No EQS			1	0	0.00%		0.004
Nitrogen, Total as N	Nitrogen, Total as N	mg/l		No EQS			2	2	28.57%		1.12
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l		No EQS			2	18	8.29%		0.2
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l		No EQS			1	3	1.38%		0.02
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l		No EQS				No TL			1.1
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	60	0				No TL			10.8
pH	pH	pH Units	6-9	0				No TL			6.87
pH : In Situ	pH : In Situ	pH Units	6-9	No Analyses			6.8-8.5	No Analyses	#VALUE!		
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	120	0				No TL			0.085
Salinity	Salinity	ppt		No EQS				No TL			
Salinity : In Situ	Salinity : In Situ	ppt		No EQS				No TL			
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l		No EQS				No TL			3.5
Sulphate as SO4	Sulphate as SO4	mg/l	400	No Analyses			300	No Analyses	#VALUE!		
Temperature of Water	Temperature of Water	degC		No EQS				No TL			1.3
Metals	**Metals**										
Aluminium	Aluminium	ug/l		No EQS				No TL			106
Aluminium, Dissolved	Aluminium, Dissolved	ug/l		No EQS				No TL			
Antimony	Antimony	ug/l		No EQS				No TL			
Arsenic	Arsenic	ug/l	50	0				No TL			4.61
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	50	No Analyses				No TL			
Barium	Barium	ug/l		No EQS				No TL			
Barium, Dissolved	Barium, Dissolved	ug/l		No EQS				No TL			
Boron	Boron	ug/l	2000	0				No TL			197
Boron, Dissolved	Boron, Dissolved	ug/l	2000	No Analyses				No TL			
Cadmium	Cadmium	ug/l	0.15	None > LOD			5	None > LOD	#VALUE!		
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg		No EQS				No TL			
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!		
Chromium	Chromium	ug/l		No EQS				No TL			0.94
Chromium Hexavalent	Chromium Hexavalent	ug/l	3.4	No Analyses				No TL			
Chromium, Dissolved	Chromium, Dissolved	ug/l		No EQS				No TL			
Copper	Copper	ug/l	10	0				No TL			2.21
Copper, Dissolved	Copper, Dissolved	ug/l	10	0				No TL			1.02
Iron	Iron	ug/l	1000	No Analyses				No TL			
Iron, Dissolved	Iron, Dissolved	ug/l	1000	No Analyses				No TL			
Lead	Lead	ug/l	1.2	0			250	0	0.00%		2.24
Lead, Dissolved	Lead, Dissolved	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!		
Lithium	Lithium	ug/l		No EQS				No TL			
Lithium, Dissolved	Lithium, Dissolved	ug/l		No EQS				No TL			
Magnesium	Magnesium	ug/l		No EQS				No TL			
Magnesium, Dissolved	Magnesium, Dissolved	ug/l		No EQS				No TL			
Manganese	Manganese	ug/l	30	No Analyses				No TL			
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL			
Mercury	Mercury	ug/l	0.07	No Analyses				No TL			
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0.07	No Analyses				No TL			
Mercury, Dissolved	Mercury, Dissolved	ug/l	0.07	No Analyses				No TL			
Nickel	Nickel	ug/l	4	0			100	0	0.00%		1.89
Nickel, Dissolved	Nickel, Dissolved	ug/l	4	No Analyses			100	No Analyses	#VALUE!		
Strontium	Strontium	ug/l		No EQS				No TL			
Strontium, Filtered	Strontium, Filtered	ug/l		No EQS				No TL			
Tin	Tin	ug/l		No EQS				No TL			
Titanium	Titanium	ug/l		No EQS				No TL			
Uranium	Uranium	ug/l		No EQS				No TL			
Vanadium	Vanadium	ug/l		No EQS				No TL			
Zinc	Zinc	ug/l	75	0			1000	0	0.00%		5.2
Zinc, Dissolved	Zinc, Dissolved	ug/l	75	No Analyses			1000	No Analyses	#VALUE!		
BTEX Compounds	**BTEX Compounds**										
Benzene	Benzene	ug/l	10	No Analyses				No TL			
Ethylbenzene	Ethylbenzene	ug/l	20	No Analyses				No TL			
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	50	No Analyses				No TL			
Other Organic Compounds	**Other Organic Compounds**										
Acenaphthene	Acenaphthene	ug/l		No EQS				No TL			
Acenaphthylene	Acenaphthylene	ug/l		No EQS				No TL			
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l		No EQS				No TL			0.0206
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	0.00017	0				No TL			0.0123
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	0.017	0				No TL			0.0232
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l		No EQS				No TL			0.0123
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l		No EQS				No TL			0.0124
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	0.017	0				No TL			0.0251
Fluoranthene	Fluoranthene	ug/l	0.0063	0				No TL			0.0185
Fluorene	Fluorene	ug/l		No EQS				No TL			
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l		No EQS			0	2	100.00%		0.0125
Iodofenphos	Iodofenphos	ug/l		No EQS				No TL			
Naphthalene	Naphthalene	ug/l	2	None > LOD				No TL			
Phenol	Phenol	ug/l	7.7	No Analyses				No TL			
Pyrene	Pyrene	ug/l		No EQS				No TL			0.0152
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l		No EQS				No TL			
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	100	No Analyses				No TL			
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l		No EQS				No TL			
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	400	No Analyses				No TL			
1,1-Dichloroethane	1,1-Dichloroethane	ug/l		No EQS				No TL			
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l		No EQS				No TL			
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	10	No Analyses				No TL			
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l		No EQS				No TL			
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l		No EQS				No TL			
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l		No EQS				No TL			
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l		No EQS				No TL			
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l		No EQS				No TL			
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l		No EQS				No TL			
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l		No EQS				No TL			
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l		No EQS				No TL			
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	20	No Analyses				No TL			

	Surface Water Data Screening										
Location				Analysis above EQS				Analyses Above CCW TL			
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l		No EQS				No TL			
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l		No EQS				No TL			
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l		No EQS				No TL			
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l		No EQS				No TL			
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l		No EQS				No TL			
2-Chlorophenol	2-Chlorophenol	ug/l	50	No Analyses				No TL			
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l		No EQS				No TL			
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l		No EQS				No TL			
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l		No EQS				No TL			
3-Chlorophenol	3-Chlorophenol	ug/l		No EQS				No TL			
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l		No EQS				No TL			
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l		No EQS				No TL			
4-Chlorophenol	4-Chlorophenol	ug/l		No EQS				No TL			
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l		No EQS				No TL			
Antimony	Antimony	ug/l		No EQS				No TL			
Atrazine	Atrazine	ug/l		No EQS				No TL			
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l		No EQS				No TL			
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l		No EQS				No TL			
Azinphos-ethyl	Azinphos-ethyl	ug/l		No EQS				No TL			
Azinphos-methyl	Azinphos-methyl	ug/l		No EQS				No TL			
Benazolin	Benazolin	ug/l		No EQS				No TL			
Bendiocarb	Bendiocarb	ug/l		No EQS				No TL			
Bentazone	Bentazone	ug/l		No EQS				No TL			
Bromodichloromethane	Bromodichloromethane	ug/l		No EQS				No TL			
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l		No EQS				No TL			
Bromoxynil	Bromoxynil	ug/l		No EQS				No TL			
Bupirimate	Bupirimate	ug/l		No EQS				No TL			
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	12	No Analyses				No TL			
Carbophenothion	Carbophenothion	ug/l		No EQS				No TL			
Chlorfenvinphos	Chlorfenvinphos	ug/l		No EQS				No TL			
Chlorobenzene	Chlorobenzene	ug/l		No EQS				No TL			
Chlorodibromomethane	Chlorodibromomethane	ug/l		No EQS				No TL			
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l		No EQS				No TL			
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l		No EQS				No TL			
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l		No EQS				No TL			
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l		No EQS				No TL			
Clopyralid	Clopyralid	ug/l		No EQS				No TL			
Cobalt	Cobalt	ug/l		No EQS				No TL			
Coumaphos	Coumaphos	ug/l		No EQS				No TL			
Cyanazine	Cyanazine	ug/l		No EQS				No TL			
Desmetryn	Desmetryn	ug/l		No EQS				No TL			
Diazinon	Diazinon	ug/l		No EQS				No TL			
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l		No EQS			0	1	50.00%		0.0174
Dicamba	Dicamba	ug/l		No EQS				No TL			
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l		No EQS				No TL			
Dichlorvos	Dichlorvos	ug/l		No EQS				No TL			
Dimethoate	Dimethoate	ug/l		No EQS				No TL			
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l		No EQS				No TL			
Ethion	Ethion	ug/l		No EQS				No TL			
Ethofumesate	Ethofumesate	ug/l		No EQS				No TL			
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l		No EQS				No TL			
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l		No EQS				No TL			
Fenitrothion	Fenitrothion	ug/l		No EQS				No TL			
Fenoprop	Fenoprop	ug/l		No EQS				No TL			
Fenpropimorph	Fenpropimorph	ug/l		No EQS				No TL			
Fenthion	Fenthion	ug/l		No EQS				No TL			
Fluoranthene	Fluoranthene	ug/l	0.0063	0				No TL			0.0185
Fluroxypyr	Fluroxypyr	ug/l		No EQS				No TL			
Fonofos	Fonofos	ug/l		No EQS				No TL			
Ioxynil	Ioxynil	ug/l		No EQS				No TL			
Iprodione	Iprodione	ug/l		No EQS				No TL			
Irgarol 1051	Irgarol 1051	ug/l		No EQS				No TL			
Malathion	Malathion	ug/l		No EQS				No TL			
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l		No EQS				No TL			
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l		No EQS				No TL			
Metalaxyl	Metalaxyl	ug/l		No EQS				No TL			
Metazachlor	Metazachlor	ug/l		No EQS				No TL			
Mevinphos	Mevinphos	ug/l		No EQS				No TL			
Molybdenum	Molybdenum	ug/l		No EQS				No TL			
Napropamide	Napropamide	ug/l		No EQS				No TL			
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l		No EQS				No TL			
Parathion-methyl	Parathion-methyl	ug/l		No EQS				No TL			
Pentachlorophenol	Pentachlorophenol	ug/l	0.4	No Analyses				No TL			
Perylene	Perylene	ug/l		No EQS				No TL			0.0116
Phenanthrene	Phenanthrene	ug/l		No EQS				No TL			
Phenol	Phenol	ug/l	7.7	No Analyses				No TL			
Phorate	Phorate	ug/l		No EQS				No TL			
Picloram	Picloram	ug/l		No EQS				No TL			
Pirimicarb	Pirimicarb	ug/l		No EQS				No TL			
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l		No EQS				No TL			
Pirimiphos-methyl	Pirimiphos-methyl	ug/l		No EQS				No TL			
Prochloraz	Prochloraz	ug/l		No EQS				No TL			
Prometryn	Prometryn	ug/l		No EQS				No TL			
Propazine	Propazine	ug/l		No EQS				No TL			
Propetamphos	Propetamphos	ug/l		No EQS				No TL			
Propyzamide	Propyzamide	ug/l		No EQS				No TL			
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l		No EQS				No TL			2.06
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l		No EQS				No TL			
Terbutryn	Terbutryn	ug/l		No EQS				No TL			
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l		No EQS				No TL			
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l		No EQS				No TL			
Thallium : Total	Thallium : Total	ug/l		No EQS				No TL			
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l		No EQS				No TL			
Triazophos	Triazophos	ug/l		No EQS				No TL			
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l		No EQS				No TL			
Triclopyr	Triclopyr	ug/l		No EQS				No TL			
Trietazine	Trietazine	ug/l		No EQS				No TL			
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l		No EQS				No TL			
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l		No EQS				No TL			

Location	
Date	Max
General Parameters	
Alkalinity to pH 4.5 as CaCO3	345
Ammonia un-ionised as N	0.0414
Ammoniacal Nitrogen as N	5.97
Bicarbonate as HCO3	
BOD : 5 Day ATU	10.2
Calcium	
Calcium, Dissolved	
Carbon, Organic, Dissolved as C :- {DOC}	
Chemical Oxygen Demand :- {COD}	41.6
Chloride	59.1
Conductivity at 20 C	1460
Conductivity at 25 C	4382
Hardness, Total as CaCO3	
Magnesium	
Magnesium, Dissolved	
Manganese	
Manganese, Dissolved	
Nitrate as N	166
Nitrite as N	0.165
Nitrogen, Total as N	3.85
Nitrogen, Total Oxidised as N	166
Orthophosphate, reactive as P	1.21
Oxygen, Dissolved as O2	17.5
Oxygen, Dissolved, % Saturation	191.3
pH	8.93
pH : In Situ	
Phosphorus, Total as P	0.999
Salinity	
Salinity : In Situ	
Solids, Suspended at 105 C	32
Sulphate as SO4	
Temperature of Water	20.8
Metals	
Aluminium	461
Aluminium, Dissolved	
Antimony	
Arsenic	9.33
Arsenic, Dissolved	
Barium	
Barium, Dissolved	
Boron	230
Boron, Dissolved	
Cadmium	
Cadmium : Dry Wt	
Cadmium, Dissolved	
Chromium	1.73
Chromium Hexavalent	
Chromium, Dissolved	
Copper	3.33
Copper, Dissolved	8.28
Iron	
Iron, Dissolved	
Lead	2.24
Lead, Dissolved	
Lithium	
Lithium, Dissolved	
Magnesium	
Magnesium, Dissolved	
Manganese	
Manganese, Dissolved	
Mercury	
Mercury : Dry Wt	
Mercury, Dissolved	
Nickel	2.59
Nickel, Dissolved	
Strontium	
Strontium, Filtered	
Tin	
Titanium	
Uranium	
Vanadium	
Zinc	49
Zinc, Dissolved	
BTEX Compounds	
Benzene	
Ethylbenzene	
Toluene :- {Methylbenzene}	
Other Organic Compounds	
Acenaphthene	
Acenaphthylene	
Benzo(a)Anthracene	0.0206
Benzo(a)Pyrene	0.0366
Benzo(b)Fluoranthene	0.0621
Benzo(e)Pyrene	0.0377
Benzo(g,h,i)Perylene	0.0386
Benzo(k)Fluoranthene	0.0251
Fluoranthene	0.0333
Fluorene	
Indeno(1,2,3-cd)pyrene	0.0382
Iodofenphos	
Naphthalene	
Phenol	
Pyrene	0.0281
1,1,1,2-Tetrachloroethane	
1,1,1-Trichloroethane	
1,1,2,2-Tetrachloroethane	
1,1,2-Trichloroethane	
1,1-Dichloroethane	
1,1-Dichloroethylene :- {1,1-Dichloroethene}	
1,2-Dichloroethane	
1,2-Dimethylbenzene :- {o-Xylene}	
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	
2,3-Dimethylphenol :- {2,3-Xylenol}	
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	
2,4,5-Trichlorophenol	
2,4,6-Trichlorophenol	
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	
2,4-Dichlorophenol	

Location	
Date	Max
2,4-Dimethylphenol :- {2,4-Xylenol}	
2,5-Dichlorophenol	
2,5-Dimethylphenol :- {2,5-Xylenol}	
2,6-Dichlorophenol	
2,6-Dimethylphenol :- {2,6-Xylenol}	
2-Chlorophenol	
2-Methylphenol :- {o-Cresol}	
3,4-Dimethylphenol :- {3,4-Xylenol}	
3,5-Dimethylphenol :- {3,5-Xylenol}	
3-Chlorophenol	
3-Methylphenol :- {m-Cresol}	
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	
4-Chlorophenol	
4-Methylphenol :- {p-cresol}	
Antimony	
Atrazine	
Atrazine-desethyl :- {Atrazine-de-ethyl}	
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	
Azinphos-ethyl	
Azinphos-methyl	
Benazolin	
Bendiocarb	
Bentazone	
Bromodichloromethane	
Bromoform :- {Tribromomethane}	
Bromoxynil	
Bupirimate	
Carbon tetrachloride :- {Tetrachloromethane}	
Carbophenothion	
Chlorfenvinphos	
Chlorobenzene	
Chlorodibromomethane	
Chloroform :- {Trichloromethane}	
Chlorpyrifos-ethyl	
Chlorpyrifos-methyl	
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	
Clopyralid	
Cobalt	
Coumaphos	
Cyanazine	
Desmetryn	
Diazinon	
Dibenzo(a,h)Anthracene	0.0174
Dicamba	
Dichlorprop :- {2,4-DP}	
Dichlorvos	
Dimethoate	
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	
Ethion	
Ethofumesate	
Ethyl tert-butyl ether :- {ETBE}	
Fenchlorphos :- {Ronnel}	
Fenitrothion	
Fenoprop	
Fenpropimorph	
Fenthion	
Fluoranthene	0.0333
Fluroxypyr	
Fonofos	
Ioxynil	
Iprodione	
Irgarol 1051	
Malathion	
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	
Metalaxyl	
Metazachlor	
Mevinphos	
Molybdenum	
Napropamide	
Parathion-ethyl :- {Parathion}	
Parathion-methyl	
Pentachlorophenol	
Perylene	0.0116
Phenanthrene	
Phenol	
Phorate	
Picloram	
Pirimicarb	
Pirimiphos-ethyl	
Pirimiphos-methyl	
Prochloraz	
Prometryn	
Propazine	
Propetamphos	
Propyzamide	
Silica, reactive as SiO2	6.01
Styrene :- {Vinylbenzene}	
Terbutryn	
tert-Amyl methyl ether :- {TAME}	
Tetrachloroethylene :- {Perchloroethylene}	
Thallium : Total	
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	
Triazophos	
Trichloroethylene :- {Trichloroethene}	
Triclopyr	
Trietazine	
Trihalomethanes : Total :- {THM}	
Vinyl chloride :- {Chloroethylene}	

Location		MONKS DITCH AT WHITSON ARCH												
		2010					2011							
Date	Units	10/05/2010	11/09/2010	15/09/2010	08/10/2010	26/10/2010	02/02/2011	29/03/2011	01/06/2011	06/06/2011	07/06/2011	22/08/2011	12/09/2011	03/11/2011
General Parameters														
Alkalinity to pH 4.5 as CaCO3	mg/l	157	171	167	139	149	194	175	169	139	167	180	334	170
Ammonia un-ionised as N	mg/l	0.00108	0.00026	<LOD	<LOD	<LOD	0.0246	0.0008	0.00045	0.00121	0.00111	<LOD	0.00212	0.00032
Ammoniacal Nitrogen as N	mg/l	0.075	0.042	<LOD	<LOD	<LOD	2.61	0.042	0.084	0.064	0.032	<LOD	0.229	0.032
Bicarbonate as HCO3	mg/l													
BOD : 5 Day ATU	mg/l	<LOD	1.2	1.8	3.3	1.2	7.5	1.2	1.6	1.6	2	3.9		1.4
Calcium	mg/l													
Calcium, Dissolved	mg/l													
Carbon, Organic, Dissolved as C :- {DOC}	mg/l													
Chemical Oxygen Demand :- {COD}	mg/l													
Chloride	mg/l													
Conductivity at 20 C	uS/cm													
Conductivity at 25 C	uS/cm	446	443	460	380	438	506	450	693	440	440.7	419	307	493
Hardness, Total as CaCO3	mg/l													
Magnesium	mg/l													
Magnesium, Dissolved	mg/l													
Manganese	ug/l													
Manganese, Dissolved	ug/l													
Nitrate as N	mg/l	3.58	3.07	1.71	<LOD	2.15	3.2	2.67	3.34	0.957	1.36	0.677	0.184	3.14
Nitrite as N	mg/l	0.0345	0.0205	0.0128	<LOD	0.0122	0.0423	0.028	0.0253	0.0229	0.0621	0.0134	0.0165	0.017
Nitrogen, Total as N	mg/l													
Nitrogen, Total Oxidised as N	mg/l	3.61	3.09	1.72	<LOD	2.16	3.24	2.7	3.37	0.98	1.42	0.69	<LOD	3.16
Orthophosphate, reactive as P	mg/l	0.096	0.073	0.069	0.079	0.039	0.264	0.036	0.064	0.051	0.092	0.053	0.124	0.036
Oxygen, Dissolved as O2	mg/l	8.13	9.17	6.07	6.33	9.8	10.2	12.5	12.2	9.46	9.7	5.3	11.3	14.1
Oxygen, Dissolved, % Saturation	%	78.4	79.8	60.4	65.4	83.1	78.8	112.3	97	98	104.4	54.1	98.3	119.3
pH	pH Units	7.78	7.56	7.48	7.93	7.64	7.89	8.09	7.61	7.79	8.33	7.53	7.73	7.79
pH : In Situ	pH Units													
Phosphorus, Total as P	mg/l													
Salinity	ppt													
Salinity : In Situ	ppt													
Solids, Suspended at 105 C	mg/l													
Sulphate as SO4	mg/l													
Temperature of Water	degC	13.61	9.16	15.02	16.8	8.11	4.41	10.53	5.46	16.95	18.8	16.27	9.12	8.11
Metals														
Aluminium	ug/l													
Aluminium, Dissolved	ug/l													
Antimony	ug/l													
Arsenic	ug/l													
Arsenic, Dissolved	ug/l													
Barium	ug/l													
Barium, Dissolved	ug/l													
Boron	ug/l													
Boron, Dissolved	ug/l													
Cadmium	ug/l													
Cadmium : Dry Wt	mg/kg													
Cadmium, Dissolved	ug/l													
Chromium	ug/l													
Chromium Hexavalent	ug/l													
Chromium, Dissolved	ug/l													
Copper	ug/l													
Copper, Dissolved	ug/l	2.09	2.59	<LOD	<LOD	1.43	1.88	<LOD	2.34	1.67	1.13	<LOD	1.21	<LOD
Iron	ug/l													
Iron, Dissolved	ug/l													
Lead	ug/l													
Lead, Dissolved	ug/l													
Lithium	ug/l													
Lithium, Dissolved	ug/l													
Magnesium	ug/l													
Magnesium, Dissolved	ug/l													
Manganese	ug/l													
Manganese, Dissolved	ug/l													
Mercury	ug/l													
Mercury : Dry Wt	mg/kg													
Mercury, Dissolved	ug/l													
Nickel	ug/l													
Nickel, Dissolved	ug/l													
Strontium	ug/l													
Strontium, Filtered	ug/l													
Tin	ug/l													
Titanium	ug/l													
Uranium	ug/l													
Vanadium	ug/l													
Zinc	ug/l	9.8	11.5	7.49	<LOD	8.2	6.12	<LOD	9.7	5.61	<LOD	6.08	11	<LOD
Zinc, Dissolved	ug/l													
BTEX Compounds														
Benzene	ug/l													
Ethylbenzene	ug/l													
Toluene :- {Methylbenzene}	ug/l													
Other Organic Compounds														
Acenaphthene	ug/l													
Acenaphthylene	ug/l													
Benzo(a)Anthracene	ug/l													
Benzo(a)Pyrene	ug/l													
Benzo(b)Fluoranthene	ug/l													
Benzo(e)Pyrene	ug/l													
Benzo(g,h,i)Perylene	ug/l													
Benzo(k)Fluoranthene	ug/l													
Fluoranthene	ug/l													
Fluorene	ug/l													
Indeno(1,2,3-cd)pyrene	ug/l													
Iodofenphos	ug/l													
Naphthalene	ug/l													
Phenol	ug/l													
Pyrene	ug/l													
1,1,1,2-Tetrachloroethane	ug/l													
1,1,1-Trichloroethane	ug/l													
1,1,2,2-Tetrachloroethane	ug/l													
1,1,2-Trichloroethane	ug/l													
1,1-Dichloroethane	ug/l													
1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l													
1,2-Dichloroethane	ug/l													
1,2-Dimethylbenzene :- {o-Xylene}	ug/l													
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l													
2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l													
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l													
2,4,5-Trichlorophenol	ug/l													
2,4,6-Trichlorophenol	ug/l													
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l													
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l													
2,4-Dichlorophenol	ug/l													

Location		MONKS DITCH AT WHITSON ARCH												
		2010					2011							
Date	Units	10/05/2010	11/09/2010	15/09/2010	08/10/2010	26/10/2010	02/02/2011	29/03/2011	01/06/2011	06/06/2011	07/06/2011	22/08/2011	12/09/2011	03/11/2011
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l													
2,5-Dichlorophenol	ug/l													
2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l													
2,6-Dichlorophenol	ug/l													
2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l													
2-Chlorophenol	ug/l													
2-Methylphenol :- {o-Cresol}	ug/l													
3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l													
3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l													
3-Chlorophenol	ug/l													
3-Methylphenol :- {m-Cresol}	ug/l													
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l													
4-Chlorophenol	ug/l													
4-Methylphenol :- {p-cresol}	ug/l													
Antimony	ug/l													
Atrazine	ug/l													
Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l													
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l													
Azinphos-ethyl	ug/l													
Azinphos-methyl	ug/l													
Benazolin	ug/l													
Bendiocarb	ug/l													
Bentazone	ug/l													
Bromodichloromethane	ug/l													
Bromoform :- {Tribromomethane}	ug/l													
Bromoxynil	ug/l													
Bupirimate	ug/l													
Carbon tetrachloride :- {Tetrachloromethane}	ug/l													
Carbophenothion	ug/l													
Chlorfenvinphos	ug/l													
Chlorobenzene	ug/l													
Chlorodibromomethane	ug/l													
Chloroform :- {Trichloromethane}	ug/l													
Chlorpyrifos-ethyl	ug/l													
Chlorpyrifos-methyl	ug/l													
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l													
Clopyralid	ug/l													
Cobalt	ug/l													
Coumaphos	ug/l													
Cyanazine	ug/l													
Desmetryn	ug/l													
Diazinon	ug/l													
Dibenzo(a,h)Anthracene	ug/l													
Dicamba	ug/l													
Dichlorprop :- {2,4-DP}	ug/l													
Dichlorvos	ug/l													
Dimethoate	ug/l													
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l													
Ethion	ug/l													
Ethofumesate	ug/l													
Ethyl tert-butyl ether :- {ETBE}	ug/l													
Fenchlorphos :- {Ronnel}	ug/l													
Fenitrothion	ug/l													
Fenoprop	ug/l													
Fenpropimorph	ug/l													
Fenthion	ug/l													
Fluoranthene	ug/l													
Fluroxypyr	ug/l													
Fonofos	ug/l													
Ioxynil	ug/l													
Iprodione	ug/l													
Irgarol 1051	ug/l													
Malathion	ug/l													
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l													
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l													
Metalaxyl	ug/l													
Metazachlor	ug/l													
Mevinphos	ug/l													
Molybdenum	ug/l													
Napropamide	ug/l													
Parathion-ethyl :- {Parathion}	ug/l													
Parathion-methyl	ug/l													
Pentachlorophenol	ug/l													
Perylene	ug/l													
Phenanthrene	ug/l													
Phenol	ug/l													
Phorate	ug/l													
Picloram	ug/l													
Pirimicarb	ug/l													
Pirimiphos-ethyl	ug/l													
Pirimiphos-methyl	ug/l													
Prochloraz	ug/l													
Prometryn	ug/l													
Propazine	ug/l													
Propetamphos	ug/l													
Propyzamide	ug/l													
Silica, reactive as SiO2	ug/l													
Styrene :- {Vinylbenzene}	ug/l													
Terbutryn	ug/l													
tert-Amyl methyl ether :- {TAME}	ug/l													
Tetrachloroethylene :- {Perchloroethylene}	ug/l													
Thallium : Total	ug/l													
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l													
Triazophos	ug/l													
Trichloroethylene :- {Trichloroethene}	ug/l													
Triclopyr	ug/l													
Trietazine	ug/l													
Trihalomethanes : Total :- {THM}	ug/l													
Vinyl chloride :- {Chloroethylene}	ug/l													

Location															
			2012												
Date	05/11/2011	13/12/2011	06/01/2012	27/01/2012	07/02/2012	17/02/2012	05/04/2012	14/08/2012	31/08/2012	28/09/2012	23/10/2012	19/11/2012	03/12/2012	04/12/2012	03/01/2013
General Parameters															
Alkalinity to pH 4.5 as CaCO3	132	114	172	150	154	172	199	170	158	162	174	161	184	170	176
Ammonia un-ionised as N	0.00466	0.00106	0.00124	0.00156	<LOD	0.00269	0.00061	0.00045	0.00075	0.0003	<LOD	<LOD	0.0005	0.00244	0.00094
Ammoniacal Nitrogen as N	0.174	0.129	0.049	0.174	<LOD	0.495	0.035	0.035	0.039	0.03	<LOD	<LOD	0.032	0.475	0.069
Bicarbonate as HCO3															
BOD : 5 Day ATU	1.9	4	1.5	2.7	<LOD	2.2	<LOD	1.2	<LOD	<LOD	<LOD	<LOD	1.1	4.9	
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C	430	339	444	301	407	313	413	439	410	397	424	449	489	106	435
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	1.47	3.15	2.72	2.78	2.47	3.31	2.48	2.18	2.38	2.66	2.75	2.84	2.71	2.29	3.33
Nitrite as N	0.0631	0.0245	0.0427	0.0263	0.0171	0.0716	0.0125	0.0666	0.0394	0.0368	0.0356	0.0225	0.0179	0.0443	0.0117
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	1.53	3.17	2.76	2.81	2.49	3.38	2.49	2.25	2.42	2.7	2.79	2.86	2.73	2.33	3.34
Orthophosphate, reactive as P	0.09	0.102	0.076	0.079	0.039	0.138	0.047	0.07	0.084	0.08	0.092	0.034	0.05	0.186	0.071
Oxygen, Dissolved as O2	5.65	11.5	8.42	11.5	8.27	12.3	10.9	5.65	8.65	7.95	9.08	9.96	12.4	10.8	12.2
Oxygen, Dissolved, % Saturation	57.6	97.2	88.4	96.4	82	96.3	95.3	59.7	86.6	74.8	85.4	83.6	108.9	93.7	98.1
pH	7.97	7.71	7.9	7.77	7.95	7.63	8.05	7.59	7.85	7.66	7.85	7.7	7.94	7.48	8.3
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	16.18	8.14	17.6	7.48	14.9	5	9.3	17.9	15.3	12.5	12.5	7.7	9.7	8.9	6
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved	3.05	2.96	<LOD	5.49	<LOD	1.67	3.07	1.57	1.63	2.59	1.33	1.01	1.15	5.65	
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc	6.3	18.5	<LOD	10.6	6.72	5.18	9.29	<LOD	<LOD	18.9	<LOD	<LOD	<LOD	6.56	
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location															
			2012												
Date	05/11/2011	13/12/2011	06/01/2012	27/01/2012	07/02/2012	17/02/2012	05/04/2012	14/08/2012	31/08/2012	28/09/2012	23/10/2012	19/11/2012	03/12/2012	04/12/2012	03/01/2013
General Parameters															
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2013														
Date	17/04/2013	19/06/2013	27/06/2013	10/07/2013	08/09/2013	20/09/2013	01/10/2013	04/10/2013	31/10/2013	02/11/2013	19/11/2013	04/02/2014	05/02/2014	10/02/2014	11/03/2014
General Parameters															
Alkalinity to pH 4.5 as CaCO3	168	179	171	173	136	164		169	113	138	135	162	173	175	161
Ammonia un-ionised as N	0.0007	0.0131	0.00107	<LOD	0.00056	<LOD		0.00237	0.00056	0.00127	<LOD	0.00149	0.00053	<LOD	0.00092
Ammoniacal Nitrogen as N	0.038	0.886	0.033	<LOD	0.04	<LOD		0.147	0.055	0.129	<LOD	0.072	0.038	<LOD	0.136
Bicarbonate as HCO3															
BOD : 5 Day ATU										1.69					
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C	459	488	453	482	439	432	459	501	322	379	430	432	455	520	434
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	2.5	2.54	2.25	2.85	1.27	1.97		3.39	2.36	2.23	3.06	2.62	2.54	1.42	1.91
Nitrite as N	0.0171	0.128	0.0416	0.0117	0.0402	0.0047		0.0283	0.0299	0.0168	0.0309	0.017	0.013	0.024	0.032
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	2.52	2.67	2.29	2.86	1.31	1.97		3.42	2.39	2.25	3.09	2.64	2.55	1.44	1.94
Orthophosphate, reactive as P	0.058	0.101	0.045	0.094	0.073	0.043		0.068	0.071	0.091	0.061	0.076	0.042	0.043	0.166
Oxygen, Dissolved as O2	9.24	5.12	8.63	3.14	6.47	6.03	10.9	12.8	8.23	11	10.2	9.27	9.12	5.01	7.8
Oxygen, Dissolved, % Saturation	83.6	53.8	91.2	31.4	70.8	57.4	91.4	109	76.4	88.8	85.3	85.6	86.2	51.3	71.9
pH	7.98	7.66	8.03	7.81	7.57	7.62	8.15	8.12	7.68	7.85	7.97	8.05	7.79	7.75	7.51
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	10.8	17.6	17.9	15.3	19.6	13	7.6	8.3	11.9	6.2	7.7	11.7	12.7	16.4	11.6
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved										1.21					
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc										8.97					
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location	2013														
Date	17/04/2013	19/06/2013	27/06/2013	10/07/2013	08/09/2013	20/09/2013	01/10/2013	04/10/2013	31/10/2013	02/11/2013	19/11/2013	04/02/2014	05/02/2014	10/02/2014	11/03/2014
General Parameters															
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2014									2015				
Date	01/06/2014	03/06/2014	02/07/2014	31/07/2014	18/08/2014	22/09/2014	09/10/2014	16/10/2014	06/11/2014	07/01/2015	17/02/2015	02/04/2015	03/05/2015	01/07/2015
General Parameters														
Alkalinity to pH 4.5 as CaCO3	101	147	85.6	167	170	148	175	159	158	164	176	147	159	141
Ammonia un-ionised as N	0.0007	0.00118	0.00043	0.00052	<LOD	0.0003	<LOD	0.00044	<LOD	0.00201	0.00102	0.00086	0.00135	0.00059
Ammoniacal Nitrogen as N	0.07	0.07	0.06	0.035	<LOD	0.034	<LOD	0.048	<LOD	0.083	0.071	0.073	0.094	0.039
Bicarbonate as HCO3														
BOD : 5 Day ATU														
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	293	363	252	447	452	466	473	437	423	596	525.2	447	455	400.7
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	2.12	2.27	1.21	0.983	2.05	0.943	2.12	2.77	2.47	0.696	2.72	3.32	2.89	2.83
Nitrite as N	0.011	0.012	0.006	0.007	0.005	0.047	0.009	0.043	0.023	0.014	0.01	0.013	0.007	0.012
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	2.13	2.28	1.22	0.99	2.05	0.99	2.13	2.81	2.49	0.71	2.73	3.33	2.9	2.84
Orthophosphate, reactive as P	0.062	0.036	0.057	0.09	0.079	0.054	0.021	0.111	0.074	0.025	0.095	0.056	0.072	0.182
Oxygen, Dissolved as O2	10.4	10.7	11.6	7.59	10.6	2.45	9.2	7.6	8.18	6.87	12.7	12.4	12	13.2
Oxygen, Dissolved, % Saturation	89.1	92.3	94.1	83.4	109.3	24.6	92.9	72.6	84	79.1	104.1	94.4	98.2	109.6
pH	7.78	8	7.7	7.59	7.91	7.5	7.94	7.59	7.85	7.73	8.18	8.2	8.17	8.07
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	8.6	8.9	6.5	19.8	16.5	15.5	15.7	13.2	16.5	22.2	6.8	4	6.7	7.4
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved														
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2014									2015				
Date	01/06/2014	03/06/2014	02/07/2014	31/07/2014	18/08/2014	22/09/2014	09/10/2014	16/10/2014	06/11/2014	07/01/2015	17/02/2015	02/04/2015	03/05/2015	01/07/2015
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location			MONKSDITCH AT LLANWERN ROAD BRIDGE											
			2005											
Date	05/07/2015	06/12/2015	11/02/2005	10/05/2005	20/05/2005	06/06/2005	12/06/2005	21/07/2005	19/08/2005	13/09/2005	13/10/2005	16/11/2005	02/01/2006	24/01/2006
General Parameters														
Alkalinity to pH 4.5 as CaCO3	161	165												
Ammonia un-ionised as N		0.00133	0.00175	<LOD	0.00462	0.0018	<LOD	<LOD	0.00233	<LOD	0.00046	0.00027	<LOD	0.00014
Ammoniacal Nitrogen as N	0.032	0.048	0.115	<LOD	0.199	0.115	<LOD	<LOD	0.08	<LOD	0.06	0.038	<LOD	0.031
Bicarbonate as HCO3														
BOD : 5 Day ATU			<LOD	<LOD	2.6	1.2	1	1.1	1.2	0.8	5.6	<LOD	<LOD	<LOD
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	453	421												
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N		2.39	2.09	2.89	1.69	3.76	3.15	3.36	3.26	2.63	4.77	3.57	3.39	3.32
Nitrite as N	0.009	0.013	0.014	<LOD	0.047	0.066	0.007	0.035	0.077	0.018	0.022	0.014	0.036	0.008
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	2.42	2.4	2.1	2.89	1.74	3.83	3.16	3.39	3.34	2.65	4.79	3.58	3.43	3.33
Orthophosphate, reactive as P	0.059	0.046	0.115	0.06	0.258	0.136	0.047	0.154	<LOD	0.184	0.13	0.047	0.055	0.054
Oxygen, Dissolved as O2		11.8	9.39	8.62	11.97	9.56	11.49	11.4	9.3	10.2	8.44	10.8	11.91	12.45
Oxygen, Dissolved, % Saturation	101.3	119.6	90.1	79.9	115	88.2	96.9	118	95.3	102	82	95.3	94.7	99.9
pH	7.95	8.37	7.81	8.1	8.12	7.88	7.88	8.15	8.02	8.04	7.49	7.59	7.68	7.52
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	12.6	15.7	13.39	11.84	13.31	11.65	7.89	17.03	16.4	15.49	13.96	9.77	5.56	5.89
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved			4.31	1.08	1.85	1.2	1.07	1.16	1.18	1.11	6.13	1.33	<LOD	<LOD
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc			8.8	3.61	4.5	5.37	13.6	4.77	3.26	5.93	89.3	5.34	2.79	3.92
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location			MONKSDITCH AT LLANWERN ROAD BRIDGE											
			2005											
Date	05/07/2015	06/12/2015	11/02/2005	10/05/2005	20/05/2005	06/06/2005	12/06/2005	21/07/2005	19/08/2005	13/09/2005	13/10/2005	16/11/2005	02/01/2006	24/01/2006
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2006										2007			
Date	08/02/2006	10/02/2006	03/03/2006	16/05/2006	29/06/2006	18/07/2006	09/08/2006	16/10/2006	13/11/2006	04/12/2006	30/01/2007	19/03/2007	14/05/2007	06/07/2007
General Parameters														
Alkalinity to pH 4.5 as CaCO3											147	151	140	168
Ammonia un-ionised as N	<LOD	0.00099	0.00035	0.00089	<LOD	<LOD	0.00107	<LOD	0.00467	0.00065	<LOD	<LOD	0.00081	0.00107
Ammoniacal Nitrogen as N	<LOD	0.051	0.038	0.039	<LOD	<LOD	0.048	<LOD	0.299	0.042	<LOD	<LOD	0.095	0.045
Bicarbonate as HCO3														
BOD : 5 Day ATU	1.2	1.7	<LOD	<LOD	<LOD	1.5	<LOD	<LOD	1.9	<LOD	<LOD	<LOD	1.4	1.4
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C											378	470	370	
Conductivity at 25 C														476
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	3.56	3.98	3	3.3	3.69	3.64	4.16	3.47	1.31	3.97	3.99	4.17	2.4	3.87
Nitrite as N	0.021	0.015	0.006	0.014	0.017	0.038	0.015	0.017	0.045	0.013	<LOD	0.023	0.0144	0.0268
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	3.58	3.99	3.01	3.31	3.71	3.68	4.17	3.49	1.35	3.98	3.99	4.19	2.41	3.9
Orthophosphate, reactive as P	0.203	0.216	0.062	0.082	0.089	0.44	0.11	0.072	0.198	0.045	<LOD	0.137	0.08	0.081
Oxygen, Dissolved as O2	8.1	9.88	13.5	11.18	10.75	10.14	10.31	11.31	8.29	12.38	9.89	12.26	8.61	10.15
Oxygen, Dissolved, % Saturation	80.8	97.4	102	106	110	106	98.3	108	69.9	104	84.6	105	79.1	98
pH	7.92	7.88	7.9	8.11	7.97	7.8	7.99	8.16	8.02	8.02	7.84	8.04	7.62	8.03
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	15.16	14.62	3.64	12.99	16.21	17.42	13.1	13.26	7.88	7.81	8.47	8.6	11.48	13.64
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved	1.4	3.5	<LOD	1.05	1.7	1.4	1.3	<LOD	1.2	<LOD	1.1	<LOD	4.5	1.7
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc	10.2	8.8	4.43	6.09	<LOD	12.2	<LOD	5.3	9.6	7.3	8.4	10.8	12.8	5.4
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2006										2007			
Date	08/02/2006	10/02/2006	03/03/2006	16/05/2006	29/06/2006	18/07/2006	09/08/2006	16/10/2006	13/11/2006	04/12/2006	30/01/2007	19/03/2007	14/05/2007	06/07/2007
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location			2008			2011								
Date	04/10/2007	02/12/2007	07/04/2008	03/07/2008	02/08/2008	22/03/2011	09/06/2011	27/06/2011	05/09/2011	08/09/2011	06/10/2011	13/12/2011	03/02/2012	07/02/2012
General Parameters														
Alkalinity to pH 4.5 as CaCO3	163	122	169	168	156									
Ammonia un-ionised as N	<LOD	0.00175	0.00075	0.00103	0.00014	0.00068	0.00363	<LOD	0.0018	0.00144	<LOD	0.00259	0.00072	<LOD
Ammoniacal Nitrogen as N	<LOD	0.11	0.031	0.064	0.047	0.037	0.528	<LOD	0.084	0.057	<LOD	0.259	0.066	<LOD
Bicarbonate as HCO3														
BOD : 5 Day ATU	<LOD	1.1	<LOD	<LOD	<LOD	1.1	12.7	<LOD	1	2.9	1.4	3.9	2.8	1
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C	408	403		547										
Conductivity at 25 C			457		437									
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	4.33	3.06	3.56	3.7	3.44	3.68	1.21	3.02	3.11	3.24	3.34	4.41	3.32	2.48
Nitrite as N	0.0165	0.012	0.0287	0.0292	0.0217	0.0167	0.0234	0.0426	0.0356	0.0066	0.0387	0.0303	0.012	0.0088
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	4.35	3.07	3.59	3.73	3.46	3.7	1.23	3.06	3.15	3.25	3.38	4.44	3.33	2.49
Orthophosphate, reactive as P	0.065	0.16	0.077	0.064	0.052	0.064	0.177	0.102	0.097	0.076	0.121	0.121	0.035	0.054
Oxygen, Dissolved as O2	10.98	12.78	10.94	12.41	11.21	13	8.26	10.4	11.1	10.7	11.9	11.6	10.3	10
Oxygen, Dissolved, % Saturation	104	108	106	106	96.5	115.4	82.1	107.5	108.9	105.1	112.4	97.7	92.4	96.5
pH	8.45	8	8.09	8.2	7.25	8.34	7.41	8.23	7.93	8.19	8.32	7.81	7.76	7.94
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	12.88	8.14	13.79	8.28	8.72	10.07	14.96	16.6	14.35	14.5	12.66	7.69	10.5	13.6
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved	<LOD	2.4	1.7	3.8	3.1	<LOD	3.25	1.14	1.32	1.13	1.01	3.31	3.62	1.26
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc	6.6	15.3	<LOD	<LOD	<LOD	<LOD	31.6	9.82	25.4	7.5	<LOD	32.6	<LOD	5.25
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location														
			2008			2011								
Date	04/10/2007	02/12/2007	07/04/2008	03/07/2008	02/08/2008	22/03/2011	09/06/2011	27/06/2011	05/09/2011	08/09/2011	06/10/2011	13/12/2011	03/02/2012	07/02/2012
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2012														
Date	17/02/2012	20/02/2012	21/02/2012	28/03/2012	14/08/2012	31/08/2012	28/09/2012	24/10/2012	05/11/2012	06/11/2012	22/11/2012	11/01/2013	14/02/2013	21/02/2013	19/04/2013
General Parameters															
Alkalinity to pH 4.5 as CaCO3												140	95	155	160
Ammonia un-ionised as N	<LOD	0.00078	0.00114	0.00187	<LOD	<LOD	0.00059	<LOD	0.00111	0.00075	0.00313	0.00227	0.00059	<LOD	<LOD
Ammoniacal Nitrogen as N	<LOD	0.075	0.14	0.094	<LOD	<LOD	0.04	<LOD	0.124	0.049	0.249	0.201	0.115	<LOD	<LOD
Bicarbonate as HCO3															
BOD : 5 Day ATU	1.9	2	4.1	1.7	1.3	<LOD	<LOD	<LOD	1.9	<LOD	<LOD		2.78		
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C												363	329	412	436
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	0.903	3.46	3.6	3.36	3.23	2.86	2.77	2.91	2.59	0.226	2.78	2.6	1.7	3.47	3.08
Nitrite as N	0.0067	0.0127	0.0182	0.0186	0.0113	0.0077	0.0114	0.006	0.0118	<LOD	0.012	0.0126	0.0107	0.0041	0.0067
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	0.91	3.47	3.62	3.38	3.24	2.87	2.78	2.92	2.6	0.23	2.79	2.61	1.73	3.47	3.09
Orthophosphate, reactive as P	<LOD	0.061	0.088	0.064	0.069	0.051	0.044	0.05	0.057	<LOD	0.092	0.103	0.078	0.034	0.039
Oxygen, Dissolved as O2	12.7	12.7	12.3	10.6	9.34	9.7	9.93	10.9	11.2	10.2	11.5	10.1	11.7	11.3	13.3
Oxygen, Dissolved, % Saturation	98.8	102.7	98.8	97	97.3	95.8	93.2	101.4	97.5	99.2	97.5	93.8	96.5	89.8	114.5
pH	7.81	7.88	7.77	8.1	8.08	7.86	7.83	7.93	7.71	7.8	7.9	7.72	7.58	8.34	7.76
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	4.7	6.1	6.1	11.2	17.2	14.7	12.4	12.2	9.3	13.8	8	12.1	6.9	5.4	8.6
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved	1.15	<LOD	2.62	<LOD	<LOD	1.08	1.81	<LOD	2.86	2.15	6.6		2.3		
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc	6.03	<LOD	13.1	<LOD	<LOD	<LOD	43.8	<LOD	8.23	5.6	15.4		22		
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location	2012														
Date	17/02/2012	20/02/2012	21/02/2012	28/03/2012	14/08/2012	31/08/2012	28/09/2012	24/10/2012	05/11/2012	06/11/2012	22/11/2012	11/01/2013	14/02/2013	21/02/2013	19/04/2013
General Parameters															
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2013													
Date	06/05/2013	27/06/2013	13/08/2013	20/09/2013	01/10/2013	04/10/2013	16/10/2013	21/11/2013	10/02/2014	03/03/2014	11/03/2014	04/04/2014	01/06/2014	02/07/2014
General Parameters														
Alkalinity to pH 4.5 as CaCO3	156	172	177	169		166	160	158	182	141	163	171	97.9	107
Ammonia un-ionised as N	0.00095	<LOD	<LOD	0.0007	<LOD	<LOD	0.00082	<LOD	<LOD	0.00315	<LOD	<LOD	0.00165	0.00339
Ammoniacal Nitrogen as N	0.036	<LOD	<LOD	0.033	<LOD	<LOD	0.043	<LOD	<LOD	0.24	<LOD	<LOD	0.2	0.28
Bicarbonate as HCO3														
BOD : 5 Day ATU					1.11									
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	453	457	469	460		464	425	453	477	381	440	451	326	308
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	3.7	3.44	3.38	2.9	3.17	3.53	2.65	3.02	3.25	1.9	2.14	2.95	1.89	2.01
Nitrite as N	0.0131	0.0247	0.018	0.0171	0.006	0.0063	0.0119	0.0099	0.008	0.014	0.007	0.007	0.018	0.009
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	3.71	3.46	3.4	2.92	3.18	3.54	2.66	3.03	3.26	1.91	2.15	2.96	1.91	2.02
Orthophosphate, reactive as P	0.056	0.062	0.074	0.076	0.041	0.037	0.099	0.102	0.146	0.052	0.048	0.039	0.052	0.114
Oxygen, Dissolved as O2	10.8	11.7	9.14	9.96	11.4	13.5	10	12.1	10	11	10.7	11.9	11	11.9
Oxygen, Dissolved, % Saturation	107.7	113.6	90.7	92.6	96.5	115.5	90	102.7	98.4	94.7	98.9	107.3	94.1	99.5
pH	8.18	7.88	8.5	8.05	8.1	8.18	8.05	8	8.21	7.9	7.63	8.15	7.7	7.9
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	15.1	14.1	14.9	12	7.9	8.5	10.6	8	14.4	8.6	11.7	10.5	8.5	7.5
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved					1.34									
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc					6.43									
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location														
	2013													
Date	06/05/2013	27/06/2013	13/08/2013	20/09/2013	01/10/2013	04/10/2013	16/10/2013	21/11/2013	10/02/2014	03/03/2014	11/03/2014	04/04/2014	01/06/2014	02/07/2014
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location	2014							2015						
Date	05/07/2014	16/07/2014	18/08/2014	09/09/2014	09/10/2014	16/10/2014	06/11/2014	07/01/2015	17/02/2015	24/03/2015	02/04/2015	15/06/2015	01/07/2015	05/07/2015
General Parameters														
Alkalinity to pH 4.5 as CaCO3	161	176	180	176	176	163	160	171	180	162	165	173	143	169
Ammonia un-ionised as N	0.0008	0.00086	<LOD	<LOD	<LOD	0.00027	<LOD	<LOD	<LOD	<LOD	<LOD	0.00076	0.00064	<LOD
Ammoniacal Nitrogen as N	0.043	0.031	<LOD	<LOD	<LOD	0.03	<LOD	<LOD	<LOD	<LOD	<LOD	0.03	0.044	<LOD
Bicarbonate as HCO3														
BOD : 5 Day ATU														
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	433	463	480	453	465	434	424	465.1	513.1	435.7	447	442	401.7	454
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	6.05	3.79	3.83	3.39	3.77	2.95	2.58	3.13	2.95	3.27	3.49	5.35	2.92	4.49
Nitrite as N	0.011	0.022	0.01	0.007	0.012	0.005	0.009	0.015	0.005	<LOD	0.004	0.009	0.007	0.004
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	6.06	3.81	3.84	3.4	3.78	2.95	2.59	3.14	2.95	3.27	3.49	5.36	2.93	4.49
Orthophosphate, reactive as P	0.046	0.093	0.096	0.152	0.059	0.12	0.044	0.072	0.038	0.036	0.048	0.256	0.041	0.046
Oxygen, Dissolved as O2	11.3	10.6	10.8	10.7	10.4	9.25	9.99	9.35	11.7	10.8	11.9	10.9	13.6	11.1
Oxygen, Dissolved, % Saturation	103.4	107.2	104.2	106.3	101.7	88.4	100.4	98	96.5	90.2	94	107.5	115.3	103.2
pH	7.97	8.2	8.06	8.14	8.39	7.59	8.09	7.93	7.95	8.22	8.15	8.31	7.96	7.92
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	11.2	15.7	13.7	14.9	14.3	13.2	15.5	17.5	7.1	7.4	5.3	14.5	8.06	11.9
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved														
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location	2014							2015						
Date	05/07/2014	16/07/2014	18/08/2014	09/09/2014	09/10/2014	16/10/2014	06/11/2014	07/01/2015	17/02/2015	24/03/2015	02/04/2015	15/06/2015	01/07/2015	05/07/2015
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location			MONKSDITCH AT QUEENSWAY - B.S.C. LLANWERN											
		2013	2010					2011						
Date	04/10/2015	14/02/2013	10/05/2010	11/09/2010	15/09/2010	08/10/2010	26/10/2010	02/02/2011	29/03/2011	01/06/2011	06/06/2011	07/06/2011	22/08/2011	03/11/2011
General Parameters														
Alkalinity to pH 4.5 as CaCO3	170													
Ammonia un-ionised as N	<LOD	0.00064	0.00146	0.00071	<LOD	<LOD	0.00085	0.00152	0.00182	0.00043	<LOD	0.00588	<LOD	0.0006
Ammoniacal Nitrogen as N	<LOD	0.106	0.069	0.054	<LOD	<LOD	0.054	0.109	0.106	0.062	<LOD	0.279	<LOD	0.056
Bicarbonate as HCO3														
BOD : 5 Day ATU			<LOD	<LOD	1.2	<LOD	<LOD	1.6	1.4	1.3	1.9	7.4	2.4	1.5
Calcium														
Calcium, Dissolved														
Carbon, Organic, Dissolved as C :- {DOC}														
Chemical Oxygen Demand :- {COD}														
Chloride														
Conductivity at 20 C														
Conductivity at 25 C	451.6													
Hardness, Total as CaCO3														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Nitrate as N	4.72	1.72	3.63	3.21	2.63	2.31	2.98	3.52	3.19	3.42	2.4	1.31	1.89	3.41
Nitrite as N	0.006	0.0108	0.0299	0.015	0.0449	0.1	0.021	0.0204	0.0222	0.0205	0.0968	0.067	0.118	0.013
Nitrogen, Total as N														
Nitrogen, Total Oxidised as N	4.73	1.71	3.66	3.22	2.67	2.41	3	3.54	3.21	3.44	2.5	1.38	2.01	3.42
Orthophosphate, reactive as P	0.027	0.079	0.062	0.06	0.093	0.042	0.053	0.062	0.053	0.055	0.059	0.147	0.089	0.055
Oxygen, Dissolved as O2	12.1	11.7	9.63	10.5	13.5	13.3	12.6	13.3	12.6	13.2	17	6.96	10.2	15.7
Oxygen, Dissolved, % Saturation	114.5	96.5	93.4	91	132.9	135.6	106.3	107.7	111	105.5	172.4	71.6	108.4	133.3
pH	8.28	7.58	7.94	7.89	8.52	8.55	8.35	8.16	7.98	7.72	8.94	7.85	8.92	7.82
pH : In Situ														
Phosphorus, Total as P														
Salinity														
Salinity : In Situ														
Solids, Suspended at 105 C														
Sulphate as SO4														
Temperature of Water	12.7	6.9	13.88	9	14.51	16.33	7.99	6.32	9.8	5.67	16.02	16.6	18.05	8.22
Metals														
Aluminium														
Aluminium, Dissolved														
Antimony														
Arsenic														
Arsenic, Dissolved														
Barium														
Barium, Dissolved														
Boron														
Boron, Dissolved														
Cadmium														
Cadmium : Dry Wt														
Cadmium, Dissolved														
Chromium														
Chromium Hexavalent														
Chromium, Dissolved														
Copper														
Copper, Dissolved			1.64	2.13	<LOD	<LOD	<LOD	<LOD	<LOD	1.85	<LOD	3.58	<LOD	<LOD
Iron														
Iron, Dissolved														
Lead														
Lead, Dissolved														
Lithium														
Lithium, Dissolved														
Magnesium														
Magnesium, Dissolved														
Manganese														
Manganese, Dissolved														
Mercury														
Mercury : Dry Wt														
Mercury, Dissolved														
Nickel														
Nickel, Dissolved														
Strontium														
Strontium, Filtered														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc			8.6	13.3	<LOD	<LOD	13.5	16.8	20.7	28.4	19	16.7	<LOD	8.93
Zinc, Dissolved														
BTEX Compounds														
Benzene														
Ethylbenzene														
Toluene :- {Methylbenzene}														
Other Organic Compounds														
Acenaphthene														
Acenaphthylene														
Benzo(a)Anthracene														
Benzo(a)Pyrene														
Benzo(b)Fluoranthene														
Benzo(e)Pyrene														
Benzo(g,h,i)Perylene														
Benzo(k)Fluoranthene														
Fluoranthene														
Fluorene														
Indeno(1,2,3-cd)pyrene														
Iodofenphos														
Naphthalene														
Phenol														
Pyrene														
1,1,1,2-Tetrachloroethane														
1,1,1-Trichloroethane														
1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,1-Dichloroethylene :- {1,1-Dichloroethene}														
1,2-Dichloroethane														
1,2-Dimethylbenzene :- {o-Xylene}														
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}														
2,3-Dimethylphenol :- {2,3-Xylenol}														
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}														
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-D :- {2,4-Dichlorophenoxyacetic acid}														
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}														
2,4-Dichlorophenol														

Location			MONKSDITCH AT QUEENSWAY - B.S.C. LLANWERN											
		2013	2010					2011						
Date	04/10/2015	14/02/2013	10/05/2010	11/09/2010	15/09/2010	08/10/2010	26/10/2010	02/02/2011	29/03/2011	01/06/2011	06/06/2011	07/06/2011	22/08/2011	03/11/2011
General Parameters														
2,4-Dimethylphenol :- {2,4-Xylenol}														
2,5-Dichlorophenol														
2,5-Dimethylphenol :- {2,5-Xylenol}														
2,6-Dichlorophenol														
2,6-Dimethylphenol :- {2,6-Xylenol}														
2-Chlorophenol														
2-Methylphenol :- {o-Cresol}														
3,4-Dimethylphenol :- {3,4-Xylenol}														
3,5-Dimethylphenol :- {3,5-Xylenol}														
3-Chlorophenol														
3-Methylphenol :- {m-Cresol}														
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}														
4-Chlorophenol														
4-Methylphenol :- {p-cresol}														
Antimony														
Atrazine														
Atrazine-desethyl :- {Atrazine-de-ethyl}														
Atrazine-desisopropyl :- {Atrazine de-isopropyl}														
Azinphos-ethyl														
Azinphos-methyl														
Benazolin														
Bendiocarb														
Bentazone														
Bromodichloromethane														
Bromoform :- {Tribromomethane}														
Bromoxynil														
Bupirimate														
Carbon tetrachloride :- {Tetrachloromethane}														
Carbophenothion														
Chlorfenvinphos														
Chlorobenzene														
Chlorodibromomethane														
Chloroform :- {Trichloromethane}														
Chlorpyrifos-ethyl														
Chlorpyrifos-methyl														
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}														
Clopyralid														
Cobalt														
Coumaphos														
Cyanazine														
Desmetryn														
Diazinon														
Dibenzo(a,h)Anthracene														
Dicamba														
Dichlorprop :- {2,4-DP}														
Dichlorvos														
Dimethoate														
Dimethylbenzene : Sum of isomers (1,3- 1,4-)														
Ethion														
Ethofumesate														
Ethyl tert-butyl ether :- {ETBE}														
Fenchlorphos :- {Ronnel}														
Fenitrothion														
Fenoprop														
Fenpropimorph														
Fenthion														
Fluoranthene														
Fluroxypyr														
Fonofos														
Ioxynil														
Iprodione														
Irgarol 1051														
Malathion														
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}														
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}														
Metalaxyl														
Metazachlor														
Mevinphos														
Molybdenum														
Napropamide														
Parathion-ethyl :- {Parathion}														
Parathion-methyl														
Pentachlorophenol														
Perylene														
Phenanthrene														
Phenol														
Phorate														
Picloram														
Pirimicarb														
Pirimiphos-ethyl														
Pirimiphos-methyl														
Prochloraz														
Prometryn														
Propazine														
Propetamphos														
Propyzamide														
Silica, reactive as SiO2														
Styrene :- {Vinylbenzene}														
Terbutryn														
tert-Amyl methyl ether :- {TAME}														
Tetrachloroethylene :- {Perchloroethylene}														
Thallium : Total														
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}														
Triazophos														
Trichloroethylene :- {Trichloroethene}														
Triclopyr														
Trietazine														
Trihalomethanes : Total :- {THM}														
Vinyl chloride :- {Chloroethylene}														

Location															
			2012												
Date	05/11/2011	13/12/2011	07/02/2012	17/02/2012	20/02/2012	21/02/2012	05/04/2012	12/05/2012	31/05/2012	03/08/2012	12/10/2012	15/11/2012	04/12/2012	17/12/2012	17/12/2012
General Parameters															
Alkalinity to pH 4.5 as CaCO3															
Ammonia un-ionised as N	0.00329	0.0004	<LOD	0.00518	0.00063	0.0021		0.00082	0.00111	0.00084	0.00029	<LOD	0.00133	0.00029	0.00045
Ammoniacal Nitrogen as N	0.128	0.052	<LOD	0.8	0.106	0.338		0.072	0.098	0.09	0.055	<LOD	0.158	0.072	0.058
Bicarbonate as HCO3															
BOD : 5 Day ATU	1.2	3	1.2	3.3	2.8	6.5		<LOD	2.9	3.9	<LOD	1.32	3.5	1.47	1.48
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C															
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	2.81	0.236	2.38	3.06	1.64	1.31		2.95	3.33	2.85	3.12	2.93	2.68	1.89	2
Nitrite as N	0.0552	<LOD	0.0162	0.0449	0.0124	0.0321		0.0197	0.0341	0.0123	0.0158	0.0393	0.024	0.0094	0.008
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	2.87	0.24	2.4	3.1	1.65	1.34		2.97	3.36	2.86	3.14	2.97	2.7	1.9	2.01
Orthophosphate, reactive as P	0.076	<LOD	0.047	0.144	<LOD	0.075		0.062	0.045	0.059	0.041	0.071	0.073	0.089	0.067
Oxygen, Dissolved as O2	12.4	11.7	12.6	12.4	12.3	12.2	11.3	11	10.2	10.6	11.9	10.2	11.4	11.7	11.1
Oxygen, Dissolved, % Saturation	122.2	99.3	124.1	96.6	96.3	96.4	99.5	89.5	97.3	95.3	93.7	87.5	98.3	91.7	97.6
pH	8.07	7.68	8.4	7.72	7.67	7.68	7.88	7.9	7.69	7.69	7.62	7.8	7.7	7.61	7.53
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	14.68	8.21	14.4	4.6	4.9	5.3	9.7	6.6	13.1	10.4	5.1	8.4	8.8	7.1	7.4
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved	1.36	5.36	1.19	4.61	3.44	7.08		<LOD	1.47	2.87	1.01	1.35	2.02	2.23	2.1
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc	9.62	26.7	11.4	9.5	14.2	137		6.32	8.49	10.2	80.3	96.4	6.95	11.3	61.7
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location															
			2012												
Date	05/11/2011	13/12/2011	07/02/2012	17/02/2012	20/02/2012	21/02/2012	05/04/2012	12/05/2012	31/05/2012	03/08/2012	12/10/2012	15/11/2012	04/12/2012	17/12/2012	17/12/2012
General Parameters															
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2013														
Date	03/01/2013	14/01/2013	18/02/2013	17/04/2013	27/06/2013	10/07/2013	20/09/2013	31/10/2013	04/11/2013	19/11/2013	04/02/2014	05/02/2014	10/02/2014	01/06/2014	24/06/2014
General Parameters															
Alkalinity to pH 4.5 as CaCO3															
Ammonia un-ionised as N	0.0017	0.00057	0.00106	0.00089	0.00727	0.00072	<LOD	0.00055	0.00308	0.0011	0.00198	0.00122	0.00089	<LOD	<LOD
Ammoniacal Nitrogen as N	0.117	0.069	0.068	0.048	0.236	0.041	<LOD	0.045	0.216	0.072	0.103	0.06	0.033	<LOD	<LOD
Bicarbonate as HCO3															
BOD : 5 Day ATU	1.42	<LOD	<LOD	1.02	1.25	<LOD	<LOD	1.15	3.29	1.13	1.23	1.64	5.55	1.56	1.78
Calcium															
Calcium, Dissolved															
Carbon, Organic, Dissolved as C :- {DOC}															
Chemical Oxygen Demand :- {COD}															
Chloride															
Conductivity at 20 C															
Conductivity at 25 C															
Hardness, Total as CaCO3															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Nitrate as N	3.37	3.08	2.91	2.73	2.92	2.94	2.5	2.59	2.97	3.05	2.54	2.13	2.67	0.526	4.5
Nitrite as N	0.0074	0.011	0.0087	0.0103	0.0405	0.0626	0.0603	0.0104	0.0382	0.0228	0.012	0.015	0.029	<LOD	0.052
Nitrogen, Total as N															
Nitrogen, Total Oxidised as N	3.38	3.09	2.92	2.74	2.96	3	2.56	2.6	3.01	3.07	2.55	2.14	2.7	0.53	4.55
Orthophosphate, reactive as P	0.046	0.048	0.038	0.035	0.062	0.084	0.073	0.052	0.044	0.057	0.044	0.05	0.059	<LOD	0.081
Oxygen, Dissolved as O2	12	11.8	11.6	11.7	9.45	6.61	9.85	9.37	12	10.7	9.38	11.3	8.16	11.3	14.4
Oxygen, Dissolved, % Saturation	98.4	95.3	98	104.3	98.4	65	93.3	86.9	102.4	89.3	84.6	104.1	81.7	95.7	157.3
pH	8.26	7.78	8.09	8.05	8.16	7.84	8.04	7.76	7.95	8.06	8	8.05	8.03	7.5	8.65
pH : In Situ															
Phosphorus, Total as P															
Salinity															
Salinity : In Situ															
Solids, Suspended at 105 C															
Sulphate as SO4															
Temperature of Water	6.9	6.1	7.9	10.2	17.2	14.5	12.8	11.9	8.2	7.6	10.7	11.5	15.3	8.2	19.6
Metals															
Aluminium															
Aluminium, Dissolved															
Antimony															
Arsenic															
Arsenic, Dissolved															
Barium															
Barium, Dissolved															
Boron															
Boron, Dissolved															
Cadmium															
Cadmium : Dry Wt															
Cadmium, Dissolved															
Chromium															
Chromium Hexavalent															
Chromium, Dissolved															
Copper															
Copper, Dissolved	<LOD	1.24	<LOD	1.53	1.16	1.3	1.28	1.57	3.39	<LOD	<LOD	2.19	<LOD	1.77	<LOD
Iron															
Iron, Dissolved															
Lead															
Lead, Dissolved															
Lithium															
Lithium, Dissolved															
Magnesium															
Magnesium, Dissolved															
Manganese															
Manganese, Dissolved															
Mercury															
Mercury : Dry Wt															
Mercury, Dissolved															
Nickel															
Nickel, Dissolved															
Strontium															
Strontium, Filtered															
Tin															
Titanium															
Uranium															
Vanadium															
Zinc	20.7	24.5	13.1	<LOD	10	17	5.06	11.7	16.1	7.86	6.68	19.6	<LOD	21.3	<LOD
Zinc, Dissolved															
BTEX Compounds															
Benzene															
Ethylbenzene															
Toluene :- {Methylbenzene}															
Other Organic Compounds															
Acenaphthene															
Acenaphthylene															
Benzo(a)Anthracene															
Benzo(a)Pyrene															
Benzo(b)Fluoranthene															
Benzo(e)Pyrene															
Benzo(g,h,i)Perylene															
Benzo(k)Fluoranthene															
Fluoranthene															
Fluorene															
Indeno(1,2,3-cd)pyrene															
Iodofenphos															
Naphthalene															
Phenol															
Pyrene															
1,1,1,2-Tetrachloroethane															
1,1,1-Trichloroethane															
1,1,2,2-Tetrachloroethane															
1,1,2-Trichloroethane															
1,1-Dichloroethane															
1,1-Dichloroethylene :- {1,1-Dichloroethene}															
1,2-Dichloroethane															
1,2-Dimethylbenzene :- {o-Xylene}															
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}															
2,3-Dimethylphenol :- {2,3-Xylenol}															
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}															
2,4,5-Trichlorophenol															
2,4,6-Trichlorophenol															
2,4-D :- {2,4-Dichlorophenoxyacetic acid}															
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}															
2,4-Dichlorophenol															

Location	2013														
Date	03/01/2013	14/01/2013	18/02/2013	17/04/2013	27/06/2013	10/07/2013	20/09/2013	31/10/2013	04/11/2013	19/11/2013	04/02/2014	05/02/2014	10/02/2014	01/06/2014	24/06/2014
General Parameters															
2,4-Dimethylphenol :- {2,4-Xylenol}															
2,5-Dichlorophenol															
2,5-Dimethylphenol :- {2,5-Xylenol}															
2,6-Dichlorophenol															
2,6-Dimethylphenol :- {2,6-Xylenol}															
2-Chlorophenol															
2-Methylphenol :- {o-Cresol}															
3,4-Dimethylphenol :- {3,4-Xylenol}															
3,5-Dimethylphenol :- {3,5-Xylenol}															
3-Chlorophenol															
3-Methylphenol :- {m-Cresol}															
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}															
4-Chlorophenol															
4-Methylphenol :- {p-cresol}															
Antimony															
Atrazine															
Atrazine-desethyl :- {Atrazine-de-ethyl}															
Atrazine-desisopropyl :- {Atrazine de-isopropyl}															
Azinphos-ethyl															
Azinphos-methyl															
Benazolin															
Bendiocarb															
Bentazone															
Bromodichloromethane															
Bromoform :- {Tribromomethane}															
Bromoxynil															
Bupirimate															
Carbon tetrachloride :- {Tetrachloromethane}															
Carbophenothion															
Chlorfenvinphos															
Chlorobenzene															
Chlorodibromomethane															
Chloroform :- {Trichloromethane}															
Chlorpyrifos-ethyl															
Chlorpyrifos-methyl															
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}															
Clopyralid															
Cobalt															
Coumaphos															
Cyanazine															
Desmetryn															
Diazinon															
Dibenzo(a,h)Anthracene															
Dicamba															
Dichlorprop :- {2,4-DP}															
Dichlorvos															
Dimethoate															
Dimethylbenzene : Sum of isomers (1,3- 1,4-)															
Ethion															
Ethofumesate															
Ethyl tert-butyl ether :- {ETBE}															
Fenchlorphos :- {Ronnel}															
Fenitrothion															
Fenoprop															
Fenpropimorph															
Fenthion															
Fluoranthene															
Fluroxypyr															
Fonofos															
Ioxynil															
Iprodione															
Irgarol 1051															
Malathion															
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}															
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}															
Metalaxyl															
Metazachlor															
Mevinphos															
Molybdenum															
Napropamide															
Parathion-ethyl :- {Parathion}															
Parathion-methyl															
Pentachlorophenol															
Perylene															
Phenanthrene															
Phenol															
Phorate															
Picloram															
Pirimicarb															
Pirimiphos-ethyl															
Pirimiphos-methyl															
Prochloraz															
Prometryn															
Propazine															
Propetamphos															
Propyzamide															
Silica, reactive as SiO2															
Styrene :- {Vinylbenzene}															
Terbutryn															
tert-Amyl methyl ether :- {TAME}															
Tetrachloroethylene :- {Perchloroethylene}															
Thallium : Total															
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}															
Triazophos															
Trichloroethylene :- {Trichloroethene}															
Triclopyr															
Trietazine															
Trihalomethanes : Total :- {THM}															
Vinyl chloride :- {Chloroethylene}															

Location	2014								2015				
Date	02/07/2014	31/07/2014	23/09/2014	03/10/2014	21/10/2014	29/10/2014	17/11/2014	12/12/2014	17/02/2015	02/04/2015	03/05/2015	01/07/2015	05/07/2015
General Parameters													
Alkalinity to pH 4.5 as CaCO3													
Ammonia un-ionised as N	0.00048	<LOD	<LOD	0.00138	<LOD	<LOD	0.0011	0.00063	0.0014	0.00111	0.00063	0.00071	0.00092
Ammoniacal Nitrogen as N	0.07	<LOD	<LOD	0.076	<LOD	<LOD	0.087	0.132	0.095	0.084	0.066	0.046	0.052
Bicarbonate as HCO3													
BOD : 5 Day ATU	2.73	1.74	1.83	1.5	1.3	1.29	1.36	2.9	1.83	1.23	1.41	1.49	1.43
Calcium													
Calcium, Dissolved													
Carbon, Organic, Dissolved as C :- {DOC}													
Chemical Oxygen Demand :- {COD}													
Chloride													
Conductivity at 20 C													
Conductivity at 25 C													
Hardness, Total as CaCO3													
Magnesium													
Magnesium, Dissolved													
Manganese													
Manganese, Dissolved													
Nitrate as N	1.4	2.5	2.8	2.56	2.71	2.69	2.72	2.34	2.83	3.4	2.9	2.89	2.46
Nitrite as N	0.007	0.101	0.031	0.01	0.017	0.016	0.035	0.011	0.01	0.009	0.004	0.011	0.008
Nitrogen, Total as N													
Nitrogen, Total Oxidised as N	1.41	2.6	2.83	2.57	2.73	2.71	2.75	2.35	2.84	3.41	2.9	2.9	2.47
Orthophosphate, reactive as P	0.054	0.099	0.09	0.072	0.096	0.064	0.064	0.155	0.09	0.049	0.057	0.052	0.14
Oxygen, Dissolved as O2	11.2	12.2	6.49	10.7	9.31	4.64	10.2	10.2	11.2	11.8	11.4	13.3	11.7
Oxygen, Dissolved, % Saturation	92.3	132.7	62	94.9	86.6	43.7	90.5	86.4	94.4	94.2	91.6	111.8	111
pH	7.67	8.6	7.79	8.01	8.09	8.04	7.84	7.47	7.97	8.17	7.85	8.05	7.9
pH : In Situ													
Phosphorus, Total as P													
Salinity													
Salinity : In Situ													
Solids, Suspended at 105 C													
Sulphate as SO4													
Temperature of Water	6.9	19.4	13.2	9.9	12	12.6	10	8.2	8	5.6	5.8	7.8	12.7
Metals													
Aluminium													
Aluminium, Dissolved													
Antimony													
Arsenic													
Arsenic, Dissolved													
Barium													
Barium, Dissolved													
Boron													
Boron, Dissolved													
Cadmium													
Cadmium : Dry Wt													
Cadmium, Dissolved													
Chromium													
Chromium Hexavalent													
Chromium, Dissolved													
Copper													
Copper, Dissolved	1.55	<LOD	<LOD	<LOD	1.48	<LOD	1.12	3.88	<LOD	<LOD	<LOD	<LOD	1.52
Iron													
Iron, Dissolved													
Lead													
Lead, Dissolved													
Lithium													
Lithium, Dissolved													
Magnesium													
Magnesium, Dissolved													
Manganese													
Manganese, Dissolved													
Mercury													
Mercury : Dry Wt													
Mercury, Dissolved													
Nickel													
Nickel, Dissolved													
Strontium													
Strontium, Filtered													
Tin													
Titanium													
Uranium													
Vanadium													
Zinc	12.9	<LOD	<LOD	9.51	6.69	<LOD	26.5	18.8	23.4	13.4	16.6	7.66	5.16
Zinc, Dissolved													
BTEX Compounds													
Benzene													
Ethylbenzene													
Toluene :- {Methylbenzene}													
Other Organic Compounds													
Acenaphthene													
Acenaphthylene													
Benzo(a)Anthracene													
Benzo(a)Pyrene													
Benzo(b)Fluoranthene													
Benzo(e)Pyrene													
Benzo(g,h,i)Perylene													
Benzo(k)Fluoranthene													
Fluoranthene													
Fluorene													
Indeno(1,2,3-cd)pyrene													
Iodofenphos													
Naphthalene													
Phenol													
Pyrene													
1,1,1,2-Tetrachloroethane													
1,1,1-Trichloroethane													
1,1,2,2-Tetrachloroethane													
1,1,2-Trichloroethane													
1,1-Dichloroethane													
1,1-Dichloroethylene :- {1,1-Dichloroethene}													
1,2-Dichloroethane													
1,2-Dimethylbenzene :- {o-Xylene}													
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}													
2,3-Dimethylphenol :- {2,3-Xylenol}													
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}													
2,4,5-Trichlorophenol													
2,4,6-Trichlorophenol													
2,4-D :- {2,4-Dichlorophenoxyacetic acid}													
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}													
2,4-Dichlorophenol													

Location	2014								2015				
Date	02/07/2014	31/07/2014	23/09/2014	03/10/2014	21/10/2014	29/10/2014	17/11/2014	12/12/2014	17/02/2015	02/04/2015	03/05/2015	01/07/2015	05/07/2015
General Parameters													
2,4-Dimethylphenol :- {2,4-Xylenol}													
2,5-Dichlorophenol													
2,5-Dimethylphenol :- {2,5-Xylenol}													
2,6-Dichlorophenol													
2,6-Dimethylphenol :- {2,6-Xylenol}													
2-Chlorophenol													
2-Methylphenol :- {o-Cresol}													
3,4-Dimethylphenol :- {3,4-Xylenol}													
3,5-Dimethylphenol :- {3,5-Xylenol}													
3-Chlorophenol													
3-Methylphenol :- {m-Cresol}													
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}													
4-Chlorophenol													
4-Methylphenol :- {p-cresol}													
Antimony													
Atrazine													
Atrazine-desethyl :- {Atrazine-de-ethyl}													
Atrazine-desisopropyl :- {Atrazine de-isopropyl}													
Azinphos-ethyl													
Azinphos-methyl													
Benazolin													
Bendiocarb													
Bentazone													
Bromodichloromethane													
Bromoform :- {Tribromomethane}													
Bromoxynil													
Bupirimate													
Carbon tetrachloride :- {Tetrachloromethane}													
Carbophenothion													
Chlorfenvinphos													
Chlorobenzene													
Chlorodibromomethane													
Chloroform :- {Trichloromethane}													
Chlorpyrifos-ethyl													
Chlorpyrifos-methyl													
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}													
Clopyralid													
Cobalt													
Coumaphos													
Cyanazine													
Desmetryn													
Diazinon													
Dibenzo(a,h)Anthracene													
Dicamba													
Dichlorprop :- {2,4-DP}													
Dichlorvos													
Dimethoate													
Dimethylbenzene : Sum of isomers (1,3- 1,4-)													
Ethion													
Ethofumesate													
Ethyl tert-butyl ether :- {ETBE}													
Fenchlorphos :- {Ronnel}													
Fenitrothion													
Fenoprop													
Fenpropimorph													
Fenthion													
Fluoranthene													
Fluroxypyr													
Fonofos													
Ioxynil													
Iprodione													
Irgarol 1051													
Malathion													
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}													
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}													
Metalaxyl													
Metazachlor													
Mevinphos													
Molybdenum													
Napropamide													
Parathion-ethyl :- {Parathion}													
Parathion-methyl													
Pentachlorophenol													
Perylene													
Phenanthrene													
Phenol													
Phorate													
Picloram													
Pirimicarb													
Pirimiphos-ethyl													
Pirimiphos-methyl													
Prochloraz													
Prometryn													
Propazine													
Propetamphos													
Propyzamide													
Silica, reactive as SiO2													
Styrene :- {Vinylbenzene}													
Terbutryn													
tert-Amyl methyl ether :- {TAME}													
Tetrachloroethylene :- {Perchloroethylene}													
Thallium : Total													
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}													
Triazophos													
Trichloroethylene :- {Trichloroethene}													
Triclopyr													
Trietazine													
Trihalomethanes : Total :- {THM}													
Vinyl chloride :- {Chloroethylene}													

Location	Surface Water Dataset Summary						
				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters	**General Parameters**						
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l	99	99	100.0%	85.6 - 334	160.389
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	196	130	66.3%	0.00014 - 0.0246	0.002
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	197	131	66.5%	0.03 - 2.61	0.127
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	134	94	70.1%	0.8 - 12.7	2.229
Calcium	Calcium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Calcium, Dissolved	Calcium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chloride	Chloride	mg/l	0	0	None > LOD	No Analyses	No Analyses
Conductivity at 20 C	Conductivity at 20 C	uS/cm	6	6	100.0%	370 - 547	429.333
Conductivity at 25 C	Conductivity at 25 C	uS/cm	94	94	100.0%	106 - 693	431.243
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nitrate as N	Nitrate as N	mg/l	196	195	99.5%	0.184 - 6.05	2.785
Nitrite as N	Nitrite as N	mg/l	197	190	96.4%	0.004 - 0.128	0.023
Nitrogen, Total as N	Nitrogen, Total as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l	197	195	99.0%	0.23 - 6.06	2.819
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l	197	190	96.4%	0.021 - 0.44	0.081
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l	198	198	100.0%	2.45 - 17	10.514
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	199	199	100.0%	24.6 - 172.4	95.304
pH	pH	pH Units	199	199	100.0%	7.25 - 8.94	7.931
pH : In Situ	pH : In Situ	pH Units	0	0	None > LOD	No Analyses	No Analyses
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	0	0	None > LOD	No Analyses	No Analyses
Salinity	Salinity	ppt	0	0	None > LOD	No Analyses	No Analyses
Salinity : In Situ	Salinity : In Situ	ppt	0	0	None > LOD	No Analyses	No Analyses
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l	0	0	None > LOD	No Analyses	No Analyses
Sulphate as SO4	Sulphate as SO4	mg/l	0	0	None > LOD	No Analyses	No Analyses
Temperature of Water	Temperature of Water	degC	199	199	100.0%	3.64 - 22.2	11.267
Metals	**Metals**						
Aluminium	Aluminium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Aluminium, Dissolved	Aluminium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic	Arsenic	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium	Barium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium, Dissolved	Barium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron	Boron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron, Dissolved	Boron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium	Cadmium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium	Chromium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium Hexavalent	Chromium Hexavalent	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium, Dissolved	Chromium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper	Copper	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper, Dissolved	Copper, Dissolved	ug/l	135	93	68.9%	1.01 - 7.08	2.207
Iron	Iron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iron, Dissolved	Iron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead	Lead	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead, Dissolved	Lead, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium	Lithium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium, Dissolved	Lithium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury	Mercury	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Mercury, Dissolved	Mercury, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel	Nickel	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel, Dissolved	Nickel, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium	Strontium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium, Filtered	Strontium, Filtered	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tin	Tin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Titanium	Titanium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Uranium	Uranium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vanadium	Vanadium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Zinc	Zinc	ug/l	135	103	76.3%	2.79 - 137	15.766
Zinc, Dissolved	Zinc, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
BTEX Compounds	**BTEX Compounds**						
Benzene	Benzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethylbenzene	Ethylbenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Other Organic Compounds	**Other Organic Compounds**						
Acenaphthene	Acenaphthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Acenaphthylene	Acenaphthylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluorene	Fluorene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iodofenphos	Iodofenphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Naphthalene	Naphthalene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pyrene	Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethane	1,1-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses

Location				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters	General Parameters						
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Chlorophenol	2-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Chlorophenol	3-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chlorophenol	4-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine	Atrazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-ethyl	Azinphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-methyl	Azinphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benazolin	Benazolin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bendiocarb	Bendiocarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bentazone	Bentazone	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromodichloromethane	Bromodichloromethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoxynil	Bromoxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bupirimate	Bupirimate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbophenothion	Carbophenothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorfenvinphos	Chlorfenvinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorobenzene	Chlorobenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorodibromomethane	Chlorodibromomethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Clopyralid	Clopyralid	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cobalt	Cobalt	ug/l	0	0	None > LOD	No Analyses	No Analyses
Coumaphos	Coumaphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cyanazine	Cyanazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Desmetryn	Desmetryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Diazinon	Diazinon	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dicamba	Dicamba	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorvos	Dichlorvos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethoate	Dimethoate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethion	Ethion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethofumesate	Ethofumesate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenitrothion	Fenitrothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenoprop	Fenoprop	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenpropimorph	Fenpropimorph	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenthion	Fenthion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluroxypyr	Fluroxypyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fonofos	Fonofos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ioxynil	Ioxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iprodione	Iprodione	ug/l	0	0	None > LOD	No Analyses	No Analyses
Irgarol 1051	Irgarol 1051	ug/l	0	0	None > LOD	No Analyses	No Analyses
Malathion	Malathion	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metalaxyl	Metalaxyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metazachlor	Metazachlor	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mevinphos	Mevinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Molybdenum	Molybdenum	ug/l	0	0	None > LOD	No Analyses	No Analyses
Napropamide	Napropamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-methyl	Parathion-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pentachlorophenol	Pentachlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Perylene	Perylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenanthrene	Phenanthrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phorate	Phorate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Picloram	Picloram	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimicarb	Pirimicarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-methyl	Pirimiphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prochloraz	Prochloraz	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prometryn	Prometryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propazine	Propazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propetamphos	Propetamphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propyzamide	Propyzamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l	0	0	None > LOD	No Analyses	No Analyses
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Terbutryn	Terbutryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Thallium : Total	Thallium : Total	ug/l	0	0	None > LOD	No Analyses	No Analyses
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triazophos	Triazophos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triclopyr	Triclopyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trietazine	Trietazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses

	Surface Water Data Screening										
Location				Analysis above EQS				Analyses Above CCW TL			
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min
General Parameters	**General Parameters**										
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l		No EQS				No TL			85.6
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	0.6	0	0.0%		1	0	0.00%		0.00014
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	0.6	0	0.0%		1	1	0.51%		0.03
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l		No EQS				No TL			
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	5	0	0.0%		18	0	0.00%		0.8
Calcium	Calcium	mg/l		No EQS			300000	No Analyses	#VALUE!		
Calcium, Dissolved	Calcium, Dissolved	mg/l		No EQS			300000	No Analyses	#VALUE!		
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l		No EQS				No TL			
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l		No EQS				No TL			
Chloride	Chloride	mg/l	250	No Analyses	#VALUE!		300	No Analyses	#VALUE!		
Conductivity at 20 C	Conductivity at 20 C	uS/cm		No EQS				No TL			370
Conductivity at 25 C	Conductivity at 25 C	uS/cm		No EQS				No TL			106
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l		No EQS				No TL			
Magnesium	Magnesium	mg/l		No EQS				No TL			
Magnesium, Dissolved	Magnesium, Dissolved	mg/l		No EQS				No TL			
Manganese	Manganese	ug/l	30	No Analyses				No TL			
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL			
Nitrate as N	Nitrate as N	mg/l		No EQS			1	185	94.39%		0.184
Nitrite as N	Nitrite as N	mg/l		No EQS			1	0	0.00%		0.004
Nitrogen, Total as N	Nitrogen, Total as N	mg/l		No EQS			2	No Analyses	#VALUE!		
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l		No EQS			2	166	84.26%		0.23
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l		No EQS			1	0	0.00%		0.021
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l		No EQS				No TL			2.45
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	60	0				No TL			24.6
pH	pH	pH Units	6-9	0				No TL			7.25
pH : In Situ	pH : In Situ	pH Units	6-9	No Analyses			6.8-8.5	No Analyses	#VALUE!		
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	120	No Analyses				No TL			
Salinity	Salinity	ppt		No EQS				No TL			
Salinity : In Situ	Salinity : In Situ	ppt		No EQS				No TL			
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l		No EQS				No TL			
Sulphate as SO4	Sulphate as SO4	mg/l	400	No Analyses			300	No Analyses	#VALUE!		
Temperature of Water	Temperature of Water	degC		No EQS				No TL			3.64
Metals	**Metals**										
Aluminium	Aluminium	ug/l		No EQS				No TL			
Aluminium, Dissolved	Aluminium, Dissolved	ug/l		No EQS				No TL			
Antimony	Antimony	ug/l		No EQS				No TL			
Arsenic	Arsenic	ug/l	50	No Analyses				No TL			
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	50	No Analyses				No TL			
Barium	Barium	ug/l		No EQS				No TL			
Barium, Dissolved	Barium, Dissolved	ug/l		No EQS				No TL			
Boron	Boron	ug/l	2000	No Analyses				No TL			
Boron, Dissolved	Boron, Dissolved	ug/l	2000	No Analyses				No TL			
Cadmium	Cadmium	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!		
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg		No EQS				No TL			
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!		
Chromium	Chromium	ug/l		No EQS				No TL			
Chromium Hexavalent	Chromium Hexavalent	ug/l	3.4	No Analyses				No TL			
Chromium, Dissolved	Chromium, Dissolved	ug/l		No EQS				No TL			
Copper	Copper	ug/l	10	No Analyses				No TL			
Copper, Dissolved	Copper, Dissolved	ug/l	10	0				No TL			1.01
Iron	Iron	ug/l	1000	No Analyses				No TL			
Iron, Dissolved	Iron, Dissolved	ug/l	1000	No Analyses				No TL			
Lead	Lead	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!		
Lead, Dissolved	Lead, Dissolved	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!		
Lithium	Lithium	ug/l		No EQS				No TL			
Lithium, Dissolved	Lithium, Dissolved	ug/l		No EQS				No TL			
Magnesium	Magnesium	ug/l		No EQS				No TL			
Magnesium, Dissolved	Magnesium, Dissolved	ug/l		No EQS				No TL			
Manganese	Manganese	ug/l	30	No Analyses				No TL			
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL			
Mercury	Mercury	ug/l	0.07	No Analyses				No TL			
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0.07	No Analyses				No TL			
Mercury, Dissolved	Mercury, Dissolved	ug/l	0.07	No Analyses				No TL			
Nickel	Nickel	ug/l	4	No Analyses			100	No Analyses	#VALUE!		
Nickel, Dissolved	Nickel, Dissolved	ug/l	4	No Analyses			100	No Analyses	#VALUE!		
Strontium	Strontium	ug/l		No EQS				No TL			
Strontium, Filtered	Strontium, Filtered	ug/l		No EQS				No TL			
Tin	Tin	ug/l		No EQS				No TL			
Titanium	Titanium	ug/l		No EQS				No TL			
Uranium	Uranium	ug/l		No EQS				No TL			
Vanadium	Vanadium	ug/l		No EQS				No TL			
Zinc	Zinc	ug/l	75	0			1000	0	0.00%		2.79
Zinc, Dissolved	Zinc, Dissolved	ug/l	75	No Analyses			1000	No Analyses	#VALUE!		
BTEX Compounds	**BTEX Compounds**										
Benzene	Benzene	ug/l	10	No Analyses				No TL			
Ethylbenzene	Ethylbenzene	ug/l	20	No Analyses				No TL			
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	50	No Analyses				No TL			
Other Organic Compounds	**Other Organic Compounds**										
Acenaphthene	Acenaphthene	ug/l		No EQS				No TL			
Acenaphthylene	Acenaphthylene	ug/l		No EQS				No TL			
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l		No EQS				No TL			
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	0.00017	No Analyses				No TL			
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	0.017	No Analyses				No TL			
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l		No EQS				No TL			
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l		No EQS				No TL			
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	0.017	No Analyses				No TL			
Fluoranthene	Fluoranthene	ug/l	0.0063	No Analyses				No TL			
Fluorene	Fluorene	ug/l		No EQS				No TL			
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l		No EQS			0	No Analyses	#VALUE!		
Iodofenphos	Iodofenphos	ug/l		No EQS				No TL			
Naphthalene	Naphthalene	ug/l	2	No Analyses				No TL			
Phenol	Phenol	ug/l	7.7	No Analyses				No TL			
Pyrene	Pyrene	ug/l		No EQS				No TL			
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l		No EQS				No TL			
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	100	No Analyses				No TL			
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l		No EQS				No TL			
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	400	No Analyses				No TL			
1,1-Dichloroethane	1,1-Dichloroethane	ug/l		No EQS				No TL			
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l		No EQS				No TL			
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	10	No Analyses				No TL			
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l		No EQS				No TL			
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l		No EQS				No TL			
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l		No EQS				No TL			
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l		No EQS				No TL			
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l		No EQS				No TL			
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l		No EQS				No TL			
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l		No EQS				No TL			
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l		No EQS				No TL			
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	20	No Analyses				No TL			

Location				Analysis above EQS				Analyses Above CCW TL			
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min
General Parameters	General Parameters										
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l		No EQS				No TL			
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l		No EQS				No TL			
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l		No EQS				No TL			
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l		No EQS				No TL			
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l		No EQS				No TL			
2-Chlorophenol	2-Chlorophenol	ug/l	50	No Analyses				No TL			
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l		No EQS				No TL			
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l		No EQS				No TL			
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l		No EQS				No TL			
3-Chlorophenol	3-Chlorophenol	ug/l		No EQS				No TL			
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l		No EQS				No TL			
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l		No EQS				No TL			
4-Chlorophenol	4-Chlorophenol	ug/l		No EQS				No TL			
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l		No EQS				No TL			
Antimony	Antimony	ug/l		No EQS				No TL			
Atrazine	Atrazine	ug/l		No EQS				No TL			
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l		No EQS				No TL			
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l		No EQS				No TL			
Azinphos-ethyl	Azinphos-ethyl	ug/l		No EQS				No TL			
Azinphos-methyl	Azinphos-methyl	ug/l		No EQS				No TL			
Benazolin	Benazolin	ug/l		No EQS				No TL			
Bendiocarb	Bendiocarb	ug/l		No EQS				No TL			
Bentazone	Bentazone	ug/l		No EQS				No TL			
Bromodichloromethane	Bromodichloromethane	ug/l		No EQS				No TL			
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l		No EQS				No TL			
Bromoxynil	Bromoxynil	ug/l		No EQS				No TL			
Bupirimate	Bupirimate	ug/l		No EQS				No TL			
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	12	No Analyses				No TL			
Carbophenothion	Carbophenothion	ug/l		No EQS				No TL			
Chlorfenvinphos	Chlorfenvinphos	ug/l		No EQS				No TL			
Chlorobenzene	Chlorobenzene	ug/l		No EQS				No TL			
Chlorodibromomethane	Chlorodibromomethane	ug/l		No EQS				No TL			
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l		No EQS				No TL			
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l		No EQS				No TL			
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l		No EQS				No TL			
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l		No EQS				No TL			
Clopyralid	Clopyralid	ug/l		No EQS				No TL			
Cobalt	Cobalt	ug/l		No EQS				No TL			
Coumaphos	Coumaphos	ug/l		No EQS				No TL			
Cyanazine	Cyanazine	ug/l		No EQS				No TL			
Desmetryn	Desmetryn	ug/l		No EQS				No TL			
Diazinon	Diazinon	ug/l		No EQS				No TL			
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l		No EQS			0	No Analyses	#VALUE!		
Dicamba	Dicamba	ug/l		No EQS				No TL			
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l		No EQS				No TL			
Dichlorvos	Dichlorvos	ug/l		No EQS				No TL			
Dimethoate	Dimethoate	ug/l		No EQS				No TL			
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l		No EQS				No TL			
Ethion	Ethion	ug/l		No EQS				No TL			
Ethofumesate	Ethofumesate	ug/l		No EQS				No TL			
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l		No EQS				No TL			
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l		No EQS				No TL			
Fenitrothion	Fenitrothion	ug/l		No EQS				No TL			
Fenoprop	Fenoprop	ug/l		No EQS				No TL			
Fenpropimorph	Fenpropimorph	ug/l		No EQS				No TL			
Fenthion	Fenthion	ug/l		No EQS				No TL			
Fluoranthene	Fluoranthene	ug/l	0.0063	No Analyses				No TL			
Fluroxypyr	Fluroxypyr	ug/l		No EQS				No TL			
Fonofos	Fonofos	ug/l		No EQS				No TL			
Ioxynil	Ioxynil	ug/l		No EQS				No TL			
Iprodione	Iprodione	ug/l		No EQS				No TL			
Irgarol 1051	Irgarol 1051	ug/l		No EQS				No TL			
Malathion	Malathion	ug/l		No EQS				No TL			
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l		No EQS				No TL			
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l		No EQS				No TL			
Metalaxyl	Metalaxyl	ug/l		No EQS				No TL			
Metazachlor	Metazachlor	ug/l		No EQS				No TL			
Mevinphos	Mevinphos	ug/l		No EQS				No TL			
Molybdenum	Molybdenum	ug/l		No EQS				No TL			
Napropamide	Napropamide	ug/l		No EQS				No TL			
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l		No EQS				No TL			
Parathion-methyl	Parathion-methyl	ug/l		No EQS				No TL			
Pentachlorophenol	Pentachlorophenol	ug/l	0.4	No Analyses				No TL			
Perylene	Perylene	ug/l		No EQS				No TL			
Phenanthrene	Phenanthrene	ug/l		No EQS				No TL			
Phenol	Phenol	ug/l	7.7	No Analyses				No TL			
Phorate	Phorate	ug/l		No EQS				No TL			
Picloram	Picloram	ug/l		No EQS				No TL			
Pirimicarb	Pirimicarb	ug/l		No EQS				No TL			
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l		No EQS				No TL			
Pirimiphos-methyl	Pirimiphos-methyl	ug/l		No EQS				No TL			
Prochloraz	Prochloraz	ug/l		No EQS				No TL			
Prometryn	Prometryn	ug/l		No EQS				No TL			
Propazine	Propazine	ug/l		No EQS				No TL			
Propetamphos	Propetamphos	ug/l		No EQS				No TL			
Propyzamide	Propyzamide	ug/l		No EQS				No TL			
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l		No EQS				No TL			
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l		No EQS				No TL			
Terbutryn	Terbutryn	ug/l		No EQS				No TL			
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l		No EQS				No TL			
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l		No EQS				No TL			
Thallium : Total	Thallium : Total	ug/l		No EQS				No TL			
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l		No EQS				No TL			
Triazophos	Triazophos	ug/l		No EQS				No TL			
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l		No EQS				No TL			
Triclopyr	Triclopyr	ug/l		No EQS				No TL			
Trietazine	Trietazine	ug/l		No EQS				No TL			
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l		No EQS				No TL			
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l		No EQS				No TL			

Location	
Date	Max
General Parameters	
Alkalinity to pH 4.5 as CaCO3	334
Ammonia un-ionised as N	0.0246
Ammoniacal Nitrogen as N	2.61
Bicarbonate as HCO3	
BOD : 5 Day ATU	12.7
Calcium	
Calcium, Dissolved	
Carbon, Organic, Dissolved as C :- {DOC}	
Chemical Oxygen Demand :- {COD}	
Chloride	
Conductivity at 20 C	547
Conductivity at 25 C	693
Hardness, Total as CaCO3	
Magnesium	
Magnesium, Dissolved	
Manganese	
Manganese, Dissolved	
Nitrate as N	6.05
Nitrite as N	0.128
Nitrogen, Total as N	
Nitrogen, Total Oxidised as N	6.06
Orthophosphate, reactive as P	0.44
Oxygen, Dissolved as O2	17
Oxygen, Dissolved, % Saturation	172.4
pH	8.94
pH : In Situ	
Phosphorus, Total as P	
Salinity	
Salinity : In Situ	
Solids, Suspended at 105 C	
Sulphate as SO4	
Temperature of Water	22.2
Metals	
Aluminium	
Aluminium, Dissolved	
Antimony	
Arsenic	
Arsenic, Dissolved	
Barium	
Barium, Dissolved	
Boron	
Boron, Dissolved	
Cadmium	
Cadmium : Dry Wt	
Cadmium, Dissolved	
Chromium	
Chromium Hexavalent	
Chromium, Dissolved	
Copper	
Copper, Dissolved	7.08
Iron	
Iron, Dissolved	
Lead	
Lead, Dissolved	
Lithium	
Lithium, Dissolved	
Magnesium	
Magnesium, Dissolved	
Manganese	
Manganese, Dissolved	
Mercury	
Mercury : Dry Wt	
Mercury, Dissolved	
Nickel	
Nickel, Dissolved	
Strontium	
Strontium, Filtered	
Tin	
Titanium	
Uranium	
Vanadium	
Zinc	137
Zinc, Dissolved	
BTEX Compounds	
Benzene	
Ethylbenzene	
Toluene :- {Methylbenzene}	
Other Organic Compounds	
Acenaphthene	
Acenaphthylene	
Benzo(a)Anthracene	
Benzo(a)Pyrene	
Benzo(b)Fluoranthene	
Benzo(e)Pyrene	
Benzo(g,h,i)Perylene	
Benzo(k)Fluoranthene	
Fluoranthene	
Fluorene	
Indeno(1,2,3-cd)pyrene	
Iodofenphos	
Naphthalene	
Phenol	
Pyrene	
1,1,1,2-Tetrachloroethane	
1,1,1-Trichloroethane	
1,1,2,2-Tetrachloroethane	
1,1,2-Trichloroethane	
1,1-Dichloroethane	
1,1-Dichloroethylene :- {1,1-Dichloroethene}	
1,2-Dichloroethane	
1,2-Dimethylbenzene :- {o-Xylene}	
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	
2,3-Dimethylphenol :- {2,3-Xylenol}	
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	
2,4,5-Trichlorophenol	
2,4,6-Trichlorophenol	
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	
2,4-Dichlorophenol	

Location	
Date	Max
General Parameters	
2,4-Dimethylphenol :- {2,4-Xylenol}	
2,5-Dichlorophenol	
2,5-Dimethylphenol :- {2,5-Xylenol}	
2,6-Dichlorophenol	
2,6-Dimethylphenol :- {2,6-Xylenol}	
2-Chlorophenol	
2-Methylphenol :- {o-Cresol}	
3,4-Dimethylphenol :- {3,4-Xylenol}	
3,5-Dimethylphenol :- {3,5-Xylenol}	
3-Chlorophenol	
3-Methylphenol :- {m-Cresol}	
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	
4-Chlorophenol	
4-Methylphenol :- {p-cresol}	
Antimony	
Atrazine	
Atrazine-desethyl :- {Atrazine-de-ethyl}	
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	
Azinphos-ethyl	
Azinphos-methyl	
Benazolin	
Bendiocarb	
Bentazone	
Bromodichloromethane	
Bromoform :- {Tribromomethane}	
Bromoxynil	
Bupirimate	
Carbon tetrachloride :- {Tetrachloromethane}	
Carbophenothion	
Chlorfenvinphos	
Chlorobenzene	
Chlorodibromomethane	
Chloroform :- {Trichloromethane}	
Chlorpyrifos-ethyl	
Chlorpyrifos-methyl	
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	
Clopyralid	
Cobalt	
Coumaphos	
Cyanazine	
Desmetryn	
Diazinon	
Dibenzo(a,h)Anthracene	
Dicamba	
Dichlorprop :- {2,4-DP}	
Dichlorvos	
Dimethoate	
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	
Ethion	
Ethofumesate	
Ethyl tert-butyl ether :- {ETBE}	
Fenchlorphos :- {Ronnel}	
Fenitrothion	
Fenoprop	
Fenpropimorph	
Fenthion	
Fluoranthene	
Fluroxypyr	
Fonofos	
Ioxynil	
Iprodione	
Irgarol 1051	
Malathion	
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	
Metalaxyl	
Metazachlor	
Mevinphos	
Molybdenum	
Napropamide	
Parathion-ethyl :- {Parathion}	
Parathion-methyl	
Pentachlorophenol	
Perylene	
Phenanthrene	
Phenol	
Phorate	
Picloram	
Pirimicarb	
Pirimiphos-ethyl	
Pirimiphos-methyl	
Prochloraz	
Prometryn	
Propazine	
Propetamphos	
Propyzamide	
Silica, reactive as SiO2	
Styrene :- {Vinylbenzene}	
Terbutryn	
tert-Amyl methyl ether :- {TAME}	
Tetrachloroethylene :- {Perchloroethylene}	
Thallium : Total	
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	
Triazophos	
Trichloroethylene :- {Trichloroethene}	
Triclopyr	
Trietazine	
Trihalomethanes : Total :- {THM}	
Vinyl chloride :- {Chloroethylene}	

Location		USK ESTUARY 1000M DOWNSTREAM OF TRANSPORTER BRIDGE 2005-2015										
		2005			2006				2007			
Date	Units	06/02/2005	18/08/2005	18/11/2005	03/01/2006	09/05/2006	06/06/2006	30/10/2006	29/01/2007	17/05/2007	24/07/2007	16/10/2007
General Parameters												
Alkalinity to pH 4.5 as CaCO3	mg/l											
Ammonia un-ionised as N	mg/l											
Ammoniacal Nitrogen as N	mg/l											
Bicarbonate as HCO3	mg/l											
BOD : 5 Day ATU	mg/l											
Calcium	mg/l											
Calcium, Dissolved	mg/l											
Carbon, Organic, Dissolved as C :- {DOC}	mg/l											
Chemical Oxygen Demand :- {COD}	mg/l											
Chloride	mg/l											
Conductivity at 20 C	uS/cm											
Conductivity at 25 C	uS/cm											
Hardness, Total as CaCO3	mg/l											
Magnesium	mg/l											
Magnesium, Dissolved	mg/l											
Manganese	ug/l											
Manganese, Dissolved	ug/l											
Nitrate as N	mg/l											
Nitrite as N	mg/l											
Nitrogen, Total as N	mg/l											
Nitrogen, Total Oxidised as N	mg/l											
Orthophosphate, reactive as P	mg/l											
Oxygen, Dissolved as O2	mg/l											
Oxygen, Dissolved, % Saturation	%											
pH	pH Units											
pH : In Situ	pH Units											
Phosphorus, Total as P	mg/l											
Salinity	ppt											
Salinity : In Situ	ppt	23.68	21.79	17.81	21.37	26.449	17.93	12.069	11.575	22.397	8.35	22.33
Solids, Suspended at 105 C	mg/l											
Sulphate as SO4	mg/l											
Temperature of Water	degC											
Metals												
Aluminium	ug/l											
Aluminium, Dissolved	ug/l											
Antimony	ug/l											
Arsenic	ug/l											
Arsenic, Dissolved	ug/l											
Barium	ug/l											
Barium, Dissolved	ug/l											
Boron	ug/l											
Boron, Dissolved	ug/l											
Cadmium	ug/l											
Cadmium : Dry Wt	mg/kg											
Cadmium, Dissolved	ug/l											
Chromium	ug/l											
Chromium Hexavalent	ug/l											
Chromium, Dissolved	ug/l	0.475	0.387	0.517	0.43	<LOD	0.496	<LOD	<LOD	<LOD	<LOD	<LOD
Copper	ug/l											
Copper, Dissolved	ug/l	2.91	5.24	3.84	2.52	1.53	1.86	1.23	3.02	1.81	1.89	2.88
Iron	ug/l											
Iron, Dissolved	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Lead	ug/l											
Lead, Dissolved	ug/l	0.08	0.157	0.178	0.091	0.446	0.099	<LOD	0.041	0.258	0.149	0.106
Lithium	ug/l											
Lithium, Dissolved	ug/l											
Magnesium	ug/l											
Magnesium, Dissolved	ug/l											
Manganese	ug/l											
Manganese, Dissolved	ug/l											
Mercury	ug/l											
Mercury : Dry Wt	mg/kg											
Mercury, Dissolved	ug/l											
Nickel	ug/l											
Nickel, Dissolved	ug/l	1.24	2.26	2.64	1.24	0.964	1.22	0.99	1.19	0.861	0.85	1.02
Strontium	ug/l											
Strontium, Filtered	ug/l											
Tin	ug/l											
Titanium	ug/l											
Uranium	ug/l											
Vanadium	ug/l											
Zinc	ug/l											
Zinc, Dissolved	ug/l	4.04	7.3	12.3	5.65	3.05	4.04	3.8	3.01	3.42	1.95	3.17
BTEX Compounds												
Benzene	ug/l											
Ethylbenzene	ug/l											
Toluene :- {Methylbenzene}	ug/l											
Other Organic Compounds												
Acenaphthene	ug/l											
Acenaphthylene	ug/l											
Benzo(a)Anthracene	ug/l											
Benzo(a)Pyrene	ug/l											
Benzo(b)Fluoranthene	ug/l											
Benzo(e)Pyrene	ug/l											
Benzo(g,h,i)Perylene	ug/l											
Benzo(k)Fluoranthene	ug/l											
Fluoranthene	ug/l											
Fluorene	ug/l											
Indeno(1,2,3-cd)pyrene	ug/l											
Iodofenphos	ug/l											
Naphthalene	ug/l											
Phenol	ug/l											
Pyrene	ug/l											
1,1,1,2-Tetrachloroethane	ug/l											
1,1,1-Trichloroethane	ug/l											
1,1,2,2-Tetrachloroethane	ug/l											
1,1,2-Trichloroethane	ug/l											
1,1-Dichloroethane	ug/l											
1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l											
1,2-Dichloroethane	ug/l											
1,2-Dimethylbenzene :- {o-Xylene}	ug/l											

2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l											
2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l											
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l											
2,4,5-Trichlorophenol	ug/l											
2,4,6-Trichlorophenol	ug/l											
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l											
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l											
2,4-Dichlorophenol	ug/l											
2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l											
2,5-Dichlorophenol	ug/l											
2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l											
2,6-Dichlorophenol	ug/l											
2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l											
2-Chlorophenol	ug/l											
2-Methylphenol :- {o-Cresol}	ug/l											
3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l											
3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l											
3-Chlorophenol	ug/l											
3-Methylphenol :- {m-Cresol}	ug/l											
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l											
4-Chlorophenol	ug/l											
4-Methylphenol :- {p-cresol}	ug/l											
Antimony	ug/l											
Atrazine	ug/l											
Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l											
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l											
Azinphos-ethyl	ug/l											
Azinphos-methyl	ug/l											
Benazolin	ug/l											
Bendiocarb	ug/l											
Bentazone	ug/l											
Bromodichloromethane	ug/l											
Bromoform :- {Tribromomethane}	ug/l											
Bromoxynil	ug/l											
Bupirimate	ug/l											
Carbon tetrachloride :- {Tetrachloromethane}	ug/l											
Carbophenothion	ug/l											
Chlorfenvinphos	ug/l											
Chlorobenzene	ug/l											
Chlorodibromomethane	ug/l											
Chloroform :- {Trichloromethane}	ug/l											
Chlorpyrifos-ethyl	ug/l											
Chlorpyrifos-methyl	ug/l											
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l											
Clopyralid	ug/l											
Cobalt	ug/l											
Coumaphos	ug/l											
Cyanazine	ug/l											
Desmetryn	ug/l											
Diazinon	ug/l											
Dibenzo(a,h)Anthracene	ug/l											
Dicamba	ug/l											
Dichlorprop :- {2,4-DP}	ug/l											
Dichlorvos	ug/l											
Dimethoate	ug/l											
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l											
Ethion	ug/l											
Ethofumesate	ug/l											
Ethyl tert-butyl ether :- {ETBE}	ug/l											
Fenchlorphos :- {Ronnel}	ug/l											
Fenitrothion	ug/l											
Fenoprop	ug/l											
Fenpropimorph	ug/l											
Fenthion	ug/l											
Fluoranthene	ug/l											
Fluroxypyr	ug/l											
Fonofos	ug/l											
Ioxynil	ug/l											
Iprodione	ug/l											
Irgarol 1051	ug/l											
Malathion	ug/l											
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l											
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l											
Metalaxyl	ug/l											
Metazachlor	ug/l											
Mevinphos	ug/l											
Molybdenum	ug/l											
Napropamide	ug/l											
Parathion-ethyl :- {Parathion}	ug/l											
Parathion-methyl	ug/l											
Pentachlorophenol	ug/l											
Perylene	ug/l											
Phenanthrene	ug/l											
Phenol	ug/l											
Phorate	ug/l											
Picloram	ug/l											
Pirimicarb	ug/l											
Pirimiphos-ethyl	ug/l											
Pirimiphos-methyl	ug/l											
Prochloraz	ug/l											
Prometryn	ug/l											
Propazine	ug/l											
Propetamphos	ug/l											
Propyzamide	ug/l											
Silica, reactive as SiO2	ug/l											
Styrene :- {Vinylbenzene}	ug/l											
Terbutryn	ug/l											
tert-Amyl methyl ether :- {TAME}	ug/l											
Tetrachloroethylene :- {Perchloroethylene}	ug/l											
Thallium : Total	ug/l											
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l											
Triazophos	ug/l											
Trichloroethylene :- {Trichloroethene}	ug/l											
Triclopyr	ug/l											
Trietazine	ug/l											
Trihalomethanes : Total :- {THM}	ug/l											
Vinyl chloride :- {Chloroethylene}	ug/l											

2008				2009				2010				2011				
30/01/2008	17/04/2008	10/08/2008	07/11/2008	13/01/2009	11/04/2009	05/06/2009	08/11/2009	20/04/2010	01/07/2010	27/07/2010	24/11/2010	12/01/2011	18/01/2011	08/02/2011	06/08/2011	16/01/2012
11.721	19.094	6.215	7.713	13.345	21.016	25.467	22.085	21.183	15.817	25.685	21.071	22.602	15.085	26.431	26.918	15.873
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
2.15	2.53	1.66	2.56	2.62	5.36	1.9	2.64	1.99	3.57	1.68	1.64	1.19	1.46	1.75	1.65	1.32
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.044	0.06	0.257	0.207	0.071	0.06	0.06	0.068	0.055	0.041	0.057	0.05	0.0897	0.046	0.0646	0.0739	0.0444
0.857	0.91	0.74	1.01	0.83	0.98	0.84	1.05	0.999	0.94	0.86	0.77	0.796	0.8	0.808	0.85	0.584
3	3.48	2.35	1.69	2.99	3.05	3.16	2.56	3.25	3.45	2.68	3.34	2.95	3.13	2.6	3.23	3

2012					2013											
08/02/2012	11/02/2012	09/03/2012	22/05/2012	15/11/2012	15/02/2013	25/04/2013	04/07/2013	08/07/2013	21/08/2013	23/09/2013	03/10/2013	09/10/2013	07/11/2013	14/11/2013	26/11/2013	12/12/2013
	2.36				2.93				1.64	1.65				2		1.89
7.78	9.42	7.27		9.28	11.1	9.51	11.7	6.88	7.15	7.38	11.5	7.16	7	9.77	10	9.67
90.5	92	84.9		89.9	94.3	94.9	105.3	84.6	89.3	87.7	96.5	86.7	88.5	96.4	91.5	91.9
17.742	17.402	20.027	17.86	16.83	11.835	18.782	19.94	21.82	25.173	26.34	1.986	25.954	24.836	17.414	16.82	20.79
	<LOD				<LOD				<LOD	<LOD				<LOD		<LOD
	<LOD		<LOD		<LOD	<LOD			<LOD	<LOD				<LOD		<LOD
	1.9		1.97		1.8	1.53			2.18	1.34				1.63		1.87
			<LOD													
0.0619	0.05	0.0664	0.144	0.053	<LOD	0.054	<LOD	0.07	<LOD	0.071	0.075	0.045	0.045	<LOD	<LOD	0.058
0.826	0.909	0.773	0.991	0.818	0.855	0.838	0.832	0.821	<LOD	0.717	0.692	0.801	0.683	0.768	0.696	0.845
	2.66		22.4		3.2	3.59			3.34	2.3				2.16		2.95

													USK ESTUARY DOWNSTREAM NASH OUTFALL 2005-2015			
2014											2015					
20/01/2014	18/02/2014	17/04/2014	28/05/2014	30/06/2014	29/08/2014	03/10/2014	25/11/2014	06/12/2014	09/12/2014	12/12/2014	02/02/2015	27/03/2015	06/02/2005	12/05/2005	19/05/2005	09/07/2005
2.84									1.39	2.26						
10.5	11.2	8.48	7.91	8	8.51	10.3	8.88	8.68	8.09	10.9	11.2	9.67				
89.7	94.3	88.6	87.4	97.7	101.2	91.4	87	100.3	98.1	97.6	94.7	91.4				
8.07																
8.15	4.39	20.63	19.88	22.66	24.06	2.91	18.606	18.72	25.31	12.46	14.188	20.04	21.48	3.69	12.57	23.56
													0.129			
													0.08	<LOD	0.17	0.079
<LOD		<LOD		<LOD					<LOD							
<LOD		<LOD		<LOD					<LOD				0.406	0.462	1.95	0.562
1.65		1.59		2.03			2.05		1.93	<LOD			0.947	1.35	14.2	1.41
<LOD	<LOD	<LOD	0.045	0.043	0.054	0.042	<LOD	0.042	0.072	0.081	0.04	0.064	0.557	0.376	5.49	0.171
0.744	0.699	0.962	0.831	0.922	0.857	0.413	0.9	0.856	1.06	0.778	0.72	0.824	27.9	3.84	50.7	9.94
1.89		2.9		2.58					2.52				27	9.01	68.3	11.3

2005					2006											
18/08/2005	18/11/2005	24/11/2005	29/11/2005	15/12/2005	03/01/2006	01/03/2006	27/04/2006	09/05/2006	23/05/2006	06/06/2006	29/06/2006	14/07/2006	21/08/2006	20/09/2006	30/10/2006	29/11/2006
21.77	13.56	12.74	10.12	1.92	15.15	7.34	5.89	24.616	6.57	17.45	9.41	16.81	1.796	20.108	17.296	4.751
									0.308						
0.044	0.052	0.122	0.076	<LOD	0.152	<LOD	0.067	<LOD	<LOD	<LOD	<LOD	0.056	<LOD	<LOD	<LOD	<LOD
0.261	0.522	1.44	0.54	1.85	0.878	0.579	0.82	<LOD	0.358	0.44	<LOD	<LOD	<LOD	0.711	0.537	<LOD
2.04	1.91	1.57	0.782	1.36	4.46	0.601	0.968	0.596	0.094	0.368	0.481	0.442	0.395	<LOD	<LOD	0.551
0.733	0.304	1.56	0.516	0.487	3.4	1.08	0.846	0.339	0.271	0.509	0.195	0.346	0.486	0.193	0.248	0.212
45.5	6.97	19.1	8.52	7	19.5	71.7	15.9	4.95	10.4	21.4	15.3	20.6	9.86	19.2	6.31	8.85
66.4	19.1	49.2	14.9	23.2	42	32.7	33.2	8.14	14.9	24.5	11.7	14	14.6	24	19.2	14.3

2007															
29/01/2007	12/03/2007	15/03/2007	28/03/2007	26/04/2007	17/05/2007	28/06/2007	24/07/2007	20/09/2007	16/10/2007	20/11/2007	19/12/2007	30/01/2008	09/02/2008	13/03/2008	17/04/2008
10.336	1.201	9.8	0.878	1.3	12.36	3.19	0.39	6.1	5.05	20.173	11.311	11.337	0.952	5.744	15.588
					0.4										
<LOD	<LOD	<LOD	<LOD	<LOD	0.057	0.236	0.09	<LOD	0.046	0.07	0.051	<LOD	<LOD	0.046	0.059
<LOD	<LOD	23.3	<LOD	0.5	0.6	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.67	<LOD	<LOD	<LOD
1.23	4.03	1.6	0.592	0.821	1.59	0.55	1.02	2.88	2.41	2.67	1.86	2.54	3	8.04	2.04
0.243	0.635	<LOD	0.343	0.821	0.432	3.18	0.418	0.552	4.59	1.03	0.938	0.83	0.537	4.32	0.3
3.19	1.8	14.5	18	27.3	5.74	15.1	2.04	5.4	6.04	3.48	7.34	3.9	2.33	11.7	8.02
16.7	13	26.3	36.7	52	15.3	77.1	15.4	23.2	27.4	13.7	23.5	20.7	8.08	36.1	16.9

2008								2009								
08/05/2008	14/05/2008	10/08/2008	06/10/2008	28/10/2008	07/11/2008	25/11/2008	11/12/2008	13/01/2009	02/03/2009	03/04/2009	11/04/2009	05/06/2009	29/06/2009	06/09/2009	16/09/2009	23/10/2009
9.504	0.27	0.533	6.6	14.849	2.999	14.836	8.997	7.835	11.142	3.026	13.048	22.219	22.546	20.672	21.623	19.177
					0.138							1.06				
<LOD	<LOD	<LOD	0.047	0.045	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.048	<LOD	0.09	<LOD	<LOD	0.043
<LOD	<LOD	<LOD	<LOD	<LOD	0.954	<LOD	<LOD	4.58	7.62	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.81	2.6	0.9	3.34	2.08	1.71	4.9	1.95	5.48	3.37	1.14	2.12	3.59	2.54	2.17	1.75	1.42
0.278	0.577	0.729	0.48	0.333	0.561	11.1	0.252	0.477	0.503	1	0.37	4.37	0.708	0.615	<LOD	0.395
3.33	3.87	4.6	7.39	4.96	2.39	7.48	2.22	3.5	2.54	9.72	3.16	5	4.14	4.06	4.04	4.37
11.4	25.7	28.3	29.7	16.8	14.7	26.8	12.7	14.2	7.71	16.6	15.2	32.6	13.3	10.5	16.9	17.6

			2010					2011				2012				
08/11/2009	27/11/2009	21/12/2009	20/04/2010	01/07/2010	27/07/2010	18/08/2010	24/11/2010	12/01/2011	18/01/2011	08/02/2011	06/08/2011	16/01/2012	11/02/2012	09/03/2012	22/05/2012	15/11/2012
18.056	0.559	12.282	18.389	12.037	18.993		21.987	21.402	11.75	24.7	13.975	15.398			18.84	
						0.735				0.967						
0.187	<LOD	<LOD	<LOD	<LOD	0.045		0.075	0.0596	<LOD	0.0806	0.0638	0.0448			0.0585	
<LOD	<LOD	<LOD	<LOD	2.46	<LOD		2.14	<LOD	<LOD	<LOD	<LOD	<LOD			<LOD	
2.01	1.79	3.28	1.38	3.37	0.63		1.26	1.32	1.34	<LOD	3.54	1.67			2.38	
0.57	0.416	0.37	0.328	0.42	0.161		0.109	0.151	0.266	0.115	0.437	0.123	<LOD	0.331	0.327	2.28
6.39	7.96	6.7	5.54	2.8	3.54		1.73	1.34	2.62	4.97	5.98	1.23	0.793	1.09	3.84	6.76
17	15.1	22.2	22.6	15.6	32.1		23.8	7.6	79.6	15.3	92.8	11.4			20.9	

2013																
15/02/2013	25/04/2013	04/07/2013	08/07/2013	21/08/2013	23/09/2013	03/10/2013	09/10/2013	07/11/2013	14/11/2013	26/11/2013	12/12/2013	20/01/2014	18/02/2014	17/04/2014	28/05/2014	30/06/2014
10.7	9.49	11.6	6.81	6.73	6.98	11.1	7.14	7.25	9.69	10.2		10.2	10.4	8.33	8.17	8.28
90.9	93.7	103.1	82.2	83.6	82.3	97.9	86.9	87.7	96	93.3		89.6	89.4	85.7	85.8	97.9
												7.65				
11.296	14.778	20.11	18.55	24.299	25.2	14.177	26.343	16.006	17.826	17.31		5.8	3.75	17.46	10.59	16.97
<LOD				<LOD	<LOD				<LOD		<LOD	<LOD		<LOD		<LOD
<LOD	<LOD			<LOD	<LOD				<LOD		<LOD	<LOD		<LOD		<LOD
0.292	0.351	0.055	0.103	0.08	0.107	0.045	0.048	0.238	<LOD	0.227	0.378	0.147	0.071	0.248	0.152	0.117
5.12	4.9	1.02	3.19	1.16	1.52	0.852	0.862	2.83	0.762	2.87	2.38	0.814	0.925	4.27	2.67	1.6

								USK ESTUARY UPSTREAM OF CAERLEON ROAD BRIDGE 28.05.05 - 28.05.15								
2014						2015		2005		2006						
29/08/2014	03/10/2014	25/11/2014	06/12/2014	09/12/2014	12/12/2014	02/02/2015	27/03/2015	26/07/2005	16/11/2005	13/02/2006	24/05/2006	23/06/2006	21/07/2006	09/08/2006	17/08/2006	11/09/2006
8.46	9.81	9.33	8.99	8.1	10.2	11	9.59									
100.1	89.9	88.6	101.2	97.3	98.4	94.2	90.9									
23.6	3.96	10.817	14.62	24.2	21.9	15.92	20.08									
								<LOD	<LOD	<LOD	0.211					0.074
				<LOD												
				<LOD				0.263	0.573	0.596	0.835					0.593
								1.63	0.428	1.67	1.06					1.42
0.165	0.776	0.075	0.238	0.199	0.467	1.95	1.4	0.281	0.144	0.258	0.21					<LOD
								<LOD	<LOD	0.201	<LOD	0.0101	<LOD	0.173	0.0169	
								<LOD	<LOD	<LOD	<LOD					<LOD
1.51	4.23	0.818	3.52	2.83	2.64	1.41	2.05	0.801	0.484	0.739	0.884					1.46
								4.73	0.7	5.88	3.05					3.23

			2007													
20/10/2006	17/11/2006	12/12/2006	11/01/2007	24/01/2007	22/02/2007	10/03/2007	20/03/2007	24/04/2007	24/07/2007	16/08/2007	21/09/2007	28/09/2007	07/10/2007	30/10/2007	02/11/2007	13/12/2007
			<LOD								<LOD		<LOD		<LOD	
			<LOD								<LOD		7.55		1.37	
			2.21								0.68		1.04		1.77	
			0.207								0.086		0.124		<LOD	
0.011	<LOD	<LOD		<LOD	0.019	0.067	0.012	<LOD	0.01	0.032		0.15		0.252		<LOD
			<LOD								<LOD		0.029		<LOD	
			0.73								0.58		0.37		<LOD	
			1.59								1.97		1.42		<LOD	

2008															
12/01/2008	20/02/2008	03/03/2008	06/03/2008	12/03/2008	26/03/2008	02/04/2008	07/04/2008	30/04/2008	29/05/2008	08/08/2008	12/10/2008	19/10/2008	13/11/2008	17/11/2008	24/02/2009
			0.384												
		<LOD	<LOD								<LOD	<LOD			
		<LOD	<LOD								<LOD	<LOD			
		0.713	1.03								0.99	2.01			
		0.191	0.113								0.085	0.053			
<LOD	<LOD			<LOD	0.012	<LOD	0.062	<LOD	0.011	<LOD			<LOD	<LOD	<LOD
			0.318												
		<LOD	<LOD								<LOD	<LOD			
		0.49	0.5								0.46	0.94			
		2.46	1.81								1.84	2.6			

							2009									
13/03/2009	24/03/2009	07/04/2009	12/04/2009	29/04/2009	18/05/2009	14/06/2009	09/07/2009	12/07/2009	16/07/2009	30/07/2009	13/09/2009	17/09/2009	11/10/2009	10/11/2009	03/12/2009	04/01/2010
								0.718							
<LOD			<LOD			<LOD	0.255									
<LOD			<LOD			<LOD	<LOD									
6.61			0.71			1.79	6.84									
0.052			0.086			0.041	0.204									
	<LOD	<LOD		0.08	0.011			<LOD		0.013	<LOD	0.045	<LOD	<LOD	<LOD	0.028
									0.263							
<LOD			<LOD			<LOD	0.015									
0.88			0.44			0.51	0.43									
3.7			1.97			1.69	1.64									

2010																
26/02/2010	03/03/2010	09/03/2010	11/03/2010	11/05/2010	13/05/2010	14/06/2010	30/06/2010	06/07/2010	02/08/2010	19/08/2010	19/10/2010	24/11/2010	01/12/2010	02/01/2011	17/01/2011	03/03/2011
		1.2		<LOD				1.4								<LOD
<LOD		<LOD		<LOD				<LOD								<LOD
<LOD		<LOD		<LOD				<LOD								<LOD
5		1.13		0.81				1.46								<LOD
0.124		0.106		0.211				0.068								<LOD
	0.285	0.032	<LOD		0.204	0.713	0.312		<LOD	0.023	<LOD	0.026	<LOD	<LOD	0.011	<LOD
<LOD		<LOD		<LOD				<LOD								<LOD
<LOD		0.34		0.47				0.41								<LOD
		<LOD		<LOD				<LOD								<LOD
2.54		1.12		1.26				1.6								1.03

2011										2012						2013	
31/03/2011	15/06/2011	06/07/2011	13/07/2011	09/09/2011	28/10/2011	05/11/2011	11/11/2011	21/11/2011	08/12/2011	03/02/2012	28/03/2012	30/04/2012	07/05/2012	01/10/2012	28/11/2012	11/01/2013	31/01/2013
		2.1		<LOD						<LOD							
	0.908																
		<LOD		<LOD						<LOD			<LOD		<LOD	<LOD	<LOD
													<LOD			<LOD	
		<LOD		<LOD									<LOD			<LOD	
		1.48		1.52						4.18							
		<LOD		0.32						1.41			0.221		0.054	0.149	0.064
0.015		0.061	0.013	<LOD	0.015	0.012	0.01	0.014	0.023	<LOD	0.329	<LOD	<LOD	0.0891	<LOD	<LOD	<LOD
	0.322																
		<LOD		<LOD						<LOD			0.0114		<LOD	<LOD	<LOD
		0.964		0.793						1.3			0.61		0.33	0.488	0.395
		<LOD		<LOD						<LOD							
		2.81		2.85						8.91							

Surface Water Dataset Summary

			Analy	2014				2015					
Parameter	Unit	No of Analysis	No.	13/01/2014	14/02/2014	11/11/2014	15/12/2014	16/01/2015	21/01/2015	16/02/2015	20/02/2015	24/03/2015	03/12/2015
General Parameters													
Alkalinity to pH 4.5 as CaCO3	mg/l	0	0										
Ammonia un-ionised as N	mg/l	0	0										
Ammoniacal Nitrogen as N	mg/l	0	0										
Bicarbonate as HCO3	mg/l	0	0										
BOD : 5 Day ATU	mg/l	0	0										
Calcium	mg/l	0	0										
Calcium, Dissolved	mg/l	0	0										
Carbon, Organic, Dissolved as C :- {DOC}	mg/l	9	9										
Chemical Oxygen Demand :- {COD}	mg/l	0	0										
Chloride	mg/l	0	0										
Conductivity at 20 C	uS/cm	0	0										
Conductivity at 25 C	uS/cm	0	0										
Hardness, Total as CaCO3	mg/l	0	0										
Magnesium	mg/l	0	0										
Magnesium, Dissolved	mg/l	0	0										
Manganese	ug/l	0	0										
Manganese, Dissolved	ug/l	0	0										
Nitrate as N	mg/l	0	0										
Nitrite as N	mg/l	0	0										
Nitrogen, Total as N	mg/l	0	0										
Nitrogen, Total Oxidised as N	mg/l	0	0										
Orthophosphate, reactive as P	mg/l	0	0										
Oxygen, Dissolved as O2	mg/l	53	53										
Oxygen, Dissolved, % Saturation	%	53	53										
pH	pH Units	2	2										
pH : In Situ	pH Units	0	0										
Phosphorus, Total as P	mg/l	0	0										
Salinity	ppt	0	0										
Salinity : In Situ	ppt	149	149										
Solids, Suspended at 105 C	mg/l	0	0										
Sulphate as SO4	mg/l	0	0										
Temperature of Water	degC	0	0										
Metals													
Aluminium	ug/l	0	0										
Aluminium, Dissolved	ug/l	0	0										
Antimony	ug/l	0	0										
Arsenic	ug/l	0	0										
Arsenic, Dissolved	ug/l	7	3										
Barium	ug/l	0	0										
Barium, Dissolved	ug/l	0	0										
Boron	ug/l	0	0										
Boron, Dissolved	ug/l	0	0										
Cadmium	ug/l	0	0										
Cadmium : Dry Wt	mg/kg	10	10										
Cadmium, Dissolved	ug/l	104	34	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD
Chromium	ug/l	0	0										
Chromium Hexavalent	ug/l	24	0	<LOD					<LOD			<LOD	
Chromium, Dissolved	ug/l	146	37	<LOD					<LOD			<LOD	
Copper	ug/l	0	0										
Copper, Dissolved	ug/l	134	129										
Iron	ug/l	0	0										
Iron, Dissolved	ug/l	29	0										
Lead	ug/l	0	0										
Lead, Dissolved	ug/l	190	170	0.109	<LOD	0.37	0.069	0.146		<LOD	0.101		0.05
Lithium	ug/l	0	0										
Lithium, Dissolved	ug/l	0	0										
Magnesium	ug/l	0	0										
Magnesium, Dissolved	ug/l	0	0										
Manganese	ug/l	0	0										
Manganese, Dissolved	ug/l	0	0										
Mercury	ug/l	84	38	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD
Mercury : Dry Wt	mg/kg	3	3										
Mercury, Dissolved	ug/l	37	3	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD
Nickel	ug/l	0	0										
Nickel, Dissolved	ug/l	190	181	0.615	<LOD	0.759	<LOD	0.505		<LOD	<LOD		<LOD
Strontium	ug/l	0	0										
Strontium, Filtered	ug/l	0	0										
Tin	ug/l	0	0										
Titanium	ug/l	0	0										
Uranium	ug/l	0	0										
Vanadium	ug/l	7	0										
Zinc	ug/l	0	0										
Zinc, Dissolved	ug/l	132	131										
BTEX Compounds													
Benzene	ug/l	0	0										
Ethylbenzene	ug/l	0	0										
Toluene :- {Methylbenzene}	ug/l	0	0										
Other Organic Compounds													
Acenaphthene	ug/l	0	0										
Acenaphthylene	ug/l	0	0										
Benzo(a)Anthracene	ug/l	0	0										
Benzo(a)Pyrene	ug/l	0	0										
Benzo(b)Fluoranthene	ug/l	0	0										
Benzo(e)Pyrene	ug/l	0	0										
Benzo(g,h,i)Perylene	ug/l	0	0										
Benzo(k)Fluoranthene	ug/l	0	0										
Fluoranthene	ug/l	0	0										
Fluorene	ug/l	0	0										
Indeno(1,2,3-cd)pyrene	ug/l	0	0										
Iodofenphos	ug/l	0	0										
Naphthalene	ug/l	0	0										
Phenol	ug/l	0	0										
Pyrene	ug/l	0	0										
1,1,1,2-Tetrachloroethane	ug/l	0	0										
1,1,1-Trichloroethane	ug/l	0	0										
1,1,2,2-Tetrachloroethane	ug/l	0	0										
1,1,2-Trichloroethane	ug/l	0	0										
1,1-Dichloroethane	ug/l	0	0										
1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	0	0										
1,2-Dichloroethane	ug/l	0	0										
1,2-Dimethylbenzene :- {o-Xylene}	ug/l	0	0										

2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	0	0
2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	0	0
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	0	0
2,4,5-Trichlorophenol	ug/l	0	0
2,4,6-Trichlorophenol	ug/l	0	0
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	0	0
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	0	0
2,4-Dichlorophenol	ug/l	0	0
2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	0	0
2,5-Dichlorophenol	ug/l	0	0
2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	0	0
2,6-Dichlorophenol	ug/l	0	0
2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	0	0
2-Chlorophenol	ug/l	0	0
2-Methylphenol :- {o-Cresol}	ug/l	0	0
3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	0	0
3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	0	0
3-Chlorophenol	ug/l	0	0
3-Methylphenol :- {m-Cresol}	ug/l	0	0
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	0	0
4-Chlorophenol	ug/l	0	0
4-Methylphenol :- {p-cresol}	ug/l	0	0
Antimony	ug/l	0	0
Atrazine	ug/l	0	0
Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	0	0
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	0	0
Azinphos-ethyl	ug/l	0	0
Azinphos-methyl	ug/l	0	0
Benazolin	ug/l	0	0
Bendiocarb	ug/l	0	0
Bentazone	ug/l	0	0
Bromodichloromethane	ug/l	0	0
Bromoform :- {Tribromomethane}	ug/l	0	0
Bromoxynil	ug/l	0	0
Bupirimate	ug/l	0	0
Carbon tetrachloride :- {Tetrachloromethane}	ug/l	0	0
Carbophenothion	ug/l	0	0
Chlorfenvinphos	ug/l	0	0
Chlorobenzene	ug/l	0	0
Chlorodibromomethane	ug/l	0	0
Chloroform :- {Trichloromethane}	ug/l	0	0
Chlorpyrifos-ethyl	ug/l	0	0
Chlorpyrifos-methyl	ug/l	0	0
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	0	0
Clopyralid	ug/l	0	0
Cobalt	ug/l	0	0
Coumaphos	ug/l	0	0
Cyanazine	ug/l	0	0
Desmetryn	ug/l	0	0
Diazinon	ug/l	0	0
Dibenzo(a,h)Anthracene	ug/l	0	0
Dicamba	ug/l	0	0
Dichlorprop :- {2,4-DP}	ug/l	0	0
Dichlorvos	ug/l	0	0
Dimethoate	ug/l	0	0
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	0	0
Ethion	ug/l	0	0
Ethofumesate	ug/l	0	0
Ethyl tert-butyl ether :- {ETBE}	ug/l	0	0
Fenchlorphos :- {Ronnel}	ug/l	0	0
Fenitrothion	ug/l	0	0
Fenoprop	ug/l	0	0
Fenpropimorph	ug/l	0	0
Fenthion	ug/l	0	0
Fluoranthene	ug/l	0	0
Fluroxypyr	ug/l	0	0
Fonofos	ug/l	0	0
Ioxynil	ug/l	0	0
Iprodione	ug/l	0	0
Irgarol 1051	ug/l	0	0
Malathion	ug/l	0	0
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	0	0
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	0	0
Metalaxyl	ug/l	0	0
Metazachlor	ug/l	0	0
Mevinphos	ug/l	0	0
Molybdenum	ug/l	0	0
Napropamide	ug/l	0	0
Parathion-ethyl :- {Parathion}	ug/l	0	0
Parathion-methyl	ug/l	0	0
Pentachlorophenol	ug/l	0	0
Perylene	ug/l	0	0
Phenanthrene	ug/l	0	0
Phenol	ug/l	0	0
Phorate	ug/l	0	0
Picloram	ug/l	0	0
Pirimicarb	ug/l	0	0
Pirimiphos-ethyl	ug/l	0	0
Pirimiphos-methyl	ug/l	0	0
Prochloraz	ug/l	0	0
Prometryn	ug/l	0	0
Propazine	ug/l	0	0
Propetamphos	ug/l	0	0
Propyzamide	ug/l	0	0
Silica, reactive as SiO2	ug/l	0	0
Styrene :- {Vinylbenzene}	ug/l	0	0
Terbutryn	ug/l	0	0
tert-Amyl methyl ether :- {TAME}	ug/l	0	0
Tetrachloroethylene :- {Perchloroethylene}	ug/l	0	0
Thallium : Total	ug/l	0	0
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	0	0
Triazophos	ug/l	0	0
Trichloroethylene :- {Trichloroethene}	ug/l	0	0
Triclopyr	ug/l	0	0
Trietazine	ug/l	0	0
Trihalomethanes : Total :- {THM}	ug/l	0	0
Vinyl chloride :- {Chloroethylene}	ug/l	0	0

ses Above LOD	Concentration		Surface Water Data Screening									
						Analysis above EQS				Analyses Above CCW TL	
% of Analysis	Range	Average	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses
			General Parameters								
None > LOD	No Analyses	No Analyses	Alkalinity to pH 4.5 as CaCO3	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Ammonia un-ionised as N	mg/l	0.6	No Analyses	#VALUE!		1	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Ammoniacal Nitrogen as N	mg/l	0.6	No Analyses	#VALUE!		1	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Bicarbonate as HCO3	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	BOD : 5 Day ATU	mg/l	5	No Analyses	#VALUE!		18	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Calcium	mg/l		No EQS			300000	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Calcium, Dissolved	mg/l		No EQS			300000	No Analyses	#VALUE!
100.0%	1.39 - 2.93	2.107	Carbon, Organic, Dissolved as C :- {DOC}	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chemical Oxygen Demand :- {COD}	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chloride	mg/l	250	No Analyses	#VALUE!		300	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Conductivity at 20 C	uS/cm		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Conductivity at 25 C	uS/cm		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Hardness, Total as CaCO3	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Magnesium	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Magnesium, Dissolved	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Manganese	ug/l	30	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Manganese, Dissolved	ug/l	30	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Nitrate as N	mg/l		No EQS			1	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Nitrite as N	mg/l		No EQS			1	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Nitrogen, Total as N	mg/l		No EQS			2	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Nitrogen, Total Oxidised as N	mg/l		No EQS			2	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Orthophosphate, reactive as P	mg/l		No EQS			1	No Analyses	#VALUE!
100.0%	6.73 - 11.7	9.122	Oxygen, Dissolved as O2	mg/l		No EQS				No TL	
100.0%	82.2 - 105.3	92.281	Oxygen, Dissolved, % Saturation	%	60	0				No TL	
100.0%	7.65 - 8.07	7.860	pH	pH Units	6-9	0				No TL	
None > LOD	No Analyses	No Analyses	pH : In Situ	pH Units	6-9	No Analyses			6.8-8.5	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Phosphorus, Total as P	mg/l	120	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Salinity	ppt		No EQS				No TL	
100.0%	0.27 - 26.918	15.065	Salinity : In Situ	ppt		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Solids, Suspended at 105 C	mg/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Sulphate as SO4	mg/l	400	No Analyses			300	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Temperature of Water	degC		No EQS				No TL	
			Metals								
None > LOD	No Analyses	No Analyses	Aluminium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Aluminium, Dissolved	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Antimony	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Arsenic	ug/l	50	No Analyses				No TL	
42.9%	1.2 - 2.1	1.567	Arsenic, Dissolved	ug/l	50	0				No TL	
None > LOD	No Analyses	No Analyses	Barium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Barium, Dissolved	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Boron	ug/l	2000	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Boron, Dissolved	ug/l	2000	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Cadmium	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!
100.0%	0.129 - 1.06	0.575	Cadmium : Dry Wt	mg/kg		No EQS				No TL	
32.7%	0.043 - 0.255	0.088	Cadmium, Dissolved	ug/l	0.15	0			5	0	0.00%
None > LOD	No Analyses	No Analyses	Chromium	ug/l		No EQS				No TL	
None > LOD	None > LOD	None > LOD	Chromium Hexavalent	ug/l	3.4	None > LOD				No TL	
25.3%	0.261 - 23.3	1.871	Chromium, Dissolved	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Copper	ug/l	10	No Analyses				No TL	
96.3%	0.094 - 14.2	2.134	Copper, Dissolved	ug/l	10	0				No TL	
None > LOD	No Analyses	No Analyses	Iron	ug/l	1000	No Analyses				No TL	
None > LOD	None > LOD	None > LOD	Iron, Dissolved	ug/l	1000	None > LOD				No TL	
None > LOD	No Analyses	No Analyses	Lead	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!
89.5%	0.04 - 11.1	0.497	Lead, Dissolved	ug/l	1.2	0			250	0	0.00%
None > LOD	No Analyses	No Analyses	Lithium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Lithium, Dissolved	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Magnesium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Magnesium, Dissolved	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Manganese	ug/l	30	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Manganese, Dissolved	ug/l	30	No Analyses				No TL	
45.2%	0.01 - 0.713	0.090	Mercury	ug/l	0.07	0				No TL	
100.0%	0.263 - 0.322	0.301	Mercury : Dry Wt	mg/kg	0.07	0				No TL	
8.1%	0.0114 - 0.029	0.018	Mercury, Dissolved	ug/l	0.07	0				No TL	
None > LOD	No Analyses	No Analyses	Nickel	ug/l	4	No Analyses			100	No Analyses	#VALUE!
95.3%	0.33 - 71.7	4.460	Nickel, Dissolved	ug/l	4	0			100	0	0.00%
None > LOD	No Analyses	No Analyses	Strontium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Strontium, Filtered	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Tin	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Titanium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Uranium	ug/l		No EQS				No TL	
None > LOD	None > LOD	None > LOD	Vanadium	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Zinc	ug/l	75	No Analyses			1000	No Analyses	#VALUE!
99.2%	0.7 - 92.8	14.252	Zinc, Dissolved	ug/l	75	0			1000	0	0.00%
			BTEX Compounds								
None > LOD	No Analyses	No Analyses	Benzene	ug/l	10	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Ethylbenzene	ug/l	20	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Toluene :- {Methylbenzene}	ug/l	50	No Analyses				No TL	
			Other Organic Compounds								
None > LOD	No Analyses	No Analyses	Acenaphthene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Acenaphthylene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Benzo(a)Anthracene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Benzo(a)Pyrene	ug/l	0.00017	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Benzo(b)Fluoranthene	ug/l	0.017	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Benzo(e)Pyrene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Benzo(g,h,i)Perylene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Benzo(k)Fluoranthene	ug/l	0.017	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Fluoranthene	ug/l	0.0063	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Fluorene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Indeno(1,2,3-cd)pyrene	ug/l		No EQS			0	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Iodofenphos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Naphthalene	ug/l	2	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Phenol	ug/l	7.7	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Pyrene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	1,1,1,2-Tetrachloroethane	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	1,1,1-Trichloroethane	ug/l	100	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	1,1,2,2-Tetrachloroethane	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	1,1,2-Trichloroethane	ug/l	400	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	1,1-Dichloroethane	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	1,2-Dichloroethane	ug/l	10	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	1,2-Dimethylbenzene :- {o-Xylene}	ug/l		No EQS				No TL	

None > LOD	No Analyses	No Analyses	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,4,5-Trichlorophenol	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,4,6-Trichlorophenol	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,4-Dichlorophenol	ug/l	20	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,5-Dichlorophenol	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,6-Dichlorophenol	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	2-Chlorophenol	ug/l	50	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	2-Methylphenol :- {o-Cresol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	3-Chlorophenol	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	3-Methylphenol :- {m-Cresol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	4-Chlorophenol	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	4-Methylphenol :- {p-cresol}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Antimony	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Atrazine	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Azinphos-ethyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Azinphos-methyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Benazolin	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Bendiocarb	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Bentazone	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Bromodichloromethane	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Bromoform :- {Tribromomethane}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Bromoxynil	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Bupirimate	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	12	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Carbophenothion	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chlorfenvinphos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chlorobenzene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chlorodibromomethane	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chloroform :- {Trichloromethane}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chlorpyrifos-ethyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Chlorpyrifos-methyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Clopyralid	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Cobalt	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Coumaphos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Cyanazine	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Desmetryn	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Diazinon	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Dibenzo(a,h)Anthracene	ug/l		No EQS			0	No Analyses	#VALUE!
None > LOD	No Analyses	No Analyses	Dicamba	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Dichlorprop :- {2,4-DP}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Dichlorvos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Dimethoate	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Ethion	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Ethofumesate	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Ethyl tert-butyl ether :- {ETBE}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fenchlorphos :- {Ronnel}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fenitrothion	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fenoprop	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fenpropimorph	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fenthion	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fluoranthene	ug/l	0.0063	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Fluroxypyr	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Fonofos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Ioxynil	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Iprodione	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Irgarol 1051	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Malathion	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Metalaxyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Metazachlor	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Mevinphos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Molybdenum	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Napropamide	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Parathion-ethyl :- {Parathion}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Parathion-methyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Pentachlorophenol	ug/l	0.4	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Perylene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Phenanthrene	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Phenol	ug/l	7.7	No Analyses				No TL	
None > LOD	No Analyses	No Analyses	Phorate	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Picloram	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Pirimicarb	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Pirimiphos-ethyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Pirimiphos-methyl	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Prochloraz	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Prometryn	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Propazine	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Propetamphos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Propyzamide	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Silica, reactive as SiO2	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Styrene :- {Vinylbenzene}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Terbutryn	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	tert-Amyl methyl ether :- {TAME}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Tetrachloroethylene :- {Perchloroethylene}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Thallium : Total	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Triazophos	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Trichloroethylene :- {Trichloroethene}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Triclopyr	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Trietazine	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Trihalomethanes : Total :- {THM}	ug/l		No EQS				No TL	
None > LOD	No Analyses	No Analyses	Vinyl chloride :- {Chloroethylene}	ug/l		No EQS				No TL	

Additional Notes	Min	Max
	1.39	2.93
	6.73	11.7
	82.2	105.3
	7.65	8.07
	0.27	26.918
	1.2	2.1
	0.129	1.06
	0.043	0.255
	0.261	23.3
	0.094	14.2
	0.04	11.1
	0.01	0.713
	0.263	0.322
	0.0114	0.029
	0.33	71.7
	0.7	92.8

Annex F: Summary Statistics & Screening Assessment for NRW Surface Water Monitoring Dataset

	Surface Water Dataset Summary						
Location				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters	**General Parameters**						
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l	129	128	99.2%	93 - 345	185.638
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	189	149	78.8%	0.00009 - 0.0414	0.003
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	193	151	78.2%	0.03 - 5.97	0.398
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	96	92	95.8%	1 - 10.2	2.766
Calcium	Calcium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Calcium, Dissolved	Calcium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l	3	3	100.0%	16.7 - 41.6	27.733
Chloride	Chloride	mg/l	12	12	100.0%	16.8 - 59.1	35.067
Conductivity at 20 C	Conductivity at 20 C	uS/cm	27	27	100.0%	235 - 1460	448.074
Conductivity at 25 C	Conductivity at 25 C	uS/cm	130	130	100.0%	122 - 4382	596.705
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nitrate as N	Nitrate as N	mg/l	213	147	69.0%	0.168 - 166	2.194
Nitrite as N	Nitrite as N	mg/l	217	129	59.4%	0.004 - 0.165	0.022
Nitrogen, Total as N	Nitrogen, Total as N	mg/l	7	7	100.0%	1.12 - 3.85	1.793
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l	217	136	62.7%	0.2 - 166	2.399
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l	217	193	88.9%	0.02 - 1.21	0.273
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l	186	186	100.0%	1.1 - 17.5	8.181
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	190	190	100.0%	10.8 - 191.3	73.787
pH	pH	pH Units	218	218	100.0%	6.87 - 8.93	7.601
pH : In Situ	pH : In Situ	pH Units	0	0	None > LOD	No Analyses	No Analyses
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	18	18	100.0%	0.085 - 0.999	0.228
Salinity	Salinity	ppt	3	0	None > LOD	None > LOD	None > LOD
Salinity : In Situ	Salinity : In Situ	ppt	0	0	None > LOD	No Analyses	No Analyses
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l	12	8	66.7%	3.5 - 32	10.000
Sulphate as SO4	Sulphate as SO4	mg/l	0	0	None > LOD	No Analyses	No Analyses
Temperature of Water	Temperature of Water	degC	191	191	100.0%	1.3 - 20.8	11.411
Metals	**Metals**						
Aluminium	Aluminium	ug/l	3	3	100.0%	106 - 461	263.333
Aluminium, Dissolved	Aluminium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic	Arsenic	ug/l	3	3	100.0%	4.61 - 9.33	7.063
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium	Barium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium, Dissolved	Barium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron	Boron	ug/l	2	2	100.0%	197 - 230	213.500
Boron, Dissolved	Boron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium	Cadmium	ug/l	3	0	None > LOD	None > LOD	None > LOD
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium	Chromium	ug/l	3	3	100.0%	0.94 - 1.73	1.447
Chromium Hexavalent	Chromium Hexavalent	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium, Dissolved	Chromium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper	Copper	ug/l	3	3	100.0%	2.21 - 3.33	2.873
Copper, Dissolved	Copper, Dissolved	ug/l	66	55	83.3%	1.02 - 8.28	2.561
Iron	Iron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iron, Dissolved	Iron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead	Lead	ug/l	3	1	33.3%	2.24	2.240
Lead, Dissolved	Lead, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium	Lithium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium, Dissolved	Lithium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury	Mercury	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Mercury, Dissolved	Mercury, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel	Nickel	ug/l	3	3	100.0%	1.89 - 2.59	2.243
Nickel, Dissolved	Nickel, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium	Strontium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium, Filtered	Strontium, Filtered	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tin	Tin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Titanium	Titanium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Uranium	Uranium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vanadium	Vanadium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Zinc	Zinc	ug/l	69	53	76.8%	5.2 - 49	16.590
Zinc, Dissolved	Zinc, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
BTEX Compounds	**BTEX Compounds**						
Benzene	Benzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethylbenzene	Ethylbenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Other Organic Compounds	**Other Organic Compounds**						
Acenaphthene	Acenaphthene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Acenaphthylene	Acenaphthylene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l	2	1	50.0%	0.0206	0.021
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	2	2	100.0%	0.0123 - 0.0366	0.024
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	2	2	100.0%	0.0232 - 0.0621	0.043
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l	2	2	100.0%	0.0123 - 0.0377	0.025
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l	2	2	100.0%	0.0124 - 0.0386	0.026
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	2	1	50.0%	0.0251	0.025
Fluoranthene	Fluoranthene	ug/l	2	2	100.0%	0.0185 - 0.0333	0.026
Fluorene	Fluorene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l	2	2	100.0%	0.0125 - 0.0382	0.025
Iodofenphos	Iodofenphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Naphthalene	Naphthalene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pyrene	Pyrene	ug/l	2	2	100.0%	0.0152 - 0.0281	0.022
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethane	1,1-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses

	Surface Water Dataset Summary						
Location				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Chlorophenol	2-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Chlorophenol	3-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chlorophenol	4-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine	Atrazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-ethyl	Azinphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-methyl	Azinphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benazolin	Benazolin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bendiocarb	Bendiocarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bentazone	Bentazone	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromodichloromethane	Bromodichloromethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoxynil	Bromoxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bupirimate	Bupirimate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbophenothion	Carbophenothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorfenvinphos	Chlorfenvinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorobenzene	Chlorobenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorodibromomethane	Chlorodibromomethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Clopyralid	Clopyralid	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cobalt	Cobalt	ug/l	0	0	None > LOD	No Analyses	No Analyses
Coumaphos	Coumaphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cyanazine	Cyanazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Desmetryn	Desmetryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Diazinon	Diazinon	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l	2	1	50.0%	0.0174	0.017
Dicamba	Dicamba	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorvos	Dichlorvos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethoate	Dimethoate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethion	Ethion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethofumesate	Ethofumesate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenitrothion	Fenitrothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenoprop	Fenoprop	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenpropimorph	Fenpropimorph	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenthion	Fenthion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	Fluoranthene	ug/l	2	2	100.0%	0.0185 - 0.0333	0.026
Fluroxypyr	Fluroxypyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fonofos	Fonofos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ioxynil	Ioxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iprodione	Iprodione	ug/l	0	0	None > LOD	No Analyses	No Analyses
Irgarol 1051	Irgarol 1051	ug/l	0	0	None > LOD	No Analyses	No Analyses
Malathion	Malathion	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metalaxyl	Metalaxyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metazachlor	Metazachlor	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mevinphos	Mevinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Molybdenum	Molybdenum	ug/l	0	0	None > LOD	No Analyses	No Analyses
Napropamide	Napropamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-methyl	Parathion-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pentachlorophenol	Pentachlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Perylene	Perylene	ug/l	2	1	50.0%	0.0116	0.012
Phenanthrene	Phenanthrene	ug/l	2	0	None > LOD	None > LOD	None > LOD
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phorate	Phorate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Picloram	Picloram	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimicarb	Pirimicarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-methyl	Pirimiphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prochloraz	Prochloraz	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prometryn	Prometryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propazine	Propazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propetamphos	Propetamphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propyzamide	Propyzamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l	3	3	100.0%	2.06 - 6.01	4.443
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Terbutryn	Terbutryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Thallium : Total	Thallium : Total	ug/l	0	0	None > LOD	No Analyses	No Analyses
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triazophos	Triazophos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triclopyr	Triclopyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trietazine	Trietazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses

	Surface Water Data Screening										
Location				Analysis above EQS				Analyses Above CCW TL			
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min
General Parameters	**General Parameters**										
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l		No EQS				No TL			93
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	0.6	0	0.0%		1	0	0.00%		0.00009
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	0.6	0	0.0%		1	13	6.74%		0.03
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l		No EQS				No TL			
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	5	0	0.0%		18	0	0.00%		1
Calcium	Calcium	mg/l		No EQS			300000	No Analyses	#VALUE!		
Calcium, Dissolved	Calcium, Dissolved	mg/l		No EQS			300000	No Analyses	#VALUE!		
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l		No EQS				No TL			
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l		No EQS				No TL			16.7
Chloride	Chloride	mg/l	250	0	0.0%		300	0	0.00%		16.8
Conductivity at 20 C	Conductivity at 20 C	uS/cm		No EQS				No TL			235
Conductivity at 25 C	Conductivity at 25 C	uS/cm		No EQS				No TL			122
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l		No EQS				No TL			
Magnesium	Magnesium	mg/l		No EQS				No TL			
Magnesium, Dissolved	Magnesium, Dissolved	mg/l		No EQS				No TL			
Manganese	Manganese	ug/l	30	No Analyses				No TL			
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL			
Nitrate as N	Nitrate as N	mg/l		No EQS			1	73	34.27%		0.168
Nitrite as N	Nitrite as N	mg/l		No EQS			1	0	0.00%		0.004
Nitrogen, Total as N	Nitrogen, Total as N	mg/l		No EQS			2	2	28.57%		1.12
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l		No EQS			2	18	8.29%		0.2
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l		No EQS			1	3	1.38%		0.02
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l		No EQS				No TL			1.1
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	60	0				No TL			10.8
pH	pH	pH Units	6-9	0				No TL			6.87
pH : In Situ	pH : In Situ	pH Units	6-9	No Analyses			6.8-8.5	No Analyses	#VALUE!		
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	120	0				No TL			0.085
Salinity	Salinity	ppt		No EQS				No TL			
Salinity : In Situ	Salinity : In Situ	ppt		No EQS				No TL			
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l		No EQS				No TL			3.5
Sulphate as SO4	Sulphate as SO4	mg/l	400	No Analyses			300	No Analyses	#VALUE!		
Temperature of Water	Temperature of Water	degC		No EQS				No TL			1.3
Metals	**Metals**										
Aluminium	Aluminium	ug/l		No EQS				No TL			106
Aluminium, Dissolved	Aluminium, Dissolved	ug/l		No EQS				No TL			
Antimony	Antimony	ug/l		No EQS				No TL			
Arsenic	Arsenic	ug/l	50	0				No TL			4.61
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	50	No Analyses				No TL			
Barium	Barium	ug/l		No EQS				No TL			
Barium, Dissolved	Barium, Dissolved	ug/l		No EQS				No TL			
Boron	Boron	ug/l	2000	0				No TL			197
Boron, Dissolved	Boron, Dissolved	ug/l	2000	No Analyses				No TL			
Cadmium	Cadmium	ug/l	0.15	None > LOD			5	None > LOD	#VALUE!		
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg		No EQS				No TL			
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!		
Chromium	Chromium	ug/l		No EQS				No TL			0.94
Chromium Hexavalent	Chromium Hexavalent	ug/l	3.4	No Analyses				No TL			
Chromium, Dissolved	Chromium, Dissolved	ug/l		No EQS				No TL			
Copper	Copper	ug/l	10	0				No TL			2.21
Copper, Dissolved	Copper, Dissolved	ug/l	10	0				No TL			1.02
Iron	Iron	ug/l	1000	No Analyses				No TL			
Iron, Dissolved	Iron, Dissolved	ug/l	1000	No Analyses				No TL			
Lead	Lead	ug/l	1.2	0			250	0	0.00%		2.24
Lead, Dissolved	Lead, Dissolved	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!		
Lithium	Lithium	ug/l		No EQS				No TL			
Lithium, Dissolved	Lithium, Dissolved	ug/l		No EQS				No TL			
Magnesium	Magnesium	ug/l		No EQS				No TL			
Magnesium, Dissolved	Magnesium, Dissolved	ug/l		No EQS				No TL			
Manganese	Manganese	ug/l	30	No Analyses				No TL			
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL			
Mercury	Mercury	ug/l	0.07	No Analyses				No TL			
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0.07	No Analyses				No TL			
Mercury, Dissolved	Mercury, Dissolved	ug/l	0.07	No Analyses				No TL			
Nickel	Nickel	ug/l	4	0			100	0	0.00%		1.89
Nickel, Dissolved	Nickel, Dissolved	ug/l	4	No Analyses			100	No Analyses	#VALUE!		
Strontium	Strontium	ug/l		No EQS				No TL			
Strontium, Filtered	Strontium, Filtered	ug/l		No EQS				No TL			
Tin	Tin	ug/l		No EQS				No TL			
Titanium	Titanium	ug/l		No EQS				No TL			
Uranium	Uranium	ug/l		No EQS				No TL			
Vanadium	Vanadium	ug/l		No EQS				No TL			
Zinc	Zinc	ug/l	75	0			1000	0	0.00%		5.2
Zinc, Dissolved	Zinc, Dissolved	ug/l	75	No Analyses			1000	No Analyses	#VALUE!		
BTEX Compounds	**BTEX Compounds**										
Benzene	Benzene	ug/l	10	No Analyses				No TL			
Ethylbenzene	Ethylbenzene	ug/l	20	No Analyses				No TL			
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	50	No Analyses				No TL			
Other Organic Compounds	**Other Organic Compounds**										
Acenaphthene	Acenaphthene	ug/l		No EQS				No TL			
Acenaphthylene	Acenaphthylene	ug/l		No EQS				No TL			
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l		No EQS				No TL			0.0206
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	0.00017	0				No TL			0.0123
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	0.017	0				No TL			0.0232
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l		No EQS				No TL			0.0123
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l		No EQS				No TL			0.0124
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	0.017	0				No TL			0.0251
Fluoranthene	Fluoranthene	ug/l	0.0063	0				No TL			0.0185
Fluorene	Fluorene	ug/l		No EQS				No TL			
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l		No EQS			0	2	100.00%		0.0125
Iodofenphos	Iodofenphos	ug/l		No EQS				No TL			
Naphthalene	Naphthalene	ug/l	2	None > LOD				No TL			
Phenol	Phenol	ug/l	7.7	No Analyses				No TL			
Pyrene	Pyrene	ug/l		No EQS				No TL			0.0152
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l		No EQS				No TL			
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	100	No Analyses				No TL			
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l		No EQS				No TL			
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	400	No Analyses				No TL			
1,1-Dichloroethane	1,1-Dichloroethane	ug/l		No EQS				No TL			
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l		No EQS				No TL			
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	10	No Analyses				No TL			
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l		No EQS				No TL			
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l		No EQS				No TL			
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l		No EQS				No TL			
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l		No EQS				No TL			
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l		No EQS				No TL			
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l		No EQS				No TL			
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l		No EQS				No TL			
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l		No EQS				No TL			
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	20	No Analyses				No TL			

	Surface Water Data Screening										
Location				Analysis above EQS				Analyses Above CCW TL			
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l		No EQS				No TL			
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l		No EQS				No TL			
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l		No EQS				No TL			
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l		No EQS				No TL			
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l		No EQS				No TL			
2-Chlorophenol	2-Chlorophenol	ug/l	50	No Analyses				No TL			
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l		No EQS				No TL			
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l		No EQS				No TL			
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l		No EQS				No TL			
3-Chlorophenol	3-Chlorophenol	ug/l		No EQS				No TL			
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l		No EQS				No TL			
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l		No EQS				No TL			
4-Chlorophenol	4-Chlorophenol	ug/l		No EQS				No TL			
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l		No EQS				No TL			
Antimony	Antimony	ug/l		No EQS				No TL			
Atrazine	Atrazine	ug/l		No EQS				No TL			
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l		No EQS				No TL			
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l		No EQS				No TL			
Azinphos-ethyl	Azinphos-ethyl	ug/l		No EQS				No TL			
Azinphos-methyl	Azinphos-methyl	ug/l		No EQS				No TL			
Benazolin	Benazolin	ug/l		No EQS				No TL			
Bendiocarb	Bendiocarb	ug/l		No EQS				No TL			
Bentazone	Bentazone	ug/l		No EQS				No TL			
Bromodichloromethane	Bromodichloromethane	ug/l		No EQS				No TL			
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l		No EQS				No TL			
Bromoxynil	Bromoxynil	ug/l		No EQS				No TL			
Bupirimate	Bupirimate	ug/l		No EQS				No TL			
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	12	No Analyses				No TL			
Carbophenothion	Carbophenothion	ug/l		No EQS				No TL			
Chlorfenvinphos	Chlorfenvinphos	ug/l		No EQS				No TL			
Chlorobenzene	Chlorobenzene	ug/l		No EQS				No TL			
Chlorodibromomethane	Chlorodibromomethane	ug/l		No EQS				No TL			
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l		No EQS				No TL			
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l		No EQS				No TL			
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l		No EQS				No TL			
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l		No EQS				No TL			
Clopyralid	Clopyralid	ug/l		No EQS				No TL			
Cobalt	Cobalt	ug/l		No EQS				No TL			
Coumaphos	Coumaphos	ug/l		No EQS				No TL			
Cyanazine	Cyanazine	ug/l		No EQS				No TL			
Desmetryn	Desmetryn	ug/l		No EQS				No TL			
Diazinon	Diazinon	ug/l		No EQS				No TL			
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l		No EQS			0	1	50.00%		0.0174
Dicamba	Dicamba	ug/l		No EQS				No TL			
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l		No EQS				No TL			
Dichlorvos	Dichlorvos	ug/l		No EQS				No TL			
Dimethoate	Dimethoate	ug/l		No EQS				No TL			
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l		No EQS				No TL			
Ethion	Ethion	ug/l		No EQS				No TL			
Ethofumesate	Ethofumesate	ug/l		No EQS				No TL			
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l		No EQS				No TL			
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l		No EQS				No TL			
Fenitrothion	Fenitrothion	ug/l		No EQS				No TL			
Fenoprop	Fenoprop	ug/l		No EQS				No TL			
Fenpropimorph	Fenpropimorph	ug/l		No EQS				No TL			
Fenthion	Fenthion	ug/l		No EQS				No TL			
Fluoranthene	Fluoranthene	ug/l	0.0063	0				No TL			0.0185
Fluroxypyr	Fluroxypyr	ug/l		No EQS				No TL			
Fonofos	Fonofos	ug/l		No EQS				No TL			
Ioxynil	Ioxynil	ug/l		No EQS				No TL			
Iprodione	Iprodione	ug/l		No EQS				No TL			
Irgarol 1051	Irgarol 1051	ug/l		No EQS				No TL			
Malathion	Malathion	ug/l		No EQS				No TL			
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l		No EQS				No TL			
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l		No EQS				No TL			
Metalaxyl	Metalaxyl	ug/l		No EQS				No TL			
Metazachlor	Metazachlor	ug/l		No EQS				No TL			
Mevinphos	Mevinphos	ug/l		No EQS				No TL			
Molybdenum	Molybdenum	ug/l		No EQS				No TL			
Napropamide	Napropamide	ug/l		No EQS				No TL			
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l		No EQS				No TL			
Parathion-methyl	Parathion-methyl	ug/l		No EQS				No TL			
Pentachlorophenol	Pentachlorophenol	ug/l	0.4	No Analyses				No TL			
Perylene	Perylene	ug/l		No EQS				No TL			0.0116
Phenanthrene	Phenanthrene	ug/l		No EQS				No TL			
Phenol	Phenol	ug/l	7.7	No Analyses				No TL			
Phorate	Phorate	ug/l		No EQS				No TL			
Picloram	Picloram	ug/l		No EQS				No TL			
Pirimicarb	Pirimicarb	ug/l		No EQS				No TL			
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l		No EQS				No TL			
Pirimiphos-methyl	Pirimiphos-methyl	ug/l		No EQS				No TL			
Prochloraz	Prochloraz	ug/l		No EQS				No TL			
Prometryn	Prometryn	ug/l		No EQS				No TL			
Propazine	Propazine	ug/l		No EQS				No TL			
Propetamphos	Propetamphos	ug/l		No EQS				No TL			
Propyzamide	Propyzamide	ug/l		No EQS				No TL			
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l		No EQS				No TL			2.06
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l		No EQS				No TL			
Terbutryn	Terbutryn	ug/l		No EQS				No TL			
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l		No EQS				No TL			
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l		No EQS				No TL			
Thallium : Total	Thallium : Total	ug/l		No EQS				No TL			
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l		No EQS				No TL			
Triazophos	Triazophos	ug/l		No EQS				No TL			
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l		No EQS				No TL			
Triclopyr	Triclopyr	ug/l		No EQS				No TL			
Trietazine	Trietazine	ug/l		No EQS				No TL			
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l		No EQS				No TL			
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l		No EQS				No TL			

Location	
Date	Max
General Parameters	
Alkalinity to pH 4.5 as CaCO3	345
Ammonia un-ionised as N	0.0414
Ammoniacal Nitrogen as N	5.97
Bicarbonate as HCO3	
BOD : 5 Day ATU	10.2
Calcium	
Calcium, Dissolved	
Carbon, Organic, Dissolved as C :- {DOC}	
Chemical Oxygen Demand :- {COD}	41.6
Chloride	59.1
Conductivity at 20 C	1460
Conductivity at 25 C	4382
Hardness, Total as CaCO3	
Magnesium	
Magnesium, Dissolved	
Manganese	
Manganese, Dissolved	
Nitrate as N	166
Nitrite as N	0.165
Nitrogen, Total as N	3.85
Nitrogen, Total Oxidised as N	166
Orthophosphate, reactive as P	1.21
Oxygen, Dissolved as O2	17.5
Oxygen, Dissolved, % Saturation	191.3
pH	8.93
pH : In Situ	
Phosphorus, Total as P	0.999
Salinity	
Salinity : In Situ	
Solids, Suspended at 105 C	32
Sulphate as SO4	
Temperature of Water	20.8
Metals	
Aluminium	461
Aluminium, Dissolved	
Antimony	
Arsenic	9.33
Arsenic, Dissolved	
Barium	
Barium, Dissolved	
Boron	230
Boron, Dissolved	
Cadmium	
Cadmium : Dry Wt	
Cadmium, Dissolved	
Chromium	1.73
Chromium Hexavalent	
Chromium, Dissolved	
Copper	3.33
Copper, Dissolved	8.28
Iron	
Iron, Dissolved	
Lead	2.24
Lead, Dissolved	
Lithium	
Lithium, Dissolved	
Magnesium	
Magnesium, Dissolved	
Manganese	
Manganese, Dissolved	
Mercury	
Mercury : Dry Wt	
Mercury, Dissolved	
Nickel	2.59
Nickel, Dissolved	
Strontium	
Strontium, Filtered	
Tin	
Titanium	
Uranium	
Vanadium	
Zinc	49
Zinc, Dissolved	
BTEX Compounds	
Benzene	
Ethylbenzene	
Toluene :- {Methylbenzene}	
Other Organic Compounds	
Acenaphthene	
Acenaphthylene	
Benzo(a)Anthracene	0.0206
Benzo(a)Pyrene	0.0366
Benzo(b)Fluoranthene	0.0621
Benzo(e)Pyrene	0.0377
Benzo(g,h,i)Perylene	0.0386
Benzo(k)Fluoranthene	0.0251
Fluoranthene	0.0333
Fluorene	
Indeno(1,2,3-cd)pyrene	0.0382
Iodofenphos	
Naphthalene	
Phenol	
Pyrene	0.0281
1,1,1,2-Tetrachloroethane	
1,1,1-Trichloroethane	
1,1,2,2-Tetrachloroethane	
1,1,2-Trichloroethane	
1,1-Dichloroethane	
1,1-Dichloroethylene :- {1,1-Dichloroethene}	
1,2-Dichloroethane	
1,2-Dimethylbenzene :- {o-Xylene}	
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	
2,3-Dimethylphenol :- {2,3-Xylenol}	
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	
2,4,5-Trichlorophenol	
2,4,6-Trichlorophenol	
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	
2,4-Dichlorophenol	

Location	
Date	Max
2,4-Dimethylphenol :- {2,4-Xylenol}	
2,5-Dichlorophenol	
2,5-Dimethylphenol :- {2,5-Xylenol}	
2,6-Dichlorophenol	
2,6-Dimethylphenol :- {2,6-Xylenol}	
2-Chlorophenol	
2-Methylphenol :- {o-Cresol}	
3,4-Dimethylphenol :- {3,4-Xylenol}	
3,5-Dimethylphenol :- {3,5-Xylenol}	
3-Chlorophenol	
3-Methylphenol :- {m-Cresol}	
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	
4-Chlorophenol	
4-Methylphenol :- {p-cresol}	
Antimony	
Atrazine	
Atrazine-desethyl :- {Atrazine-de-ethyl}	
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	
Azinphos-ethyl	
Azinphos-methyl	
Benazolin	
Bendiocarb	
Bentazone	
Bromodichloromethane	
Bromoform :- {Tribromomethane}	
Bromoxynil	
Bupirimate	
Carbon tetrachloride :- {Tetrachloromethane}	
Carbophenothion	
Chlorfenvinphos	
Chlorobenzene	
Chlorodibromomethane	
Chloroform :- {Trichloromethane}	
Chlorpyrifos-ethyl	
Chlorpyrifos-methyl	
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	
Clopyralid	
Cobalt	
Coumaphos	
Cyanazine	
Desmetryn	
Diazinon	
Dibenzo(a,h)Anthracene	0.0174
Dicamba	
Dichlorprop :- {2,4-DP}	
Dichlorvos	
Dimethoate	
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	
Ethion	
Ethofumesate	
Ethyl tert-butyl ether :- {ETBE}	
Fenchlorphos :- {Ronnel}	
Fenitrothion	
Fenoprop	
Fenpropimorph	
Fenthion	
Fluoranthene	0.0333
Fluroxypyr	
Fonofos	
Ioxynil	
Iprodione	
Irgarol 1051	
Malathion	
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	
Metalaxyl	
Metazachlor	
Mevinphos	
Molybdenum	
Napropamide	
Parathion-ethyl :- {Parathion}	
Parathion-methyl	
Pentachlorophenol	
Perylene	0.0116
Phenanthrene	
Phenol	
Phorate	
Picloram	
Pirimicarb	
Pirimiphos-ethyl	
Pirimiphos-methyl	
Prochloraz	
Prometryn	
Propazine	
Propetamphos	
Propyzamide	
Silica, reactive as SiO2	6.01
Styrene :- {Vinylbenzene}	
Terbutryn	
tert-Amyl methyl ether :- {TAME}	
Tetrachloroethylene :- {Perchloroethylene}	
Thallium : Total	
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	
Triazophos	
Trichloroethylene :- {Trichloroethene}	
Triclopyr	
Trietazine	
Trihalomethanes : Total :- {THM}	
Vinyl chloride :- {Chloroethylene}	

	Surface Water Dataset Summary						
Location				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters	**General Parameters**						
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l	99	99	100.0%	85.6 - 334	160.389
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	196	130	66.3%	0.00014 - 0.0246	0.002
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	197	131	66.5%	0.03 - 2.61	0.127
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	134	94	70.1%	0.8 - 12.7	2.229
Calcium	Calcium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Calcium, Dissolved	Calcium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chloride	Chloride	mg/l	0	0	None > LOD	No Analyses	No Analyses
Conductivity at 20 C	Conductivity at 20 C	uS/cm	6	6	100.0%	370 - 547	429.333
Conductivity at 25 C	Conductivity at 25 C	uS/cm	94	94	100.0%	106 - 693	431.243
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nitrate as N	Nitrate as N	mg/l	196	195	99.5%	0.184 - 6.05	2.785
Nitrite as N	Nitrite as N	mg/l	197	190	96.4%	0.004 - 0.128	0.023
Nitrogen, Total as N	Nitrogen, Total as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l	197	195	99.0%	0.23 - 6.06	2.819
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l	197	190	96.4%	0.021 - 0.44	0.081
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l	198	198	100.0%	2.45 - 17	10.514
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	199	199	100.0%	24.6 - 172.4	95.304
pH	pH	pH Units	199	199	100.0%	7.25 - 8.94	7.931
pH : In Situ	pH : In Situ	pH Units	0	0	None > LOD	No Analyses	No Analyses
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	0	0	None > LOD	No Analyses	No Analyses
Salinity	Salinity	ppt	0	0	None > LOD	No Analyses	No Analyses
Salinity : In Situ	Salinity : In Situ	ppt	0	0	None > LOD	No Analyses	No Analyses
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l	0	0	None > LOD	No Analyses	No Analyses
Sulphate as SO4	Sulphate as SO4	mg/l	0	0	None > LOD	No Analyses	No Analyses
Temperature of Water	Temperature of Water	degC	199	199	100.0%	3.64 - 22.2	11.267
Metals	**Metals**						
Aluminium	Aluminium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Aluminium, Dissolved	Aluminium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic	Arsenic	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium	Barium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium, Dissolved	Barium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron	Boron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron, Dissolved	Boron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium	Cadmium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium	Chromium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium Hexavalent	Chromium Hexavalent	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium, Dissolved	Chromium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper	Copper	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper, Dissolved	Copper, Dissolved	ug/l	135	93	68.9%	1.01 - 7.08	2.207
Iron	Iron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iron, Dissolved	Iron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead	Lead	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead, Dissolved	Lead, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium	Lithium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium, Dissolved	Lithium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	Magnesium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	Magnesium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury	Mercury	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0	0	None > LOD	No Analyses	No Analyses
Mercury, Dissolved	Mercury, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel	Nickel	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel, Dissolved	Nickel, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium	Strontium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium, Filtered	Strontium, Filtered	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tin	Tin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Titanium	Titanium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Uranium	Uranium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vanadium	Vanadium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Zinc	Zinc	ug/l	135	103	76.3%	2.79 - 137	15.766
Zinc, Dissolved	Zinc, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
BTEX Compounds	**BTEX Compounds**						
Benzene	Benzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethylbenzene	Ethylbenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Other Organic Compounds	**Other Organic Compounds**						
Acenaphthene	Acenaphthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Acenaphthylene	Acenaphthylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluorene	Fluorene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iodofenphos	Iodofenphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Naphthalene	Naphthalene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pyrene	Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethane	1,1-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses

Location				Analyses Above LOD		Concentration	
Date	Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters	General Parameters						
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Chlorophenol	2-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Chlorophenol	3-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chlorophenol	4-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine	Atrazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-ethyl	Azinphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-methyl	Azinphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benazolin	Benazolin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bendiocarb	Bendiocarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bentazone	Bentazone	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromodichloromethane	Bromodichloromethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoxynil	Bromoxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bupirimate	Bupirimate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbophenothion	Carbophenothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorfenvinphos	Chlorfenvinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorobenzene	Chlorobenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorodibromomethane	Chlorodibromomethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Clopyralid	Clopyralid	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cobalt	Cobalt	ug/l	0	0	None > LOD	No Analyses	No Analyses
Coumaphos	Coumaphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cyanazine	Cyanazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Desmetryn	Desmetryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Diazinon	Diazinon	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dicamba	Dicamba	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorvos	Dichlorvos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethoate	Dimethoate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethion	Ethion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethofumesate	Ethofumesate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenitrothion	Fenitrothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenoprop	Fenoprop	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenpropimorph	Fenpropimorph	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenthion	Fenthion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluroxypyr	Fluroxypyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fonofos	Fonofos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ioxynil	Ioxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iprodione	Iprodione	ug/l	0	0	None > LOD	No Analyses	No Analyses
Irgarol 1051	Irgarol 1051	ug/l	0	0	None > LOD	No Analyses	No Analyses
Malathion	Malathion	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metalaxyl	Metalaxyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metazachlor	Metazachlor	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mevinphos	Mevinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Molybdenum	Molybdenum	ug/l	0	0	None > LOD	No Analyses	No Analyses
Napropamide	Napropamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-methyl	Parathion-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pentachlorophenol	Pentachlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Perylene	Perylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenanthrene	Phenanthrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenol	Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phorate	Phorate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Picloram	Picloram	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimicarb	Pirimicarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-methyl	Pirimiphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prochloraz	Prochloraz	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prometryn	Prometryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propazine	Propazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propetamphos	Propetamphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propyzamide	Propyzamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l	0	0	None > LOD	No Analyses	No Analyses
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Terbutryn	Terbutryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Thallium : Total	Thallium : Total	ug/l	0	0	None > LOD	No Analyses	No Analyses
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triazophos	Triazophos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triclopyr	Triclopyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trietazine	Trietazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses

	Surface Water Data Screening									
Location				Analysis above EQS				Analyses Above CCW TL		
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes
General Parameters	**General Parameters**									
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3	mg/l		No EQS				No TL		
Ammonia un-ionised as N	Ammonia un-ionised as N	mg/l	0.6	0	0.0%		1	0	0.00%	
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N	mg/l	0.6	0	0.0%		1	1	0.51%	
Bicarbonate as HCO3	Bicarbonate as HCO3	mg/l		No EQS				No TL		
BOD : 5 Day ATU	BOD : 5 Day ATU	mg/l	5	0	0.0%		18	0	0.00%	
Calcium	Calcium	mg/l		No EQS			300000	No Analyses	#VALUE!	
Calcium, Dissolved	Calcium, Dissolved	mg/l		No EQS			300000	No Analyses	#VALUE!	
Carbon, Organic, Dissolved as C :- {DOC}	Carbon, Organic, Dissolved as C :- {DOC}	mg/l		No EQS				No TL		
Chemical Oxygen Demand :- {COD}	Chemical Oxygen Demand :- {COD}	mg/l		No EQS				No TL		
Chloride	Chloride	mg/l	250	No Analyses	#VALUE!		300	No Analyses	#VALUE!	
Conductivity at 20 C	Conductivity at 20 C	uS/cm		No EQS				No TL		
Conductivity at 25 C	Conductivity at 25 C	uS/cm		No EQS				No TL		
Hardness, Total as CaCO3	Hardness, Total as CaCO3	mg/l		No EQS				No TL		
Magnesium	Magnesium	mg/l		No EQS				No TL		
Magnesium, Dissolved	Magnesium, Dissolved	mg/l		No EQS				No TL		
Manganese	Manganese	ug/l	30	No Analyses				No TL		
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL		
Nitrate as N	Nitrate as N	mg/l		No EQS			1	185	94.39%	
Nitrite as N	Nitrite as N	mg/l		No EQS			1	0	0.00%	
Nitrogen, Total as N	Nitrogen, Total as N	mg/l		No EQS			2	No Analyses	#VALUE!	
Nitrogen, Total Oxidised as N	Nitrogen, Total Oxidised as N	mg/l		No EQS			2	166	84.26%	
Orthophosphate, reactive as P	Orthophosphate, reactive as P	mg/l		No EQS			1	0	0.00%	
Oxygen, Dissolved as O2	Oxygen, Dissolved as O2	mg/l		No EQS				No TL		
Oxygen, Dissolved, % Saturation	Oxygen, Dissolved, % Saturation	%	60	0				No TL		
pH	pH	pH Units	6-9	0				No TL		
pH : In Situ	pH : In Situ	pH Units	6-9	No Analyses			6.8-8.5	No Analyses	#VALUE!	
Phosphorus, Total as P	Phosphorus, Total as P	mg/l	120	No Analyses				No TL		
Salinity	Salinity	ppt		No EQS				No TL		
Salinity : In Situ	Salinity : In Situ	ppt		No EQS				No TL		
Solids, Suspended at 105 C	Solids, Suspended at 105 C	mg/l		No EQS				No TL		
Sulphate as SO4	Sulphate as SO4	mg/l	400	No Analyses			300	No Analyses	#VALUE!	
Temperature of Water	Temperature of Water	degC		No EQS				No TL		
Metals	**Metals**									
Aluminium	Aluminium	ug/l		No EQS				No TL		
Aluminium, Dissolved	Aluminium, Dissolved	ug/l		No EQS				No TL		
Antimony	Antimony	ug/l		No EQS				No TL		
Arsenic	Arsenic	ug/l	50	No Analyses				No TL		
Arsenic, Dissolved	Arsenic, Dissolved	ug/l	50	No Analyses				No TL		
Barium	Barium	ug/l		No EQS				No TL		
Barium, Dissolved	Barium, Dissolved	ug/l		No EQS				No TL		
Boron	Boron	ug/l	2000	No Analyses				No TL		
Boron, Dissolved	Boron, Dissolved	ug/l	2000	No Analyses				No TL		
Cadmium	Cadmium	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!	
Cadmium : Dry Wt	Cadmium : Dry Wt	mg/kg		No EQS				No TL		
Cadmium, Dissolved	Cadmium, Dissolved	ug/l	0.15	No Analyses			5	No Analyses	#VALUE!	
Chromium	Chromium	ug/l		No EQS				No TL		
Chromium Hexavalent	Chromium Hexavalent	ug/l	3.4	No Analyses				No TL		
Chromium, Dissolved	Chromium, Dissolved	ug/l		No EQS				No TL		
Copper	Copper	ug/l	10	No Analyses				No TL		
Copper, Dissolved	Copper, Dissolved	ug/l	10	0				No TL		
Iron	Iron	ug/l	1000	No Analyses				No TL		
Iron, Dissolved	Iron, Dissolved	ug/l	1000	No Analyses				No TL		
Lead	Lead	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!	
Lead, Dissolved	Lead, Dissolved	ug/l	1.2	No Analyses			250	No Analyses	#VALUE!	
Lithium	Lithium	ug/l		No EQS				No TL		
Lithium, Dissolved	Lithium, Dissolved	ug/l		No EQS				No TL		
Magnesium	Magnesium	ug/l		No EQS				No TL		
Magnesium, Dissolved	Magnesium, Dissolved	ug/l		No EQS				No TL		
Manganese	Manganese	ug/l	30	No Analyses				No TL		
Manganese, Dissolved	Manganese, Dissolved	ug/l	30	No Analyses				No TL		
Mercury	Mercury	ug/l	0.07	No Analyses				No TL		
Mercury : Dry Wt	Mercury : Dry Wt	mg/kg	0.07	No Analyses				No TL		
Mercury, Dissolved	Mercury, Dissolved	ug/l	0.07	No Analyses				No TL		
Nickel	Nickel	ug/l	4	No Analyses			100	No Analyses	#VALUE!	
Nickel, Dissolved	Nickel, Dissolved	ug/l	4	No Analyses			100	No Analyses	#VALUE!	
Strontium	Strontium	ug/l		No EQS				No TL		
Strontium, Filtered	Strontium, Filtered	ug/l		No EQS				No TL		
Tin	Tin	ug/l		No EQS				No TL		
Titanium	Titanium	ug/l		No EQS				No TL		
Uranium	Uranium	ug/l		No EQS				No TL		
Vanadium	Vanadium	ug/l		No EQS				No TL		
Zinc	Zinc	ug/l	75	0			1000	0	0.00%	
Zinc, Dissolved	Zinc, Dissolved	ug/l	75	No Analyses			1000	No Analyses	#VALUE!	
BTEX Compounds	**BTEX Compounds**									
Benzene	Benzene	ug/l	10	No Analyses				No TL		
Ethylbenzene	Ethylbenzene	ug/l	20	No Analyses				No TL		
Toluene :- {Methylbenzene}	Toluene :- {Methylbenzene}	ug/l	50	No Analyses				No TL		
Other Organic Compounds	**Other Organic Compounds**									
Acenaphthene	Acenaphthene	ug/l		No EQS				No TL		
Acenaphthylene	Acenaphthylene	ug/l		No EQS				No TL		
Benzo(a)Anthracene	Benzo(a)Anthracene	ug/l		No EQS				No TL		
Benzo(a)Pyrene	Benzo(a)Pyrene	ug/l	0.00017	No Analyses				No TL		
Benzo(b)Fluoranthene	Benzo(b)Fluoranthene	ug/l	0.017	No Analyses				No TL		
Benzo(e)Pyrene	Benzo(e)Pyrene	ug/l		No EQS				No TL		
Benzo(g,h,i)Perylene	Benzo(g,h,i)Perylene	ug/l		No EQS				No TL		
Benzo(k)Fluoranthene	Benzo(k)Fluoranthene	ug/l	0.017	No Analyses				No TL		
Fluoranthene	Fluoranthene	ug/l	0.0063	No Analyses				No TL		
Fluorene	Fluorene	ug/l		No EQS				No TL		
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	ug/l		No EQS			0	No Analyses	#VALUE!	
Iodofenphos	Iodofenphos	ug/l		No EQS				No TL		
Naphthalene	Naphthalene	ug/l	2	No Analyses				No TL		
Phenol	Phenol	ug/l	7.7	No Analyses				No TL		
Pyrene	Pyrene	ug/l		No EQS				No TL		
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	ug/l		No EQS				No TL		
1,1,1-Trichloroethane	1,1,1-Trichloroethane	ug/l	100	No Analyses				No TL		
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	ug/l		No EQS				No TL		
1,1,2-Trichloroethane	1,1,2-Trichloroethane	ug/l	400	No Analyses				No TL		
1,1-Dichloroethane	1,1-Dichloroethane	ug/l		No EQS				No TL		
1,1-Dichloroethylene :- {1,1-Dichloroethene}	1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l		No EQS				No TL		
1,2-Dichloroethane	1,2-Dichloroethane	ug/l	10	No Analyses				No TL		
1,2-Dimethylbenzene :- {o-Xylene}	1,2-Dimethylbenzene :- {o-Xylene}	ug/l		No EQS				No TL		
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l		No EQS				No TL		
2,3-Dimethylphenol :- {2,3-Xylenol}	2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l		No EQS				No TL		
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l		No EQS				No TL		
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	ug/l		No EQS				No TL		
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	ug/l		No EQS				No TL		
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l		No EQS				No TL		

Location				Analysis above EQS				Analyses Above CCW TL		
Date	Parameter	Unit	EQS	No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes
General Parameters	General Parameters									
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l		No EQS				No TL		
2,4-Dichlorophenol	2,4-Dichlorophenol	ug/l	20	No Analyses				No TL		
2,4-Dimethylphenol :- {2,4-Xylenol}	2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l		No EQS				No TL		
2,5-Dichlorophenol	2,5-Dichlorophenol	ug/l		No EQS				No TL		
2,5-Dimethylphenol :- {2,5-Xylenol}	2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l		No EQS				No TL		
2,6-Dichlorophenol	2,6-Dichlorophenol	ug/l		No EQS				No TL		
2,6-Dimethylphenol :- {2,6-Xylenol}	2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l		No EQS				No TL		
2-Chlorophenol	2-Chlorophenol	ug/l	50	No Analyses				No TL		
2-Methylphenol :- {o-Cresol}	2-Methylphenol :- {o-Cresol}	ug/l		No EQS				No TL		
3,4-Dimethylphenol :- {3,4-Xylenol}	3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l		No EQS				No TL		
3,5-Dimethylphenol :- {3,5-Xylenol}	3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l		No EQS				No TL		
3-Chlorophenol	3-Chlorophenol	ug/l		No EQS				No TL		
3-Methylphenol :- {m-Cresol}	3-Methylphenol :- {m-Cresol}	ug/l		No EQS				No TL		
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l		No EQS				No TL		
4-Chlorophenol	4-Chlorophenol	ug/l		No EQS				No TL		
4-Methylphenol :- {p-cresol}	4-Methylphenol :- {p-cresol}	ug/l		No EQS				No TL		
Antimony	Antimony	ug/l		No EQS				No TL		
Atrazine	Atrazine	ug/l		No EQS				No TL		
Atrazine-desethyl :- {Atrazine-de-ethyl}	Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l		No EQS				No TL		
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l		No EQS				No TL		
Azinphos-ethyl	Azinphos-ethyl	ug/l		No EQS				No TL		
Azinphos-methyl	Azinphos-methyl	ug/l		No EQS				No TL		
Benazolin	Benazolin	ug/l		No EQS				No TL		
Bendiocarb	Bendiocarb	ug/l		No EQS				No TL		
Bentazone	Bentazone	ug/l		No EQS				No TL		
Bromodichloromethane	Bromodichloromethane	ug/l		No EQS				No TL		
Bromoform :- {Tribromomethane}	Bromoform :- {Tribromomethane}	ug/l		No EQS				No TL		
Bromoxynil	Bromoxynil	ug/l		No EQS				No TL		
Bupirimate	Bupirimate	ug/l		No EQS				No TL		
Carbon tetrachloride :- {Tetrachloromethane}	Carbon tetrachloride :- {Tetrachloromethane}	ug/l	12	No Analyses				No TL		
Carbophenothion	Carbophenothion	ug/l		No EQS				No TL		
Chlorfenvinphos	Chlorfenvinphos	ug/l		No EQS				No TL		
Chlorobenzene	Chlorobenzene	ug/l		No EQS				No TL		
Chlorodibromomethane	Chlorodibromomethane	ug/l		No EQS				No TL		
Chloroform :- {Trichloromethane}	Chloroform :- {Trichloromethane}	ug/l		No EQS				No TL		
Chlorpyrifos-ethyl	Chlorpyrifos-ethyl	ug/l		No EQS				No TL		
Chlorpyrifos-methyl	Chlorpyrifos-methyl	ug/l		No EQS				No TL		
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l		No EQS				No TL		
Clopyralid	Clopyralid	ug/l		No EQS				No TL		
Cobalt	Cobalt	ug/l		No EQS				No TL		
Coumaphos	Coumaphos	ug/l		No EQS				No TL		
Cyanazine	Cyanazine	ug/l		No EQS				No TL		
Desmetryn	Desmetryn	ug/l		No EQS				No TL		
Diazinon	Diazinon	ug/l		No EQS				No TL		
Dibenzo(a,h)Anthracene	Dibenzo(a,h)Anthracene	ug/l		No EQS			0	No Analyses	#VALUE!	
Dicamba	Dicamba	ug/l		No EQS				No TL		
Dichlorprop :- {2,4-DP}	Dichlorprop :- {2,4-DP}	ug/l		No EQS				No TL		
Dichlorvos	Dichlorvos	ug/l		No EQS				No TL		
Dimethoate	Dimethoate	ug/l		No EQS				No TL		
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l		No EQS				No TL		
Ethion	Ethion	ug/l		No EQS				No TL		
Ethofumesate	Ethofumesate	ug/l		No EQS				No TL		
Ethyl tert-butyl ether :- {ETBE}	Ethyl tert-butyl ether :- {ETBE}	ug/l		No EQS				No TL		
Fenchlorphos :- {Ronnel}	Fenchlorphos :- {Ronnel}	ug/l		No EQS				No TL		
Fenitrothion	Fenitrothion	ug/l		No EQS				No TL		
Fenoprop	Fenoprop	ug/l		No EQS				No TL		
Fenpropimorph	Fenpropimorph	ug/l		No EQS				No TL		
Fenthion	Fenthion	ug/l		No EQS				No TL		
Fluoranthene	Fluoranthene	ug/l	0.0063	No Analyses				No TL		
Fluroxypyr	Fluroxypyr	ug/l		No EQS				No TL		
Fonofos	Fonofos	ug/l		No EQS				No TL		
Ioxynil	Ioxynil	ug/l		No EQS				No TL		
Iprodione	Iprodione	ug/l		No EQS				No TL		
Irgarol 1051	Irgarol 1051	ug/l		No EQS				No TL		
Malathion	Malathion	ug/l		No EQS				No TL		
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l		No EQS				No TL		
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l		No EQS				No TL		
Metalaxyl	Metalaxyl	ug/l		No EQS				No TL		
Metazachlor	Metazachlor	ug/l		No EQS				No TL		
Mevinphos	Mevinphos	ug/l		No EQS				No TL		
Molybdenum	Molybdenum	ug/l		No EQS				No TL		
Napropamide	Napropamide	ug/l		No EQS				No TL		
Parathion-ethyl :- {Parathion}	Parathion-ethyl :- {Parathion}	ug/l		No EQS				No TL		
Parathion-methyl	Parathion-methyl	ug/l		No EQS				No TL		
Pentachlorophenol	Pentachlorophenol	ug/l	0.4	No Analyses				No TL		
Perylene	Perylene	ug/l		No EQS				No TL		
Phenanthrene	Phenanthrene	ug/l		No EQS				No TL		
Phenol	Phenol	ug/l	7.7	No Analyses				No TL		
Phorate	Phorate	ug/l		No EQS				No TL		
Picloram	Picloram	ug/l		No EQS				No TL		
Pirimicarb	Pirimicarb	ug/l		No EQS				No TL		
Pirimiphos-ethyl	Pirimiphos-ethyl	ug/l		No EQS				No TL		
Pirimiphos-methyl	Pirimiphos-methyl	ug/l		No EQS				No TL		
Prochloraz	Prochloraz	ug/l		No EQS				No TL		
Prometryn	Prometryn	ug/l		No EQS				No TL		
Propazine	Propazine	ug/l		No EQS				No TL		
Propetamphos	Propetamphos	ug/l		No EQS				No TL		
Propyzamide	Propyzamide	ug/l		No EQS				No TL		
Silica, reactive as SiO2	Silica, reactive as SiO2	ug/l		No EQS				No TL		
Styrene :- {Vinylbenzene}	Styrene :- {Vinylbenzene}	ug/l		No EQS				No TL		
Terbutryn	Terbutryn	ug/l		No EQS				No TL		
tert-Amyl methyl ether :- {TAME}	tert-Amyl methyl ether :- {TAME}	ug/l		No EQS				No TL		
Tetrachloroethylene :- {Perchloroethylene}	Tetrachloroethylene :- {Perchloroethylene}	ug/l		No EQS				No TL		
Thallium : Total	Thallium : Total	ug/l		No EQS				No TL		
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l		No EQS				No TL		
Triazophos	Triazophos	ug/l		No EQS				No TL		
Trichloroethylene :- {Trichloroethene}	Trichloroethylene :- {Trichloroethene}	ug/l		No EQS				No TL		
Triclopyr	Triclopyr	ug/l		No EQS				No TL		
Trietazine	Trietazine	ug/l		No EQS				No TL		
Trihalomethanes : Total :- {THM}	Trihalomethanes : Total :- {THM}	ug/l		No EQS				No TL		
Vinyl chloride :- {Chloroethylene}	Vinyl chloride :- {Chloroethylene}	ug/l		No EQS				No TL		

Location		
Date	Min	Max
General Parameters		
Alkalinity to pH 4.5 as CaCO3	85.6	334
Ammonia un-ionised as N	0.00014	0.0246
Ammoniacal Nitrogen as N	0.03	2.61
Bicarbonate as HCO3		
BOD : 5 Day ATU	0.8	12.7
Calcium		
Calcium, Dissolved		
Carbon, Organic, Dissolved as C :- {DOC}		
Chemical Oxygen Demand :- {COD}		
Chloride		
Conductivity at 20 C	370	547
Conductivity at 25 C	106	693
Hardness, Total as CaCO3		
Magnesium		
Magnesium, Dissolved		
Manganese		
Manganese, Dissolved		
Nitrate as N	0.184	6.05
Nitrite as N	0.004	0.128
Nitrogen, Total as N		
Nitrogen, Total Oxidised as N	0.23	6.06
Orthophosphate, reactive as P	0.021	0.44
Oxygen, Dissolved as O2	2.45	17
Oxygen, Dissolved, % Saturation	24.6	172.4
pH	7.25	8.94
pH : In Situ		
Phosphorus, Total as P		
Salinity		
Salinity : In Situ		
Solids, Suspended at 105 C		
Sulphate as SO4		
Temperature of Water	3.64	22.2
Metals		
Aluminium		
Aluminium, Dissolved		
Antimony		
Arsenic		
Arsenic, Dissolved		
Barium		
Barium, Dissolved		
Boron		
Boron, Dissolved		
Cadmium		
Cadmium : Dry Wt		
Cadmium, Dissolved		
Chromium		
Chromium Hexavalent		
Chromium, Dissolved		
Copper		
Copper, Dissolved	1.01	7.08
Iron		
Iron, Dissolved		
Lead		
Lead, Dissolved		
Lithium		
Lithium, Dissolved		
Magnesium		
Magnesium, Dissolved		
Manganese		
Manganese, Dissolved		
Mercury		
Mercury : Dry Wt		
Mercury, Dissolved		
Nickel		
Nickel, Dissolved		
Strontium		
Strontium, Filtered		
Tin		
Titanium		
Uranium		
Vanadium		
Zinc	2.79	137
Zinc, Dissolved		
BTEX Compounds		
Benzene		
Ethylbenzene		
Toluene :- {Methylbenzene}		
Other Organic Compounds		
Acenaphthene		
Acenaphthylene		
Benzo(a)Anthracene		
Benzo(a)Pyrene		
Benzo(b)Fluoranthene		
Benzo(e)Pyrene		
Benzo(g,h,i)Perylene		
Benzo(k)Fluoranthene		
Fluoranthene		
Fluorene		
Indeno(1,2,3-cd)pyrene		
Iodofenphos		
Naphthalene		
Phenol		
Pyrene		
1,1,1,2-Tetrachloroethane		
1,1,1-Trichloroethane		
1,1,2,2-Tetrachloroethane		
1,1,2-Trichloroethane		
1,1-Dichloroethane		
1,1-Dichloroethylene :- {1,1-Dichloroethene}		
1,2-Dichloroethane		
1,2-Dimethylbenzene :- {o-Xylene}		
2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}		
2,3-Dimethylphenol :- {2,3-Xylenol}		
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}		
2,4,5-Trichlorophenol		
2,4,6-Trichlorophenol		
2,4-D :- {2,4-Dichlorophenoxyacetic acid}		

Location		
Date	Min	Max
General Parameters		
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}		
2,4-Dichlorophenol		
2,4-Dimethylphenol :- {2,4-Xylenol}		
2,5-Dichlorophenol		
2,5-Dimethylphenol :- {2,5-Xylenol}		
2,6-Dichlorophenol		
2,6-Dimethylphenol :- {2,6-Xylenol}		
2-Chlorophenol		
2-Methylphenol :- {o-Cresol}		
3,4-Dimethylphenol :- {3,4-Xylenol}		
3,5-Dimethylphenol :- {3,5-Xylenol}		
3-Chlorophenol		
3-Methylphenol :- {m-Cresol}		
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}		
4-Chlorophenol		
4-Methylphenol :- {p-cresol}		
Antimony		
Atrazine		
Atrazine-desethyl :- {Atrazine-de-ethyl}		
Atrazine-desisopropyl :- {Atrazine de-isopropyl}		
Azinphos-ethyl		
Azinphos-methyl		
Benazolin		
Bendiocarb		
Bentazone		
Bromodichloromethane		
Bromoform :- {Tribromomethane}		
Bromoxynil		
Bupirimate		
Carbon tetrachloride :- {Tetrachloromethane}		
Carbophenothion		
Chlorfenvinphos		
Chlorobenzene		
Chlorodibromomethane		
Chloroform :- {Trichloromethane}		
Chlorpyrifos-ethyl		
Chlorpyrifos-methyl		
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}		
Clopyralid		
Cobalt		
Coumaphos		
Cyanazine		
Desmetryn		
Diazinon		
Dibenzo(a,h)Anthracene		
Dicamba		
Dichlorprop :- {2,4-DP}		
Dichlorvos		
Dimethoate		
Dimethylbenzene : Sum of isomers (1,3- 1,4-)		
Ethion		
Ethofumesate		
Ethyl tert-butyl ether :- {ETBE}		
Fenchlorphos :- {Ronnel}		
Fenitrothion		
Fenoprop		
Fenpropimorph		
Fenthion		
Fluoranthene		
Fluroxypyr		
Fonofos		
Ioxynil		
Iprodione		
Irgarol 1051		
Malathion		
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}		
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}		
Metalaxyl		
Metazachlor		
Mevinphos		
Molybdenum		
Napropamide		
Parathion-ethyl :- {Parathion}		
Parathion-methyl		
Pentachlorophenol		
Perylene		
Phenanthrene		
Phenol		
Phorate		
Picloram		
Pirimicarb		
Pirimiphos-ethyl		
Pirimiphos-methyl		
Prochloraz		
Prometryn		
Propazine		
Propetamphos		
Propyzamide		
Silica, reactive as SiO2		
Styrene :- {Vinylbenzene}		
Terbutryn		
tert-Amyl methyl ether :- {TAME}		
Tetrachloroethylene :- {Perchloroethylene}		
Thallium : Total		
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}		
Triazophos		
Trichloroethylene :- {Trichloroethene}		
Triclopyr		
Trietazine		
Trihalomethanes : Total :- {THM}		
Vinyl chloride :- {Chloroethylene}		

Surface Water Dataset Summary						
			Analyses Above LOD		Concentration	
Parameter	Unit	No of Analysis	No.	% of Analysis	Range	Average
General Parameters						
Alkalinity to pH 4.5 as CaCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
Ammonia un-ionised as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Ammoniacal Nitrogen as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Bicarbonate as HCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
BOD : 5 Day ATU	mg/l	0	0	None > LOD	No Analyses	No Analyses
Calcium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Calcium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Carbon, Organic, Dissolved as C :- {DOC}	mg/l	9	9	100.0%	1.39 - 2.93	2.107
Chemical Oxygen Demand :- {COD}	mg/l	0	0	None > LOD	No Analyses	No Analyses
Chloride	mg/l	0	0	None > LOD	No Analyses	No Analyses
Conductivity at 20 C	uS/cm	0	0	None > LOD	No Analyses	No Analyses
Conductivity at 25 C	uS/cm	0	0	None > LOD	No Analyses	No Analyses
Hardness, Total as CaCO3	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	mg/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	mg/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nitrate as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Nitrite as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Nitrogen, Total as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Nitrogen, Total Oxidised as N	mg/l	0	0	None > LOD	No Analyses	No Analyses
Orthophosphate, reactive as P	mg/l	0	0	None > LOD	No Analyses	No Analyses
Oxygen, Dissolved as O2	mg/l	53	53	100.0%	6.73 - 11.7	9.122
Oxygen, Dissolved, % Saturation	%	53	53	100.0%	82.2 - 105.3	92.281
pH	pH Units	2	2	100.0%	7.65 - 8.07	7.860
pH : In Situ	pH Units	0	0	None > LOD	No Analyses	No Analyses
Phosphorus, Total as P	mg/l	0	0	None > LOD	No Analyses	No Analyses
Salinity	ppt	0	0	None > LOD	No Analyses	No Analyses
Salinity : In Situ	ppt	149	149	100.0%	0.27 - 26.918	15.065
Solids, Suspended at 105 C	mg/l	0	0	None > LOD	No Analyses	No Analyses
Sulphate as SO4	mg/l	0	0	None > LOD	No Analyses	No Analyses
Temperature of Water	degC	0	0	None > LOD	No Analyses	No Analyses
Metals						
Aluminium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Aluminium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic	ug/l	0	0	None > LOD	No Analyses	No Analyses
Arsenic, Dissolved	ug/l	7	3	42.9%	1.2 - 2.1	1.567
Barium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Barium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Boron, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cadmium : Dry Wt	mg/kg	10	10	100.0%	0.129 - 1.06	0.575
Cadmium, Dissolved	ug/l	104	34	32.7%	0.043 - 0.255	0.088
Chromium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chromium Hexavalent	ug/l	24	0	None > LOD	None > LOD	None > LOD
Chromium, Dissolved	ug/l	146	37	25.3%	0.261 - 23.3	1.871
Copper	ug/l	0	0	None > LOD	No Analyses	No Analyses
Copper, Dissolved	ug/l	134	129	96.3%	0.094 - 14.2	2.134
Iron	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iron, Dissolved	ug/l	29	0	None > LOD	None > LOD	None > LOD
Lead	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lead, Dissolved	ug/l	190	170	89.5%	0.04 - 11.1	0.497
Lithium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Lithium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Magnesium, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese	ug/l	0	0	None > LOD	No Analyses	No Analyses
Manganese, Dissolved	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mercury	ug/l	84	38	45.2%	0.01 - 0.713	0.090
Mercury : Dry Wt	mg/kg	3	3	100.0%	0.263 - 0.322	0.301
Mercury, Dissolved	ug/l	37	3	8.1%	0.0114 - 0.029	0.018
Nickel	ug/l	0	0	None > LOD	No Analyses	No Analyses
Nickel, Dissolved	ug/l	190	181	95.3%	0.33 - 71.7	4.460
Strontium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Strontium, Filtered	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Titanium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Uranium	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vanadium	ug/l	7	0	None > LOD	None > LOD	None > LOD
Zinc	ug/l	0	0	None > LOD	No Analyses	No Analyses
Zinc, Dissolved	ug/l	132	131	99.2%	0.7 - 92.8	14.252
BTEX Compounds						
Benzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethylbenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Toluene :- {Methylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Other Organic Compounds						
Acenaphthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Acenaphthylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(a)Anthracene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(a)Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(b)Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(e)Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(g,h,i)Perylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benzo(k)Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluorene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Indeno(1,2,3-cd)pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iodofenphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Naphthalene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pyrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,1-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2,2-Tetrachloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1,2-Trichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dichloroethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
1,2-Dimethylbenzene :- {o-Xylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses

Surface Water Data Screening		
Parameter	Unit	EQS
General Parameters		
Alkalinity to pH 4.5 as CaCO3	mg/l	
Ammonia un-ionised as N	mg/l	0.6
Ammoniacal Nitrogen as N	mg/l	0.6
Bicarbonate as HCO3	mg/l	
BOD : 5 Day ATU	mg/l	5
Calcium	mg/l	
Calcium, Dissolved	mg/l	
Carbon, Organic, Dissolved as C :- {DOC}	mg/l	
Chemical Oxygen Demand :- {COD}	mg/l	
Chloride	mg/l	250
Conductivity at 20 C	uS/cm	
Conductivity at 25 C	uS/cm	
Hardness, Total as CaCO3	mg/l	
Magnesium	mg/l	
Magnesium, Dissolved	mg/l	
Manganese	ug/l	30
Manganese, Dissolved	ug/l	30
Nitrate as N	mg/l	
Nitrite as N	mg/l	
Nitrogen, Total as N	mg/l	
Nitrogen, Total Oxidised as N	mg/l	
Orthophosphate, reactive as P	mg/l	
Oxygen, Dissolved as O2	mg/l	
Oxygen, Dissolved, % Saturation	%	60
pH	pH Units	6-9
pH : In Situ	pH Units	6-9
Phosphorus, Total as P	mg/l	120
Salinity	ppt	
Salinity : In Situ	ppt	
Solids, Suspended at 105 C	mg/l	
Sulphate as SO4	mg/l	400
Temperature of Water	degC	
Metals		
Aluminium	ug/l	
Aluminium, Dissolved	ug/l	
Antimony	ug/l	
Arsenic	ug/l	50
Arsenic, Dissolved	ug/l	50
Barium	ug/l	
Barium, Dissolved	ug/l	
Boron	ug/l	2000
Boron, Dissolved	ug/l	2000
Cadmium	ug/l	0.15
Cadmium : Dry Wt	mg/kg	
Cadmium, Dissolved	ug/l	0.15
Chromium	ug/l	
Chromium Hexavalent	ug/l	3.4
Chromium, Dissolved	ug/l	
Copper	ug/l	10
Copper, Dissolved	ug/l	10
Iron	ug/l	1000
Iron, Dissolved	ug/l	1000
Lead	ug/l	1.2
Lead, Dissolved	ug/l	1.2
Lithium	ug/l	
Lithium, Dissolved	ug/l	
Magnesium	ug/l	
Magnesium, Dissolved	ug/l	
Manganese	ug/l	30
Manganese, Dissolved	ug/l	30
Mercury	ug/l	0.07
Mercury : Dry Wt	mg/kg	0.07
Mercury, Dissolved	ug/l	0.07
Nickel	ug/l	4
Nickel, Dissolved	ug/l	4
Strontium	ug/l	
Strontium, Filtered	ug/l	
Tin	ug/l	
Titanium	ug/l	
Uranium	ug/l	
Vanadium	ug/l	
Zinc	ug/l	75
Zinc, Dissolved	ug/l	75
BTEX Compounds		
Benzene	ug/l	10
Ethylbenzene	ug/l	20
Toluene :- {Methylbenzene}	ug/l	50
Other Organic Compounds		
Acenaphthene	ug/l	
Acenaphthylene	ug/l	
Benzo(a)Anthracene	ug/l	
Benzo(a)Pyrene	ug/l	0.00017
Benzo(b)Fluoranthene	ug/l	0.017
Benzo(e)Pyrene	ug/l	
Benzo(g,h,i)Perylene	ug/l	
Benzo(k)Fluoranthene	ug/l	0.017
Fluoranthene	ug/l	0.0063
Fluorene	ug/l	
Indeno(1,2,3-cd)pyrene	ug/l	
Iodofenphos	ug/l	
Naphthalene	ug/l	2
Phenol	ug/l	7.7
Pyrene	ug/l	
1,1,1,2-Tetrachloroethane	ug/l	
1,1,1-Trichloroethane	ug/l	100
1,1,2,2-Tetrachloroethane	ug/l	
1,1,2-Trichloroethane	ug/l	400
1,1-Dichloroethane	ug/l	
1,1-Dichloroethylene :- {1,1-Dichloroethene}	ug/l	
1,2-Dichloroethane	ug/l	10
1,2-Dimethylbenzene :- {o-Xylene}	ug/l	

2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,5-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4,6-Trichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dichlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
2-Methylphenol :- {o-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
3-Methylphenol :- {m-Cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Chlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
4-Methylphenol :- {p-cresol}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Antimony	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Azinphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Benazolin	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bendiocarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bentazone	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromodichloromethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoform :- {Tribromomethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bromoxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Bupirimate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbon tetrachloride :- {Tetrachloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Carbophenothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorfenvinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorobenzene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorodibromomethane	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chloroform :- {Trichloromethane}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Chlorpyrifos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Clopyralid	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cobalt	ug/l	0	0	None > LOD	No Analyses	No Analyses
Coumaphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Cyanazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Desmetryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Diazinon	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dibenzo(a,h)Anthracene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dicamba	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorprop :- {2,4-DP}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dichlorvos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethoate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethofumesate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ethyl tert-butyl ether :- {ETBE}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenchlorphos :- {Ronnel}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenitrothion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenoprop	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenpropimorph	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fenthion	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluoranthene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fluroxypyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Fonofos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Ioxynil	ug/l	0	0	None > LOD	No Analyses	No Analyses
Iprodione	ug/l	0	0	None > LOD	No Analyses	No Analyses
Irgarol 1051	ug/l	0	0	None > LOD	No Analyses	No Analyses
Malathion	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metalaxyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Metazachlor	ug/l	0	0	None > LOD	No Analyses	No Analyses
Mevinphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Molybdenum	ug/l	0	0	None > LOD	No Analyses	No Analyses
Napropamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-ethyl :- {Parathion}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Parathion-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pentachlorophenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Perylene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenanthrene	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phenol	ug/l	0	0	None > LOD	No Analyses	No Analyses
Phorate	ug/l	0	0	None > LOD	No Analyses	No Analyses
Picloram	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimicarb	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-ethyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Pirimiphos-methyl	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prochloraz	ug/l	0	0	None > LOD	No Analyses	No Analyses
Prometryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propetamphos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Propyzamide	ug/l	0	0	None > LOD	No Analyses	No Analyses
Silica, reactive as SiO2	ug/l	0	0	None > LOD	No Analyses	No Analyses
Styrene :- {Vinylbenzene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Terbutryn	ug/l	0	0	None > LOD	No Analyses	No Analyses
tert-Amyl methyl ether :- {TAME}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Tetrachloroethylene :- {Perchloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Thallium : Total	ug/l	0	0	None > LOD	No Analyses	No Analyses
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triazophos	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trichloroethylene :- {Trichloroethene}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Triclopyr	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trietazine	ug/l	0	0	None > LOD	No Analyses	No Analyses
Trihalomethanes : Total :- {THM}	ug/l	0	0	None > LOD	No Analyses	No Analyses
Vinyl chloride :- {Chloroethylene}	ug/l	0	0	None > LOD	No Analyses	No Analyses

2,3,6-TBA :- {2,3,6-Trichlorobenzoic acid}	ug/l	
2,3-Dimethylphenol :- {2,3-Xylenol}	ug/l	
2,4,5-T :- {2,4,5-Trichlorophenoxyacetic acid}	ug/l	
2,4,5-Trichlorophenol	ug/l	
2,4,6-Trichlorophenol	ug/l	
2,4-D :- {2,4-Dichlorophenoxyacetic acid}	ug/l	
2,4-DB :- {4-(2,4-dichlorophenoxy)butyric acid}	ug/l	
2,4-Dichlorophenol	ug/l	20
2,4-Dimethylphenol :- {2,4-Xylenol}	ug/l	
2,5-Dichlorophenol	ug/l	
2,5-Dimethylphenol :- {2,5-Xylenol}	ug/l	
2,6-Dichlorophenol	ug/l	
2,6-Dimethylphenol :- {2,6-Xylenol}	ug/l	
2-Chlorophenol	ug/l	50
2-Methylphenol :- {o-Cresol}	ug/l	
3,4-Dimethylphenol :- {3,4-Xylenol}	ug/l	
3,5-Dimethylphenol :- {3,5-Xylenol}	ug/l	
3-Chlorophenol	ug/l	
3-Methylphenol :- {m-Cresol}	ug/l	
4-Chloro-3-methylphenol :- {p-Chloro-m-cresol}	ug/l	
4-Chlorophenol	ug/l	
4-Methylphenol :- {p-cresol}	ug/l	
Antimony	ug/l	
Atrazine	ug/l	
Atrazine-desethyl :- {Atrazine-de-ethyl}	ug/l	
Atrazine-desisopropyl :- {Atrazine de-isopropyl}	ug/l	
Azinphos-ethyl	ug/l	
Azinphos-methyl	ug/l	
Benazolin	ug/l	
Bendiocarb	ug/l	
Bentazone	ug/l	
Bromodichloromethane	ug/l	
Bromoform :- {Tribromomethane}	ug/l	
Bromoxynil	ug/l	
Bupirimate	ug/l	
Carbon tetrachloride :- {Tetrachloromethane}	ug/l	12
Carbophenothion	ug/l	
Chlorfenvinphos	ug/l	
Chlorobenzene	ug/l	
Chlorodibromomethane	ug/l	
Chloroform :- {Trichloromethane}	ug/l	
Chlorpyrifos-ethyl	ug/l	
Chlorpyrifos-methyl	ug/l	
cis-1,2-Dichloroethylene :- {cis-1,2-Dichloroethene}	ug/l	
Clopyralid	ug/l	
Cobalt	ug/l	
Coumaphos	ug/l	
Cyanazine	ug/l	
Desmetryn	ug/l	
Diazinon	ug/l	
Dibenzo(a,h)Anthracene	ug/l	
Dicamba	ug/l	
Dichlorprop :- {2,4-DP}	ug/l	
Dichlorvos	ug/l	
Dimethoate	ug/l	
Dimethylbenzene : Sum of isomers (1,3- 1,4-)	ug/l	
Ethion	ug/l	
Ethofumesate	ug/l	
Ethyl tert-butyl ether :- {ETBE}	ug/l	
Fenchlorphos :- {Ronnel}	ug/l	
Fenitrothion	ug/l	
Fenoprop	ug/l	
Fenpropimorph	ug/l	
Fenthion	ug/l	
Fluoranthene	ug/l	0.0063
Fluroxypyr	ug/l	
Fonofos	ug/l	
Ioxynil	ug/l	
Iprodione	ug/l	
Irgarol 1051	ug/l	
Malathion	ug/l	
MCPA :- {4-Chloro-2-methylphenoxyacetic acid}	ug/l	
MCPB :- {4-Chloro-2-methylphenoxybutyric acid}	ug/l	
Metalaxyl	ug/l	
Metazachlor	ug/l	
Mevinphos	ug/l	
Molybdenum	ug/l	
Napropamide	ug/l	
Parathion-ethyl :- {Parathion}	ug/l	
Parathion-methyl	ug/l	
Pentachlorophenol	ug/l	0.4
Perylene	ug/l	
Phenanthrene	ug/l	
Phenol	ug/l	7.7
Phorate	ug/l	
Picloram	ug/l	
Pirimicarb	ug/l	
Pirimiphos-ethyl	ug/l	
Pirimiphos-methyl	ug/l	
Prochloraz	ug/l	
Prometryn	ug/l	
Propazine	ug/l	
Propetamphos	ug/l	
Propyzamide	ug/l	
Silica, reactive as SiO2	ug/l	
Styrene :- {Vinylbenzene}	ug/l	
Terbutryn	ug/l	
tert-Amyl methyl ether :- {TAME}	ug/l	
Tetrachloroethylene :- {Perchloroethylene}	ug/l	
Thallium : Total	ug/l	
trans-1,2-Dichloroethylene :- {trans-1,2-Dichloroethene}	ug/l	
Triazophos	ug/l	
Trichloroethylene :- {Trichloroethene}	ug/l	
Triclopyr	ug/l	
Trietazine	ug/l	
Trihalomethanes : Total :- {THM}	ug/l	
Vinyl chloride :- {Chloroethylene}	ug/l	

Analysis above EQS				Analyses Above CCW TL				
No	%age of Analyses	Additional Notes	CCW TL	No.	%age of Analyses	Additional Notes	Min	Max
No EQS				No TL				
No Analyses	#VALUE!		1	No Analyses	#VALUE!			
No Analyses	#VALUE!		1	No Analyses	#VALUE!			
No EQS				No TL				
No Analyses	#VALUE!		18	No Analyses	#VALUE!			
No EQS			300000	No Analyses	#VALUE!			
No EQS			300000	No Analyses	#VALUE!			
No EQS				No TL			1.39	2.93
No EQS				No TL				
No Analyses	#VALUE!		300	No Analyses	#VALUE!			
No EQS				No TL				
No EQS				No TL				
No EQS				No TL				
No EQS				No TL				
No EQS				No TL				
No Analyses				No TL				
No Analyses				No TL				
No EQS			1	No Analyses	#VALUE!			
No EQS			1	No Analyses	#VALUE!			
No EQS			2	No Analyses	#VALUE!			
No EQS			2	No Analyses	#VALUE!			
No EQS			1	No Analyses	#VALUE!			
No EQS				No TL			6.73	11.7
0				No TL			82.2	105.3
0				No TL			7.65	8.07
No Analyses			6.8-8.5	No Analyses	#VALUE!			
No Analyses				No TL				
No EQS				No TL				
No EQS				No TL			0.27	26.918
No EQS				No TL				
No Analyses			300	No Analyses	#VALUE!			
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No Analyses			5	No Analyses	#VALUE!			
No EQS				No TL			0.129	1.06
0			5	0	0.00%		0.043	0.255
No EQS				No TL				
None > LOD				No TL				
No EQS				No TL			0.261	23.3
No Analyses				No TL				
0				No TL			0.094	14.2
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No Analyses			250	No Analyses	#VALUE!			
0			250	0	0.00%		0.04	11.1
No EQS				No TL				
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0				No TL			0.01	0.713
0				No TL			0.263	0.322
0				No TL			0.0114	0.029
No Analyses			100	No Analyses	#VALUE!			
0			100	0	0.00%		0.33	71.7
No EQS				No TL				
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No Analyses			1000	No Analyses	#VALUE!			
0			1000	0	0.00%		0.7	92.8
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Annex G: Surface Water Quality Dataset for the Gwent Levels

RPS

Parameter	Units	1.1				1.2	2.1	2.2				3.1	4.2			4.3		4.4			5.1	5.2 [old]				6.1	7.1			7.2	7.3			7.4		8.1		8.2	11.1		12.1	12.2				13.1				13.2		14.1			14.2		15.1		15.2		15.3		16.1	16.
		Q1	Q2	Q3	Q4	Q1	Q1	Q1	Q2	Q3	Q4	Q1	Q1	Q2	Q4	Q1	Q2	Q1	Q2	Q4	Q1	Q1	Q2	Q3	Q4	Q1	Q1	Q2	Q3	Q1	Q1	Q2	Q4	Q1	Q2	Q1	Q2	Q1	Q1	Q2	Q1	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q2	Q1
General Parameters																																																																
pH	pH Units		8.35	8.31	7.98				7.67	7.52	7.48			8.18	7.82		7.52		7.29	7.63			7.44	7.39	6.99			7.02	7.17			6.77	7.12		7.24		8.32		7.93	7.01			7.07	7.13	7.25	7.81	7.12	6.97	7.1		7.08	6.99	7.04	7.27		7.17		8.25	7.06	7.36		9.01	7.55	
Electrical Conductivity	uS/cm																																						591							527																		
Alkalinity	mg CaCO3/l		215	220	157				185	230	155			175	80		110		125	115			130	160	100			155	210			155	140		165		155			270			240	265	675		215	268	145		240	225	253	140		200		180	258	155		175	220	
Total Hardness (as CaCO3)	mg/l																																				198																										195	
Total Suspended Solids	mg/l	<LOD	<LOD	<LOD	9.5	<LOD	69.5	2.5	<LOD	<LOD	31.5	10.5	<LOD	3.5	511	2.5	3.5	2	7.5	28	<LOD	<LOD	<LOD	2.5	26.5	2.5	2.5	19	<LOD	9	12	6	17	4	11.5	<LOD	<LOD	<LOD	9	15.5	5.5	16.5	9	4.5	13.5	16	6	44.7	21.5	10	4	31	12.5	120	4.5	35.5	5.5	3.5	8.5	7.5	6	<LOD	5.5	4
Biological Oxygen Demand	mg/l	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2.52	3.62	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	3.07	<LOD	<LOD	<LOD	2.28	<LOD	2.68	<LOD	2.47	<LOD	2.4	3.69	<LOD	<LOD	<LOD	2.6	7.43	2.5	4.1	6.21	3.39	<LOD	<LOD	<LOD	9.8	<LOD	8.82	3.47	<LOD	6.23	3.07	<LOD	11.9	<LOD	<LOD	4.89	<LOD	<LOD	<LOD	<LOD	<LOD
Dissolved Oxygen	mg/l	10.5	9.64	9.91	10.2	11.7	8.39	13.6	8.61	10.3	9.7	10.6	10.8	9.51	9.74	6.85	7.88	10.1	5.65	9.5	10.6	7.23	6.44	5.71	5.62	11.7	11.7	11.5	3.62	9.87	3.74	2.43	4.89	2.27	1.22	11.7	10	13.2	3.36	<LOD	1.07	6.44	<LOD	0.35	5.12	4.76	<LOD	<LOD	4.17	3.87	<LOD	<LOD	0.63	5.75	7.41	2.81	10.1	10.1	0.49	4	14	<LOD	5.87	12.6
Dissolved Oxygen (saturation)	%																																																															
Calcium (dissolved, filtered)	mg/l	59.6	67.1	60.5	51.5	61.2	62.2	57.3	63.2	70.6	53.4	40	60.7	62.1	22.8	42.4	39.3	86.2	38.9	39.1	43.7	53	38.2	36.4	26.6	40.9	37.3	42	47	45	46.1	42	32.1	41.7	44.3	34.7	45.3	34.3		76.8			75.2	78.2	63.6		77.4	86.6	45		82.7	58.6	71.4	41.2	64.6	52.1	51.5	53.1	71.8	48.6	49.9	52.4	48.2	39.3
Calcium (total, unfiltered)	mg/l			76.1	53					91.3	55.5				29		38.7		44.6	44.9				45.4	28.2				59				35.9		46.6		49.4			75.7			78	83.8			78.6	99.4	48.5		83.1	69.8	78.8	42.3		50.7		53.5	79.6	53.2		53.4	60.8	
Chloride	mg/l	30.2	37.9	32.1	40.8	29.3	84.2	33.9	42.6	50.1	49.2	13.7	16.3	20.3	79.3	27	27	23.9	34.6	61.1	18.2	127	15.4	17.4	11.6	13.7	17.5	26.2	44.6	61.8	38.4	37.7	16.6	58.3	89.2	15.6	17.9	15.8	37.7	54.2	38.2	30.5	50.4	38	20	31.5	51.4	40	13.5	64	55.7	31.4	27.1	16.5	31.3	27.8	24.2	26.1	26	15.3	24.6	25.4	40.2	24.9
Cyanide	mg/l																																																															
Ammoniacal Nitrogen (as N)	mg/l	0.221	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.379	<LOD	<LOD	<LOD	0.556	0.68	<LOD	0.261	0.27	0.269	0.262	<LOD	0.26	0.732	<LOD	<LOD	0.393	<LOD	0.218	<LOD	<LOD	0.237	0.567	1.27	0.366	2.34	0.235	<LOD	<LOD	<LOD	0.382	0.979	0.342	0.449	0.58	0.277	0.345	0.416	0.718	1.23	<LOD	0.254	0.699	1.5	0.629	0.22	0.266	0.456	<LOD	0.204	0.708	<LOD	0.227	<LOD	0.235	<LOD
Total Oxidised Nitrogen (as N)	mg/l	8.8	7.58	8.86	8.65	0.391	6.91	1.84	3.9	7.59	5.9	8.47	3.15	3.42	1.87	2.38	1.41	1.29	0.657	2.61	0.379	0.977	0.319	0.127	0.771	<LOD	<LOD	0.138	<LOD	<LOD	<LOD	0.165	0.509	<LOD	<LOD	0.489	0.57	0.425	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.137	0.151	<LOD	<LOD	0.148	<LOD	<LOD	<LOD	<LOD	0.793	<LOD	<LOD	2.45	3.37	<LOD	0.351	2.21	2.26	<LOD	<LOD
Nitrate (as NO3)	mg/l	38.9	33.4	39.2	38.2	1.66	30.5	8	16.4	33.3	26	37.4	13.9	15	8.17	10.3	6.18	5.64	2.81	11.5	1.65	4.24	1.28	0.489	3.33	<LOD	<LOD	0.475	<LOD	<LOD	<LOD	0.574	2.21	<LOD	<LOD	2.11	2.49	1.83	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.624	0.609	<LOD	<LOD	0.61	<LOD	<LOD	<LOD	<LOD	3.44	<LOD	<LOD	10.8	14.8	0.316	1.5	9.73	9.54	<LOD	0.368
Nitrite (as NO2)	mg/l	0.05	0.069	<LOD	<LOD	0.05	0.055	0.112	0.612	0.254	<LOD	0.065	<LOD	0.056	0.064	0.132	<LOD	<LOD	0.073	<LOD	<LOD	0.06	0.097	0.053	0.06	<LOD	<LOD	0.1	<LOD	<LOD	<LOD	0.115	0.063	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.053	<LOD	<LOD	<LOD	0.059	<LOD	<LOD	<LOD	0.357	<LOD	<LOD
Sulphate	mg/l	18.7	22.6	21.9	16.8	17	37.6	22.8	27.8	19.1	19.3	13.9	42.4	23.3	10	20.1	21.5	21.9	49	18.6	24.4	21.8	62.9	68	4	13.3	5.4	53.3	30.1	13.8	37.7	52	<LOD	42.7	73.8	69.2	87.4	69.2	22	32.7	43.5	36.5	52.2	31.7	3.6	59.2	85.6	63.5	<LOD	48.8	86.9	<LOD	<LOD	<LOD	11.8	3.6	23.7	30.2	<LOD	9.9	23.3	28.6	8.3	16.4
Total Organic Carbon (dissolved)	mg/l		4.9	<LOD	<LOD				9.05	<LOD	6.13			8.17	4.35		4.6		6.65	5.74			6.56	4.26	12.8			15.8	13.4			19.2	17.8		9.42		5.08			14.6			13.8	17			7.82	13.1	14.7		9.93	13.8	16.5	9.05		12		5.3	17.6	10		6.78	12.7	
Orthophosphate (as P)	mg/l	0.0733		0.0551	0.0431	0.0424	0.223	0.102		0.0303	0.0835	0.0639	0.1		0.0786	0.195		0.225		0.113	0.273	0.156		0.0848	0.154	0.122	0.126		0.413	0.932	0.669		0.404	1.1		<LOD		<LOD			0.52	0.63		0.839	0.106			0.488	0.0832	0.696			0.392	0.0845	0.245		0.0867		0.409	0.0578	0.0925			0.0976
Phosphorus (dissolved, filtered)	ug/l			73.7	52.7					57.8	61.5				117					122				164	210				561				608											1040				598	103				479	111					504	83.4				
Phosphorus (total, unfiltered)	ug/l		96.9	94.6	59.5				271	44.6	217			169	799		310		320	130			222	180	328			751	555			637	628		526		24.3			2030			1880	1170			688	855	202		846	1990	1400	265		1270		226	809	131		109	342	
Metals (dissolved, filtered)**																																																																
Arsenic	ug/l	0.297		<LOD	<LOD	0.253		1.32		1.31	1.5	0.531	0.522		0.535			0.91		0.579	0.743	0.961		0.492	1.61	1.22	1.71		1.08	4.2	2.99		3.14	3.04		0.321		0.453						3.51	1.9			3.85	1.28				2.22	0.842	1.88		1.1		2.05	0.989	1.17			1.55
Boron	ug/l																																																															
Cadmium	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD			<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chromium	ug/l	1.86	1.74	0.508	5.89	1.49	1.87	1.12	1.66	8.88	5.68	8.6	1.4	1.59	2.21	1.42	1.36	14.8	1.74	3.24	1.15	1.44	1.11	0.446	3.15	1.04	1.65	1.69	0.503	1.57	1.9	1.63	3.23	1.33	1.76	1.21	1.38	0.671		1.99			2.26	4.38	3.24		1.76	5.29	1.81		1.81	1.65	3.92	3.61	2.8	1.58	1.63	1.26	4.3	4.15	1.41	1.59	1.49	1.29
Copper	ug/l	1.16	0.952	<LOD	1.86	1	4.17	0.877	1.82	<LOD	2.47	1.35	<LOD	4.59	3.39	1.27	1.22	1.37	1.65	2.08	<LOD	0.913	0.935	<LOD	2.65	1.53	1.4	2.08	<LOD	0.909	2.74	3.37	4.83	<LOD	0.967	1.19	1.47	1.12		<LOD			0.869	<LOD	2		<LOD	<LOD	2.07		<LOD	<LOD	<LOD	1.18	<LOD	<LOD	1.51	<LOD	<LOD	1.08	1.75	<LOD	<LOD	<LOD
Lead	ug/l	0.436	0.036	0.337	0.132	0.303	0.14	0.226	0.054	0.127	0.129	1.07	0.782	1.59	0.251	0.101	0.08	0.493	0.181	0.14	0.185	0.226	0.935	0.448	0.626	0.341	0.185	0.133	0.117	0.446	1.03	0.291	3.71	0.306	0.13	0.248	0.205	0.259		<LOD			0.076	0.116	0.836		0.059	0.089	0.334		0.04	0.027	0.028	0.138	<LOD	0.039	0.067	0.025	0.02	0.16	0.081	0.053	<LOD	0.045
Mercury	ug/l	<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD		<LOD			<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	0.0256		<LOD	<LOD		<LOD		<LOD						<LOD	<LOD			<LOD	<LOD				<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Nickel	ug/l	0.883	0.905	1.09	0.847	0.965	1.76	1.75	1.21	1.52	1.55	0.942	0.868	1.13	0.718	1.4	0.95	2.26	1.11	1.09	1.09	1	1.07	1.39	3.08	2.21	2.59	1.66	4.74	2.71	2.29	2.9	3.33	2.03	1.68	1.59	1.51	1.56		1.62			1.6	2.38	2.58		1.3	1.4	2.48		1.5	1.12	1.95	1.67	1.7	0.786	1.16	0.816	1.93	1.72	1.17	0.854	1.29	1.06
Selenium	ug/l	<LOD		<LOD	<LOD	<LOD		0.752		<LOD	0.864	<LOD	<LOD		<LOD			0.725		<LOD	0.635	0.616		<LOD	<LOD	<LOD	0.723		<LOD	0.757	0.902		<LOD	1.14		<LOD		0.47						1.02	0.755			0.733	<LOD				0.749	<LOD	0.48		0.845		0.58	<LOD	0.829			0.491
Zinc	ug/l	3.01	1.55	1.96	3.31	2.32	4.39	1.52	0.936	1.39	2.17	2.81	1.27	30.7	3.05	3.6	12	4.05	7.46	3.27	2.06	3.14	2.18	1.12	14.7	10.6	8.48	4.57	2.76	1.87	3.36	9.6	14.8	2.28	2.7	12.8	1.8	2.02		0.476			1.96	1.31	7.2		<LOD	0.469	4.79		0.486	0.942	1.72	1.62	0.558	1.35	0.714	1.74	0.885	2.42	0.467	1.03	<LOD	<LOD
Magnesium	mg/l			21.2	15.6					18	14.1				4.91					8.63				15.7	7.21				16.5				9.7				20.5							15.1	12.2			20.7	8.47				14	7.03					13.7	8.32			18	
Iron	mg/l				<LOD						0.0758				<LOD					<LOD					0.363								1.3																0.453					0.176						0.269				
Metals (total, unfiltered)																																																																
Arsenic	ug/l			<LOD	<LOD					<LOD	2.36				3.62					<LOD				<LOD	2.53				<LOD				<LOD											<LOD				<LOD	<LOD				<LOD	<LOD					<LOD	<LOD				
Cadmium	ug/l		<LOD	<LOD	<LOD				<LOD	<LOD	<LOD			<LOD	<LOD		<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD			<LOD	<LOD		<LOD		<LOD			<LOD			<LOD	<LOD			<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	
Chromium	ug/l		3.05	<LOD	5.64				<LOD	<LOD	<LOD			6.73	17.7		<LOD		<LOD	3.98			<LOD	<LOD	<LOD			3.55	4.32			3.88	4.34		<LOD		<LOD			<LOD			<LOD	8.34			<LOD	8.06	<LOD		<LOD	<LOD	3.7	<LOD		<LOD		<LOD	3.05	<LOD		<LOD	<LOD	
Copper	ug/l		<LOD	<LOD	<LOD				<LOD	<LOD	<LOD			5.42	37.2		<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD			<LOD	5.28		<LOD		<LOD			<LOD			<LOD	<LOD			<LOD	<LOD	<LOD		<LOD	<LOD	14.8	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	
Lead	ug/l		<LOD	0.618	2.15				<LOD	<LOD	3.44			2.93	51.3		0.913		0.565	2.15			<LOD	<LOD	3.05			6.34	0.673			0.794	3.12		0.696		<LOD			<LOD			<LOD	<LOD			<LOD	<LOD	1.47		<LOD	<LOD	1.03	1.93		0.718		<LOD	<LOD	0.773		<LOD	0.877	
Mercury	ug/l			<LOD	<LOD					<LOD	<LOD				0.068					<LOD				<LOD	<LOD				<LOD				<LOD											<LOD				<LOD	<LOD				<LOD	<LOD					0.0438	<LOD				
Nickel	ug/l		1.58	3.82	<LOD				1.98	1.35	2.07			3.52	10.9		0.938		0.808	1.78			1.52	2.37	3.71			2.18	2.81			3.69	3.64		1.66		2.19			1.85			2.06	2.19			1.26	1.74	3.25		1.64	1.3	2.28	2.24		1.8		1.35	1.59	1.85		0.924	2.5	
Selenium	ug/l			1.32	1.16					<LOD	1.15				<LOD					<LOD				8.51	<LOD				1.67				<LOD											<LOD				<LOD	<LOD				<LOD	<LOD					<LOD	<LOD				
Zinc	ug/l		<LOD	22.7	10.9				<LOD	<LOD	12.4			33.6	174		18.6		10.3	14.1			3.38	11.6	27.5			9.43	3.25			13.3	13.4		61.6		<LOD			4.88			5.1	13.5			<LOD	4.11	45.3		<LOD	75.8	54.1	12.5		106		<LOD	5.75	4.94		<LOD	55.9	
Magnesium	mg/l			24.9	16.5					21.9	15.4				8.24					10.4				18.6	7.82				19.7				10.9				21.8							16.7				24.4	9.03				15.7	7.62					15.8	9.25			21.6	
Iron	mg/l				0.267						1.36				9.88					1.09					2.25								1.5																1.46					1.87						0.95				
BTEX Compounds																																																																
Sum of detected BTEX	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Benzene	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Ethylbenzene	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Toluene	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	1.07	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Methyl tertiary butyl ether (MTBE)	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Sum of detected Xylenes	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
m,p-Xylene	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
o-Xylene	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Petroleum Hydrocarbons																																																																
Total Petroleum Hydrocarbons	ug/l	<LOD	<LOD	<LOD	47.5	<LOD	193	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	501	<LOD	<LOD	<LOD	<LOD	154	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
TPH >C6-C8	ug/l				<LOD						<LOD																																																					
TPH >C8-C10	ug/l				<LOD						<LOD																																																					
TPH >C10-C16	ug/l				<LOD						<LOD																																																					
TPH >C16-C24	ug/l				<LOD						<LOD																																																					
TPH >C24-C40	ug/l				<LOD						<LOD																																																					
Total Aliphatic Hydrocarbons	ug/l	<LOD		<LOD		<LOD	76	<LOD		<LOD		<LOD	<LOD		287	<LOD		<LOD		80	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C5-C6	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C6-C8	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C8-C10	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C10-C12	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C12-C16	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C16-C21	ug/l	<LOD		<LOD		<LOD	11	<LOD		<LOD		<LOD	<LOD		18	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C21-C35	ug/l	<LOD		<LOD		<LOD	65	<LOD		<LOD		<LOD	<LOD		269	<LOD		<LOD		80	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aliphatics >C35-C44	ug/l																																																															
Total Aromatic Hydrocarbons	ug/l	<LOD		<LOD		<LOD	117	<LOD		<LOD		<LOD	<LOD		214	<LOD		<LOD		71	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC5-EC7	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC7-EC8	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC8-EC10	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC10-EC12	ug/l	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC12-EC16	ug/l	<LOD		<LOD		<LOD	11	<LOD		<LOD		<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC16-EC21	ug/l	<LOD		<LOD		<LOD	21	<LOD		<LOD		<LOD	<LOD		10	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC21-EC35	ug/l	<LOD		<LOD		<LOD	85	<LOD		<LOD		<LOD	<LOD		204	<LOD		<LOD		71	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
Aromatics >EC35-EC44	ug/l																																																															
GRO >C5-C12	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD			<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD	<LOD	<LOD			<LOD
NVM, light petroleum extract	mg/l																																																															
TPH / Oil & Greases	mg/l			<LOD	<LOD					<LOD	<LOD				2.24					<LOD				<LOD	<LOD				<LOD				<LOD											<LOD	<LOD			<LOD	<LOD				<LOD	<LOD					<LOD	<LOD				
Other Organic Compouns																																																															
Phenols	mg/l																																							11.1																								
Phenol	ug/l																																						<LOD	<LOD																								
PAH (Total Detected USEPA 16)	ug/l	<LOD	<LOD	<LOD	0.704	<LOD	17.2	6.21	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	9.49	<LOD	<LOD	<LOD	<LOD	1.53	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Chrysene	ug/l	0.0189	<LOD	<LOD	0.0808	<LOD	1.85	<LOD	<LOD	<LOD	<LOD	0.032	<LOD	<LOD	0.774	<LOD	<LOD	<LOD	<LOD	0.136	<LOD	<LOD	<LOD	<LOD	0.0159	0.0141	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.023	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Fluoranthene	ug/l	0.0283	<LOD	<LOD	0.112	<LOD	2.24	<LOD	<LOD	<LOD	0.0188	0.0365	<LOD	<LOD	1.15	<LOD	<LOD	<LOD	<LOD	0.187	<LOD	<LOD	<LOD	<LOD	<LOD	0.0318	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0302	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Pyrene	ug/l	0.0217	<LOD	<LOD	0.0922	<LOD	1.88	<LOD	<LOD	<LOD	0.0158	0.0289	<LOD	0.0184	1.04	<LOD	<LOD	<LOD	<LOD	0.176	<LOD	<LOD	<LOD	<LOD	0.0155	0.0228	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0256	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Benzo(a)anthracene	ug/l	0.02	<LOD	<LOD	0.0612	<LOD	1.09	<LOD	<LOD	<LOD	<LOD	0.021	<LOD	<LOD	0.773	<LOD	<LOD	<LOD	<LOD	0.123	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Phenanthrene	ug/l	<LOD	<LOD	<LOD	0.0489	<LOD	0.949	0.0337	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.445	<LOD	<LOD	<LOD	<LOD	0.0831	<LOD	<LOD	<LOD	<LOD	<LOD	0.0235	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Acenaphthene	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	0.13	0.121	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0614	<LOD	<LOD	<LOD	<LOD	0.0152	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0151	0.053	<LOD	<LOD	0.0182	<LOD	<LOD	<LOD	0.0154	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.054	<LOD	<LOD	<LOD	<LOD	<LOD
Acenaphthylene	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	0.0601	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0121	0.0176	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Benzo(a)pyrene	ug/l	<LOD	<LOD	<LOD	0.0635	<LOD	1.56	<LOD	<LOD	<LOD	0.0103	0.016	<LOD	<LOD	1.01	<LOD	<LOD	<LOD	<LOD	0.145	<LOD	<LOD	<LOD	<LOD	0.0149	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0277	<LOD	<LOD	<LOD	0.0117	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0099	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Benzo(b)fluoranthene	ug/l	<LOD	<LOD	<LOD	0.0988	<LOD	2.83	<LOD	<LOD	<LOD	<LOD	0.0362	<LOD	<LOD	1.65	<LOD	<LOD	<LOD	<LOD	0.268	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0486	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Benzo(g,h,i)perylene	ug/l	<LOD	<LOD	<LOD	0.0612	<LOD	1.57	<LOD	<LOD	<LOD	<LOD	0.0205	<LOD	<LOD	0.827	<LOD	<LOD	<LOD	<LOD	0.138	<LOD	<LOD	<LOD	<LOD	0.0199	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0252	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Fluorene	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	0.0858	0.042	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0526	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0405	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.0413	<LOD	<LOD	<LOD	<LOD	<LOD
Indeno(1,2,3-cd)pyrene	ug/l	<LOD	<LOD	<LOD	0.0281	<LOD	1.43	<LOD	<LOD	<LOD	<LOD	0.0141	<LOD	<LOD	0.747	<LOD	<LOD	<LOD	<LOD	0.116	<LOD	<LOD	<LOD	<LOD	0.0144	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Naphthalene	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	6.02	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Anthracene	ug/l	<LOD	<LOD	<LOD	<LOD	<LOD	0.125	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.102	<LOD	<LOD	<LOD	<LOD	0.0203	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Benzo(k)fluoranthene	ug/l	<LOD	<LOD	<LOD	0.0404	<LOD	1.09	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.635	<LOD	<LOD	<LOD	<LOD	0.0844	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
Dibenzo(a,h)anthracene	ug/l	<LOD	<LOD	<LOD	0.017	<LOD	0.367	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.211	<LOD	<LOD	<LOD	<LOD	0.0377	<LOD	<LOD	<LOD	<LOD	0.0164	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
1,1,1,2-Tetrachloroethane	ug/l																																						<LOD	<LOD																								
1,1,1-Trichloroethane	ug/l																																						<LOD	<LOD																								
1,1,2,2-Tetrachloroethane	ug/l																																						<LOD	<LOD																								
1,1,2-Trichloroethane	ug/l																																						<LOD	<LOD																								
1,1-Dichloroethane	ug/l																																						<LOD	<LOD																								
1,1-Dichloroethene	ug/l																																						<LOD	<LOD																								
1,1-Dichloropropene	ug/l																																						<LOD	<LOD																								
1,2,3,6,7,8 HxCDD	ng/l																																						<LOD	<LOD																								

Parameter	Units	RPS																																																													
		1.1				1.2	2.1	2.2				3.1	4.2			4.3		4.4			5.1	5.2 [old]				6.1	7.1			7.2	7.3			7.4		8.1		8.2	11.1		12.1	12.2				13.1				13.2		14.1			14.2		15.1		15.2		15.3		16.1	16.
		Q1	Q2	Q3	Q4	Q1	Q1	Q1	Q2	Q3	Q4	Q1	Q1	Q2	Q4	Q1	Q2	Q1	Q2	Q4	Q1	Q1	Q2	Q3	Q4	Q1	Q1	Q2	Q3	Q1	Q1	Q2	Q4	Q1	Q2	Q1	Q2	Q1	Q1	Q2	Q1	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q2	Q3	Q4	Q1	Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q2	Q1
1,2,3-Trichlorobenzene	ug/l																																						<LOD	<LOD																								
1,2,3-Trichloropropane	ug/l																																						<LOD	<LOD																								
1,2,4-Trichlorobenzene	ug/l																																						<LOD	<LOD																								
1,2,4-Trimethylbenzene	ug/l																																						<LOD	<LOD																								
1,2-Dibromo-3-chloropropane	ug/l																																						<LOD	<LOD																								
1,2-Dibromoethane	ug/l																																						<LOD	<LOD																								
1,2-Dichlorobenzene	ug/l																																						<LOD	<LOD																								
1,2-Dichloroethane	ug/l																																						<LOD	<LOD																								
1,2-Dichloropropane	ug/l																																						<LOD	<LOD																								
1,3,5-Trichlorobenzene	ug/l																																						<LOD	<LOD																								
1,3,5-Trimethylbenzene	ug/l																																						<LOD	<LOD																								
1,3-Dichlorobenzene	ug/l																																						<LOD	<LOD																								
1,3-Dichloropropane	ug/l																																						<LOD	<LOD																								
1,4-Dichlorobenzene	ug/l																																						<LOD	<LOD																								
2,2-Dichloropropane	ug/l																																						<LOD	<LOD																								
2,4,5-Trichlorophenol	ug/l																																						<LOD	<LOD																								
2,4,6-Trichlorophenol	ug/l																																						<LOD	<LOD																								
2,4-Dichlorophenol	ug/l																																						<LOD	<LOD																								
2,4-Dimethylphenol	ug/l																																						<LOD	<LOD																								
2,4-Dinitrotoluene	ug/l																																						<LOD	<LOD																								
2,6-Dinitrotoluene	ug/l																																						<LOD	<LOD																								
2-Chloronaphthalene	ug/l																																						<LOD	<LOD																								
2-Chlorophenol	ug/l																																						<LOD	<LOD																								
2-Chlorotoluene	ug/l																																						<LOD	<LOD																								
2-Methyl-4,6-Dinitrophenol	ug/l																																						<LOD	<LOD																								
2-Methylnaphthalene	ug/l																																						<LOD	<LOD																								
2-Methylphenol	ug/l																																						<LOD	<LOD																								
2-Nitroaniline	ug/l																																						<LOD	<LOD																								
2-Nitrophenol	ug/l																																						<LOD	<LOD																								
3-Nitroaniline	ug/l																																						<LOD	<LOD																								
4-Bromophenyl Phenyl Ether	ug/l																																						<LOD	<LOD																								
4-Chloro-3-Methylphenol	ug/l																																						<LOD	<LOD																								
4-Chloroaniline	ug/l																																						<LOD	<LOD																								
4-Chlorophenyl Phenyl Ether	ug/l																																						<LOD	<LOD																								
4-Chlorotoluene	ug/l																																						<LOD	<LOD																								
4-Isopropyltoluene	ug/l																																						<LOD	31.9																								
4-Methylphenol	ug/l																																						<LOD	<LOD																								
4-Nitroaniline	ug/l																																						<LOD	<LOD																								
4-Nitrophenol (aq)	ug/l																																						<LOD	<LOD																								
Azobenzene	ug/l																																						<LOD	<LOD																								
Bis(2-chloroethoxy)methane	ug/l																																																																
Bis(2-chloroethyl)ether	ug/l																																						<LOD	<LOD																								
Bis(2-chloroisopropyl)ether	ug/l																																																															
Bis(2-ethylhexyl)phthalate	ug/l																																						<LOD	<LOD																								
Bromobenzene	ug/l																																						<LOD	<LOD																								
Bromochloromethane	ug/l																																						<LOD	<LOD																								
Bromodichloromethane	ug/l																																						<LOD	<LOD																								
Bromoform	ug/l																																						<LOD	<LOD																								
Bromomethane	ug/l																																						<LOD	<LOD																								
Butylbenzylphthalate	ug/l																																						<LOD	<LOD																								
Carbazole	ug/l																																						<LOD	<LOD																								
Carbon disulphide	ug/l																																						<LOD	<LOD																								
Carbontetrachloride	ug/l																																						<LOD	<LOD																								
Chlorobenzene	ug/l																																						<LOD	<LOD																								
Chloroethane	ug/l																																						<LOD	<LOD																								
Chloroethene	ug/l																																																															
Chloroform	ug/l																																						<LOD	<LOD																								
Chloromethane	ug/l																																						<LOD	<LOD																								
cis-1,2-Dichloroethene	ug/l																																						<LOD	<LOD																								
cis-1,3-Dichloropropene	ug/l																																						<LOD	<LOD																								
Dibenzofuran	ug/l																																						<LOD	<LOD																								
Dibromochloromethane	ug/l																																						<LOD	<LOD																								
Dibromomethane	ug/l																																						<LOD	<LOD																								
Dichlorodifluoromethane	ug/l																																						<LOD	<LOD																								
Dichloromethane	ug/l																																						<LOD	<LOD																								
Diethylphthalate	ug/l																																						<LOD	<LOD																								
Dimethylphthalate	ug/l																																						<LOD	<LOD																								
Di-N-Butyl Phthalate	ug/l																																																															
Di-N-Octyl Phthalate	ug/l																																																															
Hexachlorobenzene (HCB)	ug/l																																						<LOD	<LOD																								
Hexachlorobutadiene (HCBD)	ug/l																																						<LOD	<LOD																								
Hexachlorocyclopentadiene	ug/l																																						<LOD	<LOD																								
Hexachloroethane	ug/l																																						<LOD	<LOD																								
Isophorone	ug/l																																						1.59	<LOD																								
Isopropylbenzene	ug/l																																						<LOD	<LOD																								
Methyl tert-butyl ether (MTBE)	ug/l	<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD		<LOD	<LOD	<LOD	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD		<LOD	<LOD	<LOD	<LOD	<LOD		<LOD	<LOD			<LOD	<LOD	<LOD			<LOD	<LOD	<LOD		<LOD		<LOD		<LOD			<LOD
n-Butylbenzene	ug/l																																						<LOD	<LOD																								
n-Dibutyl phthalate (aq)	ug/l																																						<LOD	<LOD																								
n-Dioctyl phthalate (aq)	ug/l																																						<LOD	<LOD																								
Nitrobenzene	ug/l																																						<LOD	<LOD																								
n-nitrosodimethylamine	ug/l																																																															
N-Nitroso-Di-N-Propylamine	ug/l																																						<LOD	<LOD																								
n-propylbenzene	ug/l																																																															
Pcb-101 2,2',4,5,5' - Pentachlorobipher	ug/l																																																															
Pcb-118 2,3',4,4',5 - Pentachlorobipher	ug/l																																																															
Pcb-138 2,2',3,4,4',5' - Hexachlorobiph	ug/l																																																															
Pcb-153 2,2',4,4',5,5' - Hexachlorobiph	ug/l																																																															
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi	ug/l																																																															
Pcb-28 2,4,4' - Trichlororbiphenyl	ug/l																																																															
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	ug/l																																																															
PCBs (vs Aroclor 1254) (aq)	ug/l																																							<LOD												<LOD				<LOD						<LOD	<LOD	
Pentachlorophenol (PCP)	ug/l																																						<LOD	<LOD																								
Propylbenzene	ug/l																																						<LOD	<LOD																								
sec-Butylbenzene	ug/l																																						<LOD	<LOD																								
Styrene	ug/l																																						<LOD	<LOD																								
tert-Amyl methyl ether (TAME)	ug/l																																						<LOD	<LOD																								
tert-Butylbenzene	ug/l																																						<LOD	<LOD																								
Tetrachloroethene	ug/l																																						<LOD	<LOD																								
Tetrachloromethane (Carbon Tetra Chl	ug/l																																							<LOD																								
trans-1,2-Dichloroethene	ug/l																																						<LOD	<LOD																								
trans-1,3-Dichloropropene	ug/l																																						<LOD	<LOD																								
Tribromomethane	ug/l																																																															
Trichloroethene	ug/l																																						<LOD	<LOD																								
Trichlorofluoromethane	ug/l																																						<LOD	<LOD																								
Vinyl chloride	ug/l																																						<LOD	<LOD																								

2	17.1				17.2		17.3	18.1				19.1		19.2		20.1		22.1	20.1 [old]	Mill Reen WTA 11			WTA Discharge Maerdy
Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q1	Q2	Q3	Q4	Q2
7.22		7.41	7.25	7.47		7.77			7.37	7.2	7.12		7.28		7.61		7.33			8.29	8.29	7.7	7.3
200		175	227	69		167			260	370	150		225		295		255			147	126	55	171
192		194				165			216				226		277		266			160			186
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2.54	6.5	4.28	2.11	11.2	2.48	7.7	14.6	2.71	1.78	1.1	6.03	4.55	1.88	8.17	0.45	4.9	1.14	8.59	11.1	9.82	10.4	9.39	3.9
49.3	54.1	47.9	59.4	23.4	142	39.3	69	110	51.6	122	47.9	98.1	49.4	52.2	60	67.3	56.5	81.3	17.2	39.4	32.9	30.1	52.5
54.1		51.8	66.5	26.7		42.4			59.1	135	51.4		50.7		71.7		65.3			41.6	36	34	56.7
28.1	32.3	41	33.6	14.3	248	60.4	785	24	45.4	36.4	13.8	125	46.8	38.9	42.3	49.3	44.9	28.7	7.4	15.5	14.5	13.9	3
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	0.229		0.0313	0.105	1.2		0.402	0.877		0.317	0.161	0.902		0.152		0.218		0.0503	0.0879		0.0476	0.0786	
			35.1	119						444	192										45.7	81.7	
258		110	101	373		115			395	1040	426		242		167		225			112	63.6	249	145
	1.01		0.901	0.712	5.31		3.02			6.02	1.3	2.52		1.9		2.17		1.13	1.28		0.725	0.812	
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TITAN																																																					
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7.9	8.1	8.1	7.3	7.7	7.3	7.1	7.3	7.4	7.1	7	7.5	8	7.6	7.8	7.7	7.7	7.3	7.3	7.3	7.3	7.7	7.3	7.6	7.6	7.9	7.6	7.6	7.6	8.1	7.6	7.7	7.5	8.1	7.4	7.6	7.7	7.8	7.4	8.1	8.1	8.3	7.9	7.4	8.1	8.1	8.2	7.7	7.8	7.5	7.6	7.2	7.8	7.6
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54	63	62	78	82	4.2	101	67	101	5.3	110	68	82	3.5	61	69	83	3.9	60	72	36	58	73	52	82	63	56	63	84	71	84	89	83	106	127	119	75	152	144	50	78	51	58	43	88	94	87	31	74	68	70	87	75	102
27	26	20	35	62	17	28	21	17	23	21	17	14	22	16	21	18	31	19	39	22	25	34	21	28	38	21	28	25	37	29	31	11	28	23	99	68	63	127	15	14	12	13	28	49	54	45	13	19	29	25	25	21	23
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50.9	62.89	69.551	1.3	<LOD	<LOD	<LOD	1.3	<LOD	<LOD	<LOD	10.6	9.3	3.1	13.733	1.3	2.21	<LOD	<LOD	1.3	3.99	<LOD	<LOD	15.9	7.97	<LOD	13.733	9.7	6.64	<LOD	7.531	1.3	1.77	<LOD	<LOD	1.3	5.76	<LOD	<LOD	15.1	15.06	10.2	13.733	5.8	11.51	15.1	13.733	2.2	6.64	9.3	<LOD	4.873	<LOD	<LOD
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1.4	0.2	<LOD	0.2	<LOD	<LOD	0.3	0.2	<LOD	2.6	1.8	<LOD	<LOD	<LOD	<LOD	<LOD	1.3	0.3	0.3	0.2	0.3	1.2	0.2	0.1	0.2	1.1	<LOD	0.2	0.2	1.1	<LOD	0.2	0.3	1.4	0.7	1.1	4.2	2.6	1.1	<LOD	0.2	0.8	<LOD	0.2	<LOD	<LOD	<LOD	<LOD	0.1	<LOD	0.7	<LOD	1.2	<LOD
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<LOD	<LOD	<LOD	0.9	<LOD	0.5	0.5	0.7	0.6	0.8	0.5	0.6	<LOD	<LOD	<LOD	0.5	<LOD	<LOD	<LOD	<LOD	<LOD	1.5	<LOD	<LOD	<LOD	1.8	<LOD	<LOD	<LOD	1.8	<LOD	0.5	<LOD	0.6	<LOD	<LOD	<LOD	1	<LOD	<LOD	<LOD	1.4	<LOD	<LOD	<LOD	<LOD	<LOD	0.7	0.6	0.5	2.3	<LOD	0.9	<LOD
10	9	6	160	20	16	210	81	79	50	360	43	15	42	7	20	24	27	23	28	52	22	38	99	42	26	310	38	24	6	18	28	32	20	15	28	43	16	7	20	10	17	13	19	6	16	<LOD	17	25	28	20	49	21	75
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																								TITAN																																																					
2	17.1				17.2		17.3	18.1				19.1		19.2		20.1		22.1	20.1 [old]	Mill Reen WTA 11			WTA Discharge Maerdy	R1			R10				R11				R12				R13				R14				R15				R16				R17				R18				R19				R2				R20		R21			R22	
Q2	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q1	Q2	Q3	Q4	Q2	1	2	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	2	3	4	3	4
	<LOD		<LOD	<LOD	<LOD		<LOD	<LOD		<LOD	<LOD	<LOD		<LOD		<LOD		<LOD	<LOD		<LOD	<LOD																																																							
<LOD		<LOD																																																																											

R3				R4				R5			R6				R7				R8				R9			
1	2	3	4	1	2	3	4	1	2	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
7.7	7.8	7.7	8.1	7.6	7.7	7.6	7.9	7.5	7.4	7.4	7.6	7.4	8	7.5	7.7	7.9	8.2	7.6	7.6	7.6	7.5	7.2	7.6	7.7	7.8	7.1
283	381	463	445	307	382	460	436	284	297	475	308	206	489	441	343	359	493	423	364	360	762	572	442	565	654	918
120	163	199	200	130	160	194	190	154	125	276	132	100	226	204	154	154	232	185	175	153	326	294	229	230	266	565
36	64	3	8	108	11	3	21	35	32	692	17	48	2	17	25	12	6	5	3	33	7	50	108	62	19	409
<LOD	<LOD	3	<LOD	2	<LOD	1	<LOD	<LOD	2	45	<LOD	3	<LOD	4	<LOD	2	2	<LOD	<LOD	<LOD	4	12	2	1	<LOD	28
12.1	13.03	4.79	7.61	10.83	12.43	6.22	5.4	2.31	6.15	0.57	<LOD	9.66	13.33	9.41	8.19	11.46	10.99	7.71	3.06	4.44	0.33	1.92	3.67	9.51	1.86	1.92
108.9	108.7	49.7	73.2	97.1	100.2	63.1	52.1	18.5	48.1	5.1	<LOD	80.3	139.3	93.6	72.2	95.6	113	75.3	27.4	40	3.5	18.6	32	78.7	20.7	19.3
33	50	62	63	35	49	50	58	35	31	68	35	24	2.8	50	37	37	2.9	51	45	80	81	82	62	64	67	125
19	19	22	17	20	18	17	17	12	15	14	20	7	14	12	19	18	14	12	20	14	42	20	21	28	38	51
0.1	<LOD	0.04	<LOD	0.11	<LOD	0.06	0.29	0.19	0.06	2.48	0.23	0.2	<LOD	0.11	0.2	0.08	<LOD	0.07	0.08	0.09	<LOD	0.07	0.05	0.09	0.07	0.31
2.5	3.3	1.3	3.2	2.5	2.2	0.4	2.1	<LOD	<LOD	0.6	0.9	<LOD	0.4	1.3	0.4	1.1	<LOD	1	<LOD	0.5	<LOD	0.3	<LOD	0.8	0.7	<LOD
11.1	14.61	5.3	13.733	10.6	9.74	1.8	8.86	1.3	<LOD	2.658	3.5	<LOD	1.3	5.316	1.3	4.87	<LOD	3.987	1.3	2.21	<LOD	1.329	1.3	3.54	3.1	<LOD
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15	19	21	21	20	21	48	21	7	6	<LOD	30	<LOD	84	70	36	33	84	68	20	14	43	<LOD	18	29	68	109
<LOD	<LOD	<LOD	<LOD	<LOD	0.2	<LOD	0.2	0.1	<LOD	1.2	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	2.1	0.5	<LOD	0.2	1.4	0.5
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
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7.6	11	11	12	8.5	11	14	13	10	9.1	20	10	5.9	1.6	15	10	11	1.6	16	11	14	21	19	12	13	20	33
<LOD	0.7	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.5	0.5	1.7	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	0.5	<LOD	<LOD	1.1	2.7	<LOD
28	25	14	5	42	16	9	27	26	23	260	35	23	11	37	22	17	11	18	43	26	19	35	65	45	21	260
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Supplementary GI (Hyder)																												
SW501			SW502			SW503			SW504			SW505			SW506			SW507			SW508		SW509			SW510		
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	3	1	2	3	1	2	3
8.6	7.7	8	8.5	8.3	8.1	8.7	8.5	8	8.6	8.6	8.2	12	12	12	8.7	8.9	8.6	8.7	8.9	8.5	8.9	8.6	8.9	8.8	8.3	8.9	8.9	8.5
440	500	450	450	320	340	170	320	350	200	190	190	1500	1200	1200	590	440	450	580	500	530	430	380	640	530	630	440	320	430
51	85	40	92	120	130	30	36	41	28	21	22	23	24	25	49	52	55	210	250	320	41	44	31	31	34	23	39	35
<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
0.17	1.7	0.48	0.066	0.11	0.12	0.52	0.034	0.041	0.078	0.13	0.06	0.44	0.49	0.56	0.044	0.044	0.075	0.35	0.16	1.2	0.13	0.35	1.2	0.11	0.36	0.23	0.26	0.52
3.5	4.2	6.9	4.2	3.4	2	1.4	1.6	<LOD	1.8	<LOD	<LOD	1.6	2	1.1	1.5	4.6	1.5	1.9	2.8	2.2	1.4	<LOD	2	3	1.2	2.5	2.6	1.5
990	76	74	1200	1300	140	1100	910	69	970	990	24	150	220	45	710	920	120	690	910	90	670	47	700	960	110	630	200	50
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Annex H: Summary Statistics & Screening Assessment for Surface Water Quality Dataset for the Gwent Levels

Parameter	Unit	No. Analyses	Analyses Above LOD		Concentration	
			No.	%'age of Analyses	Range	Average
General Parameters						
pH	pH Units	164	164	100.0%	6.77 - 12	7.81
Electrical Conductivity	uS/cm	83	83	100.0%	206 - 1164	533
Alkalinity	mg CaCO3/l	81	81	100.0%	55 - 1500	307
Total Hardness (as CaCO3)	mg/l	92	92	100.0%	100 - 565	246
Total Suspended Solids	mg/l	168	148	88.1%	2 - 714	48.8
Biological Oxygen Demand	mg/l	168	81	48.2%	1 - 45	2.92
Dissolved Oxygen	mg/l	168	159	94.6%	0.33 - 14.6	6.31
Dissolved Oxygen (saturation)	%	81	79	97.5%	3.5 - 139.3	55.87
Calcium (dissolved, filtered)	mg/l	163	163	100.0%	2.8 - 152	60.1
Calcium (total, unfiltered)	mg/l	45	45	100.0%	26.7 - 135	58.4
Chloride	mg/l	197	197	100.0%	3 - 785	41.6
Cyanide	mg/l	29	0	None > LOD	None > LOD	None > LOD
Ammoniacal Nitrogen (as N)	mg/l	197	141	71.6%	0.034 - 2.48	0.259
Total Oxidised Nitrogen (as N)	mg/l	168	99	58.9%	0.123 - 15.7	1.484
Nitrate (as NO3)	mg/l	163	108	66.3%	0.316 - 69.551	6.708
Nitrite (as NO2)	mg/l	163	34	20.9%	0.05 - 0.612	0.025
Sulphate	mg/l	168	150	89.3%	3.6 - 114	27.5
Total Organic Carbon (dissolved)	mg/l	51	47	92.2%	4.26 - 24.8	9.49
Orthophosphate (as P)	mg/l	138	98	71.0%	0.0303 - 4.2	0.3634
Phosphorus (dissolved, filtered)	ug/l	23	23	100.0%	35.1 - 1040	254.9
Phosphorus (total, unfiltered)	ug/l	51	51	100.0%	24.3 - 2030	482.3
Metals (dissolved, filtered)**						
Arsenic	ug/l	80	74	92.5%	0.253 - 6.9	1.791
Boron	ug/l	29	29	100.0%	24 - 1300	519.48
Cadmium	ug/l	111	8	7.2%	0.097 - 2.9	0.05
Chromium	ug/l	192	101	52.6%	0.446 - 18	1.94
Copper	ug/l	192	83	43.2%	0.852 - 19	1.430
Lead	ug/l	192	91	47.4%	0.02 - 27	0.941
Mercury	ug/l	80	5	6.3%	0.0256 - 2.5	0.07
Nickel	ug/l	192	110	57.3%	0.644 - 15	1.307
Selenium	ug/l	80	49	61.3%	0.47 - 6.22	0.891
Zinc	ug/l	111	105	94.6%	0.451 - 30.7	3.764
Magnesium	mg/l	116	116	100.0%	1.1 - 35	15.68
Iron	mg/l	12	9	75.0%	0.0574 - 1.3	0.247
Metals (total, unfiltered)						
Arsenic	ug/l	23	5	21.7%	2.36 - 3.73	0.65
Cadmium	ug/l	132	28	21.2%	0.5 - 2.7	0.20
Chromium	ug/l	51	17	33.3%	3.05 - 17.7	1.83
Copper	ug/l	51	7	13.7%	5.1 - 37.2	1.60
Lead	ug/l	51	26	51.0%	0.565 - 51.3	2.25
Mercury	ug/l	23	3	13.0%	0.0217 - 0.068	0.01
Nickel	ug/l	51	50	98.0%	0.801 - 10.9	2.30
Selenium	ug/l	23	6	26.1%	1.03 - 8.51	0.65
Zinc	ug/l	132	118	89.4%	3.25 - 360	35.48
Magnesium	mg/l	34	34	100.0%	5.07 - 37.2	17.83
Iron	mg/l	12	12	100.0%	0.267 - 9.88	2.60
BTEX Compoundas						
Sum of detected BTEX	ug/l	57	0	None > LOD	None > LOD	None > LOD
Benzene	ug/l	88	0	None > LOD	None > LOD	None > LOD
Ethylbenzene	ug/l	88	0	None > LOD	None > LOD	None > LOD
Toluene	ug/l	88	1	1.1%	1.07	Single Analysis
Methyl tertiary butyl ether (MTBE)	ug/l	88	0	None > LOD	None > LOD	None > LOD
Sum of detected Xylenes	ug/l	57	0	None > LOD	None > LOD	None > LOD
m,p-Xylene	ug/l	88	0	None > LOD	None > LOD	None > LOD
o-Xylene	ug/l	88	0	None > LOD	None > LOD	None > LOD
Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	ug/l	195	21	10.8%	13 - 501	19.15
TPH >C6-C8	ug/l	83	0	None > LOD	None > LOD	None > LOD
TPH >C8-C10	ug/l	83	0	None > LOD	None > LOD	None > LOD
TPH >C10-C16	ug/l	83	1	1.2%	28	Single Analysis
TPH >C16-C24	ug/l	83	9	10.8%	21 - 169	9.06
TPH >C24-C40	ug/l	83	15	18.1%	51 - 284	26.51
Total Aliphatic Hydrocarbons	ug/l	84	4	4.8%	23 - 287	5.55
Aliphatics >C5-C6	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C6-C8	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C8-C10	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C10-C12	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C12-C16	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aliphatics >C16-C21	ug/l	84	2	2.4%	11 - 18	0.35
Aliphatics >C21-C35	ug/l	84	4	4.8%	23 - 269	5.20
Aliphatics >C35-C44	ug/l	29	0	None > LOD	None > LOD	None > LOD
Total Aromatic Hydrocarbons	ug/l	84	5	6.0%	13 - 214	5.37
Aromatics >EC5-EC7	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC7-EC8	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC8-EC10	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC10-EC12	ug/l	84	0	None > LOD	None > LOD	None > LOD
Aromatics >EC12-EC16	ug/l	84	1	1.2%	11	Single Analysis
Aromatics >EC16-EC21	ug/l	84	2	2.4%	10 - 21	0.37
Aromatics >EC21-EC35	ug/l	84	5	6.0%	13 - 204	4.87
Aromatics >EC35-EC44	ug/l	29	0	None > LOD	None > LOD	None > LOD
GRO >C5-C12	ug/l	58	0	None > LOD	None > LOD	None > LOD
NVM, light petroleum extract	mg/l	81	17	21.0%	5 - 29	2.32
TPH / Oil & Greases	mg/l	24	1	4.2%	2.24	Single Analysis
Other Organic Compounds						
Phenols	mg/l	30	3	10.0%	0.03 - 11.1	0.38
Phenol	ug/l	31	0	None > LOD	None > LOD	None > LOD
PAH (Total Detected USEPA 16)	ug/l	116	7	6.0%	0.603 - 17.2	0.33
Chrysene	ug/l	116	12	10.3%	0.0141 - 1.85	0.03
Fluoranthene	ug/l	116	13	11.2%	0.0188 - 2.24	0.04
Pyrene	ug/l	116	15	12.9%	0.0155 - 1.88	0.03
Benzo(a)anthracene	ug/l	116	8	6.9%	0.02 - 1.09	0.02
Phenanthrene	ug/l	116	10	8.6%	0.0235 - 0.949	0.02
Acenaphthene	ug/l	116	12	10.3%	0.0151 - 0.13	0.01
Acenaphthylene	ug/l	116	3	2.6%	0.0121 - 0.0601	0.001
Benzo(a)pyrene	ug/l	116	14	12.1%	0.0099 - 1.56	0.03
Benzo(b)fluoranthene	ug/l	116	9	7.8%	0.0362 - 2.83	0.05
Benzo(g,h,i)perylene	ug/l	116	10	8.6%	0.0199 - 1.57	0.03
Fluorene	ug/l	116	8	6.9%	0.0175 - 0.0858	0.004
Indeno(1,2,3-cd)pyrene	ug/l	116	9	7.8%	0.0141 - 1.43	0.02
Naphthalene	ug/l	116	2	1.7%	0.318 - 6.02	0.05
Anthracene	ug/l	116	4	3.4%	0.0203 - 0.125	0.002
Benzo(k)fluoranthene	ug/l	116	6	5.2%	0.0393 - 1.09	0.02
Dibenzo(a,h)anthracene	ug/l	116	6	5.2%	0.0164 - 0.367	0.006
1,1,1,2-Tetrachloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD
1,1,1-Trichloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD
1,1,2,2-Tetrachloroethane	ug/l	2	0	None > LOD	None > LOD	None > LOD
1,1,2-Trichloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD
1,1-Dichloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD
1,1-Dichloroethene	ug/l	31	0	None > LOD	None > LOD	None > LOD
1,1-Dichloropropene	ug/l	31	0	None > LOD	None > LOD	None > LOD
1,2,3,6,7,8 HxCDD	ng/l	2	0	None > LOD	None > LOD	None > LOD

Parameter	Unit	EQS	Analyses Above EQS		Additional Notes	CCW TL	Analyses Above CCW TL		Additional Notes	Min	Max
			No.	%'age of Analyses			No.	%'age of Analyses			
General Parameters											
pH	pH Units	9	4	2.4%	EQS exceedances identified south of Llanwern	8.5	19	11.6%		6.77	12
Electrical Conductivity	uS/cm	-	No EQS			2000	0	0.0%		206	1164
Alkalinity	mg CaCO3/l	-	No EQS			-	No TL			55	1500
Total Hardness (as CaCO3)	mg/l	-	No EQS			-	No TL			100	565
Total Suspended Solids	mg/l	-	No EQS			250	8	4.8%		2	714
Biological Oxygen Demand	mg/l	5	26	15.5%	EQS to achieve "Good" Status under WFD	18	5	3.0%		1	45
Dissolved Oxygen	mg/l	-	No EQS			5	100	59.5%		0.33	14.6
Dissolved Oxygen (saturation)	%	60	42	51.9%	EQS to achieve "Good" Status under WFD	-	No TL			3.5	139.3
Calcium (dissolved, filtered)	mg/l	-	No EQS			300	0	0.0%		2.8	152
Calcium (total, unfiltered)	mg/l	-	No EQS			300	0	0.0%		26.7	135
Chloride	mg/l	250	2	1.0%		300	2	1.0%		3	785
Cyanide	mg/l	1	None > LOD			-	No TL				
Ammoniacal Nitrogen (as N)	mg/l	0.6	21	10.7%	EQS to achieve "Good" Status under WFD	1	10	5.1%		0.034	2.48
Total Oxidised Nitrogen (as N)	mg/l	-	No EQS			2	43	25.6%		0.123	15.7
Nitrate (as NO3)	mg/l	-	No EQS			1	99	60.7%		0.316	69.551
Nitrite (as NO2)	mg/l	-	No EQS			1	0	0.0%		0.05	0.612
Sulphate	mg/l	400	0	0.0%		300	0	0.0%		3.6	114
Total Organic Carbon (dissolved)	mg/l	-	No EQS				No TL			4.26	24.8
Orthophosphate (as P)	mg/l	0.12	70	50.7%	EQS to achieve "Good" Status under WFD	1	18	13.0%		0.0303	4.2
Phosphorus (dissolved, filtered)	ug/l	-	No EQS			-	No TL			35.1	1040
Phosphorus (total, unfiltered)	ug/l	-	No EQS			-	No TL			24.3	2030
Metals (dissolved, filtered)**											
Arsenic	ug/l	50	0	0.0%		-	No TL			0.253	6.9
Boron	ug/l	2000	0	0.0%		-	No TL			24	1300
Cadmium	ug/l	0.15	5	4.5%		5	0	0.0%		0.097	2.9
Chromium	ug/l	3.4	30	15.6%	Cr concentrations have been screened against EQS for Cr VI	-	No TL			0.446	18
Copper	ug/l	43.5	0	0.0%	Bioavailable	-	No TL			0.852	19
Lead	ug/l	1.2	19	9.9%		250	0	0.0%		0.02	27
Mercury	ug/l	0.07	4	5.0%		-	No TL			0.0256	2.5
Nickel	ug/l	4	12	6.3%		100	0	0.0%		0.644	15
Selenium	ug/l	-	No EQS			-	No TL			0.47	6.22
Zinc	ug/l	41.5	0	0.0%	Bioavailable plus ambient	1000	0	0.0%		0.451	30.7
Magnesium	mg/l	-	No EQS			-	No TL			1.1	35
Iron	mg/l	0.001	9	75.0%			No TL			0.0574	1.3
Metals (total, unfiltered)											
Arsenic	ug/l	50	0	0.0%		-	No TL			2.36	3.73
Cadmium	ug/l	0.15	28	21.2%		5	0			0.5	2.7
Chromium	ug/l	3.4	14	27.5%	Cr concentrations have been screened against EQS for Cr VI	-	No TL			3.05	17.7
Copper	ug/l	43.5	0	0.0%	Bioavailable	-	No TL			5.1	37.2
Lead	ug/l	1.2	14	27.5%		250	0	0.0%		0.565	51.3
Mercury	ug/l	0.07	0	0.0%		-	No TL			0.0217	0.068
Nickel	ug/l	4	3	5.9%		100	0	0.0%		0.801	10.9
Selenium	ug/l	-	No EQS			-	No TL			1.03	8.51
Zinc	ug/l	41.5	30	22.7%	Bioavailable plus ambient	1000	0	0.0%		3.25	360
Magnesium	mg/l	-	No EQS				No TL			5.07	37.2
Iron	mg/l	0.001	12	100.0%			No TL			0.267	9.88
BTEX Compounds											
Sum of detected BTEX	ug/l	-	-			2000	None > LOD				
Benzene	ug/l	-	-			2000	None > LOD				
Ethylbenzene	ug/l	-	-			2000	None > LOD				
Toluene	ug/l	-	-			2000	0			1.07	1.07
Methyl tertiary butyl ether (MTBE)	ug/l	-	-			2001	None > LOD				
Sum of detected Xylenes	ug/l	-	-			2000	None > LOD				
m,p-Xylene	ug/l	-	-			2000	None > LOD				
o-Xylene	ug/l	-	-			2000	None > LOD				
Petroleum Hydrocarbons											
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-			2000	0	0.0%		13	501
TPH >C6-C8	ug/l	-	-			-	No TL				
TPH >C8-C10	ug/l	-	-			-	No TL				
TPH >C10-C16	ug/l	-	-			-	No TL			28	28
TPH >C16-C24	ug/l	-	-			-	No TL			21	169
TPH >C24-C40	ug/l	-	-			-	No TL			51	284
Total Aliphatics >C12-C35 (aq)	ug/l	-	-			2000	0	0.0%		23	287
Aliphatics >C5-C6	ug/l	-	-			-	No TL				
Aliphatics >C6-C8	ug/l	-	-			-	No TL				
Aliphatics >C8-C10	ug/l	-	-			-	No TL				
Aliphatics >C10-C12	ug/l	-	-			-	No TL				
Aliphatics >C12-C16 (aq)	ug/l	-	-			-	No TL				
Aliphatics >C16-C21 (aq)	ug/l	-	-			-	No TL			11	18
Aliphatics >C21-C35 (aq)	ug/l	-	-			-	No TL			23	269
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-			2000	0	0.0%		13	214
Aromatics >EC5-EC7	ug/l	-	-			-	No TL				
Aromatics >EC7-EC8	ug/l	-	-			-	No TL				
Aromatics >EC8-EC10	ug/l	-	-			-	No TL				
Aromatics >EC10-EC12	ug/l	-	-			-	No TL				
Aromatics >EC12-EC16 (aq)	ug/l	-	-			-	No TL			11	11
Aromatics >EC16-EC21 (aq)	ug/l	-	-			-	No TL			10	21
Aromatics >EC21-EC35 (aq)	ug/l	-	-			-	No TL			13	204
Aromatics >EC21-EC35 (aq)	ug/l	-	-			-	No TL				
GRO >C5-C12	ug/l	-	-			2000	None > LOD				
NVM, light petroleum extract	mg/l	-	-			2	17	21.0%		5	29
TPH / Oil & Greases	mg/l	-	-			2000	0	0.0%		2.24	2.24
Other Organic Compounds											
Phenols	mg/l	-	-							0.03	11.1
Phenol	ug/l										
PAH, Total Detected USEPA 16 (aq)	ug/l	-	-							0.603	17.2
Chrysene (aq)	ug/l	-	-							0.0141	1.85
Fluoranthene (aq)	ug/l	-	-							0.0188	2.24
Pyrene (aq)	ug/l	-	-							0.0155	1.88
Benzo(a)anthracene (aq)	ug/l	-	-							0.02	1.09
Phenanthrene (aq)	ug/l	-	-							0.0235	0.949
Acenaphthene (aq)	ug/l	-	-							0.0151	0.13
Acenaphthylene (aq)	ug/l	-	-							0.0121	0.0601
Benzo(a)pyrene (aq)	ug/l	0.00017	14	12.1%						0.0099	1.56
Benzo(b)fluoranthene (aq)	ug/l	0.017	9	7.8%						0.0362	2.83
Benzo(g,h,i)perylene (aq)	ug/l	-	-							0.0199	1.57
Fluorene (aq)	ug/l	-	-							0.0175	0.0858
Indeno(1,2,3-cd)pyrene (aq)	ug/l	-	-							0.0141	1.43
Naphthalene (aq)	ug/l	2	1	0.9%						0.318	6.02
Anthracene (aq)	ug/l	0.1	2	1.7%						0.0203	0.125
Benzo(k)fluoranthene (aq)	ug/l	0.017	6	5.2%						0.0393	1.09
Dibenzo(a,h)anthracene (aq)	ug/l	-	-							0.0164	0.367
1,1,1,2-Tetrachloroethane	ug/l										
1,1,1-Trichloroethane	ug/l										
1,1,2,2-Tetrachloroethane	ug/l										
1,1,2-Trichloroethane	ug/l										
1,1-Dichloroethane	ug/l										
1,1-Dichloroethene	ug/l										
1,1-Dichloropropene	ug/l										
1,2,3,6,7,8 HxCDD*	ng/l										

Parameter	Unit	No. Analyses	Analyses Above LOD		Concentration		Parameter	Unit	EQS	Analyses Above EQS		Additional Notes	CCW TL	Analyses Above CCW TL		Additional Notes	Min	Max
			No.	*%'age of Analyses*	*Range*	*Average*				*No.*	*%'age of Analyses*			*No.*	*%'age of Analyses*			
1,2,3-Trichlorobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2,3-Trichlorobenzene	ug/l										
1,2,3-Trichloropropane	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2,3-Trichloropropane	ug/l										
1,2,4-Trichlorobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2,4-Trichlorobenzene	ug/l										
1,2,4-Trimethylbenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2,4-Trimethylbenzene	ug/l										
1,2-Dibromo-3-chloropropane	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2-Dibromo-3-chloropropane	ug/l										
1,2-Dibromoethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2-Dibromoethane	ug/l										
1,2-Dichlorobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2-Dichlorobenzene	ug/l										
1,2-Dichloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2-Dichloroethane	ug/l										
1,2-Dichloropropane	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,2-Dichloropropane	ug/l										
1,3,5-Trichlorobenzene	ug/l	2	0	None > LOD	None > LOD	None > LOD	1,3,5-Trichlorobenzene	ug/l										
1,3,5-Trimethylbenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,3,5-Trimethylbenzene	ug/l										
1,3-Dichlorobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,3-Dichlorobenzene	ug/l										
1,3-Dichloropropane	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,3-Dichloropropane	ug/l										
1,4-Dichlorobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	1,4-Dichlorobenzene	ug/l										
2,2-Dichloropropane	ug/l	2	0	None > LOD	None > LOD	None > LOD	2,2-Dichloropropane	ug/l										
2,4,5-Trichlorophenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2,4,5-Trichlorophenol	ug/l										
2,4,6-Trichlorophenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2,4,6-Trichlorophenol	ug/l										
2,4-Dichlorophenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2,4-Dichlorophenol	ug/l										
2,4-Dimethylphenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2,4-Dimethylphenol	ug/l										
2,4-Dinitrotoluene	ug/l	31	0	None > LOD	None > LOD	None > LOD	2,4-Dinitrotoluene	ug/l										
2,6-Dinitrotoluene	ug/l	31	0	None > LOD	None > LOD	None > LOD	2,6-Dinitrotoluene	ug/l										
2-Chloronaphthalene	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Chloronaphthalene	ug/l										
2-Chlorophenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Chlorophenol	ug/l										
2-Chlorotoluene	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Chlorotoluene	ug/l										
2-Methyl-4,6-Dinitrophenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Methyl-4,6-Dinitrophenol	ug/l										
2-Methylnaphthalene	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Methylnaphthalene	ug/l										
2-Methylphenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Methylphenol	ug/l										
2-Nitroaniline	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Nitroaniline	ug/l										
2-Nitrophenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	2-Nitrophenol	ug/l										
3-Nitroaniline	ug/l	31	0	None > LOD	None > LOD	None > LOD	3-Nitroaniline	ug/l										
4-Bromophenyl Phenyl Ether	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Bromophenyl Phenyl Ether	ug/l										
4-Chloro-3-Methylphenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Chloro-3-Methylphenol	ug/l										
4-Chloroaniline	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Chloroaniline	ug/l										
4-Chlorophenyl Phenyl Ether	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Chlorophenyl Phenyl Ether	ug/l										
4-Chlorotoluene	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Chlorotoluene	ug/l										
4-Isopropyltoluene	ug/l	31	1	3.2%	31.9	Single Analysis	4-Isopropyltoluene	ug/l									31.9	31.9
4-Methylphenol	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Methylphenol	ug/l										
4-Nitroaniline	ug/l	31	0	None > LOD	None > LOD	None > LOD	4-Nitroaniline	ug/l										
4-Nitrophenol (aq)	ug/l	2	0	None > LOD	None > LOD	None > LOD	4-Nitrophenol (aq)	ug/l										
Azobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Azobenzene	ug/l										
Bis(2-chloroethoxy)methane	ug/l	29	0	None > LOD	None > LOD	None > LOD	Bis(2-chloroethoxy)methane	ug/l										
Bis(2-chloroethyl)ether	ug/l	31	0	None > LOD	None > LOD	None > LOD	Bis(2-chloroethyl)ether	ug/l										
Bis(2-chloroisopropyl)ether	ug/l	29	0	None > LOD	None > LOD	None > LOD	Bis(2-chloroisopropyl)ether	ug/l										
Bis(2-ethylhexyl)phthalate	ug/l	31	0	None > LOD	None > LOD	None > LOD	Bis(2-ethylhexyl)phthalate	ug/l										
Bromobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Bromobenzene	ug/l										
Bromochloromethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Bromochloromethane	ug/l										
Bromodichloromethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Bromodichloromethane	ug/l										
Bromoform	ug/l	2	0	None > LOD	None > LOD	None > LOD	Bromoform	ug/l										
Bromomethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Bromomethane	ug/l										
Butylbenzylphthalate	ug/l	31	0	None > LOD	None > LOD	None > LOD	Butylbenzylphthalate	ug/l										
Carbazole	ug/l	31	0	None > LOD	None > LOD	None > LOD	Carbazole	ug/l										
Carbon disulphide	ug/l	2	0	None > LOD	None > LOD	None > LOD	Carbon disulphide	ug/l										
Carbontetrachloride	ug/l	2	0	None > LOD	None > LOD	None > LOD	Carbontetrachloride	ug/l										
Chlorobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Chlorobenzene	ug/l										
Chloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Chloroethane	ug/l										
Chloroethene	ug/l	29	0	None > LOD	None > LOD	None > LOD	Chloroethene	ug/l										
Chloroform	ug/l	31	0	None > LOD	None > LOD	None > LOD	Chloroform	ug/l										
Chloromethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Chloromethane	ug/l										
cis-1,2-Dichloroethene	ug/l	31	0	None > LOD	None > LOD	None > LOD	cis-1,2-Dichloroethene	ug/l										
cis-1,3-Dichloropropene	ug/l	31	0	None > LOD	None > LOD	None > LOD	cis-1,3-Dichloropropene	ug/l										
Dibenzofuran	ug/l	31	0	None > LOD	None > LOD	None > LOD	Dibenzofuran	ug/l										
Dibromochloromethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Dibromochloromethane	ug/l										
Dibromomethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Dibromomethane	ug/l										
Dichlorodifluoromethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Dichlorodifluoromethane	ug/l										
Dichloromethane	ug/l	2	0	None > LOD	None > LOD	None > LOD	Dichloromethane	ug/l										
Diethylphthalate	ug/l	31	0	None > LOD	None > LOD	None > LOD	Diethylphthalate	ug/l										
Dimethylphthalate	ug/l	31	0	None > LOD	None > LOD	None > LOD	Dimethylphthalate	ug/l										
Di-N-Butyl Phthalate	ug/l	29	0	None > LOD	None > LOD	None > LOD	Di-N-Butyl Phthalate	ug/l										
Di-N-Octyl Phthalate	ug/l	29	0	None > LOD	None > LOD	None > LOD	Di-N-Octyl Phthalate	ug/l										
Hexachlorobenzene (HCB)	ug/l	31	0	None > LOD	None > LOD	None > LOD	Hexachlorobenzene (HCB)	ug/l										
Hexachlorobutadiene (HCBD)	ug/l	31	0	None > LOD	None > LOD	None > LOD	Hexachlorobutadiene (HCBD)	ug/l										
Hexachlorocyclopentadiene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Hexachlorocyclopentadiene	ug/l										
Hexachloroethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Hexachloroethane	ug/l										
Isophorone	ug/l	31	1	3.2%	1.59	Single Analysis	Isophorone	ug/l									1.59	1.59
Isopropylbenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Isopropylbenzene	ug/l										
Methyl tert-butyl ether (MTBE)	ug/l	87	0	None > LOD	None > LOD	None > LOD	Methyl tert-butyl ether (MTBE)	ug/l										
n-Butylbenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	n-Butylbenzene	ug/l										
n-Dibutyl phthalate (aq)	ug/l	2	0	None > LOD	None > LOD	None > LOD	n-Dibutyl phthalate (aq)	ug/l										
n-Dioctyl phthalate (aq)	ug/l	2	0	None > LOD	None > LOD	None > LOD	n-Dioctyl phthalate (aq)	ug/l										
Nitrobenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Nitrobenzene	ug/l										
n-nitrosodimethylamine	ug/l	29	0	None > LOD	None > LOD	None > LOD	n-nitrosodimethylamine	ug/l										
N-Nitroso-Di-N-Propylamine	ug/l	31	0	None > LOD	None > LOD	None > LOD	N-Nitroso-Di-N-Propylamine	ug/l										
n-propylbenzene	ug/l	29	0	None > LOD	None > LOD	None > LOD	n-propylbenzene	ug/l										
Pcb-101 2,2',4,5,5' - Pentachlorobiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-101 2,2',4,5,5' - Pentachlorobiphenyl	ug/l										
Pcb-118 2,3',4,4',5 - Pentachlorobiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-118 2,3',4,4',5 - Pentachlorobiphenyl	ug/l										
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-138 2,2',3,4,4',5' - Hexachlorobiphenyl	ug/l										
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-153 2,2',4,4',5,5' - Hexachlorobiphenyl	ug/l										
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-180 2,2',3,4,4',5,5' - Heptachlorobiphen	ug/l										
Pcb-28 2,4,4' - Trichlororbiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-28 2,4,4' - Trichlororbiphenyl	ug/l										
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	ug/l	29	0	None > LOD	None > LOD	None > LOD	Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	ug/l										
PCBs (vs Aroclor 1254) (aq)	ug/l	7	0	None > LOD	None > LOD	None > LOD	PCBs (vs Aroclor 1254) (aq)	ug/l										
Pentachlorophenol (PCP)	ug/l	31	0	None > LOD	None > LOD	None > LOD	Pentachlorophenol (PCP)	ug/l										
Propylbenzene	ug/l	2	0	None > LOD	None > LOD	None > LOD	Propylbenzene	ug/l										
sec-Butylbenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	sec-Butylbenzene	ug/l										
Styrene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Styrene	ug/l										
tert-Amyl methyl ether (TAME)	ug/l	2	0	None > LOD	None > LOD	None > LOD	tert-Amyl methyl ether (TAME)	ug/l										
tert-Butylbenzene	ug/l	31	0	None > LOD	None > LOD	None > LOD	tert-Butylbenzene	ug/l										
Tetrachloroethene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Tetrachloroethene	ug/l										
Tetrachloromethane (Carbon Tetra Chloride)	ug/l	30	0	None > LOD	None > LOD	None > LOD	Tetrachloromethane (Carbon Tetra Chloride)	ug/l										
trans-1,2-Dichloroethene	ug/l	31	0	None > LOD	None > LOD	None > LOD	trans-1,2-Dichloroethene	ug/l										
trans-1,3-Dichloropropene	ug/l	31	0	None > LOD	None > LOD	None > LOD	trans-1,3-Dichloropropene	ug/l										
Tribromomethane	ug/l	29	0	None > LOD	None > LOD	None > LOD	Tribromomethane	ug/l										
Trichloroethene	ug/l	31	0	None > LOD	None > LOD	None > LOD	Trichloroethene	ug/l										
Trichlorofluoromethane	ug/l	31	0	None > LOD	None > LOD	None > LOD	Trichlorofluoromethane	ug/l										
Vinyl chloride	ug/l	2	0	None > LOD	None > LOD	None > LOD	Vinyl chloride	ug/l										

Annex I: Groundwater Level Dataset

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water level (MAoD)	Response Zone Geology	GW Unit	GeologyCodeDescription	ponseZone	ponseZone	LegendCodeDescription	strumentTy	Distance	teInstallation
BH315	2015-03-05T09:14:00	2.1	62.2	60.1	HDD	Perched	HEAD DEPOSITS	1	3	CLAY	SP	3	-01-14T00:00:00
BH315	2015-03-12T11:44:00	Dry	62.2	dry	HDD	Perched	HEAD DEPOSITS	1	3	CLAY	SP	3	-01-14T00:00:00
BH315	2015-02-26T09:59:00	1.93	62.2	60.27	HDD	Perched	HEAD DEPOSITS	1	3	CLAY	SP	3	-01-14T00:00:00
BH320	2015-03-06T11:44:00	0.94	13.55	12.61	GTD	Perched	GLACIAL TILL DEPOSITS	1	3	CLAY	SP	3	-01-15T00:00:00
BH320	2015-03-13T13:14:00	1.08	13.55	12.47	GTD	Perched	GLACIAL TILL DEPOSITS	1	3	CLAY	SP	3	-01-15T00:00:00
BH320	2015-02-27T11:44:00	0.82	13.55	12.73	GTD	Perched	GLACIAL TILL DEPOSITS	1	3	CLAY	SP	3	-01-15T00:00:00
BH324	2015-03-05T11:14:00	1.15	9.45	8.3	MG / RTD	Perched	MADE GROUND /RIVER TERRACE DEPOSITS	1	2	Sandy GRAVEL	SP	2	-01-12T00:00:00
BH324	2015-05-05T12:20:00	1.26	9.45	8.19	MG / RTD	Perched	MADE GROUND /RIVER TERRACE DEPOSITS	1	2	Sandy GRAVEL	SP	2	-01-12T00:00:00
BH324	2015-03-12T12:59:00	1.2	9.45	8.25	MG / RTD	Perched	MADE GROUND /RIVER TERRACE DEPOSITS	1	2	Sandy GRAVEL	SP	2	-01-12T00:00:00
BH324	2015-02-26T12:44:00	1.1	9.45	8.35	MG / RTD	Perched	MADE GROUND /RIVER TERRACE DEPOSITS	1	2	Sandy GRAVEL	SP	2	-01-12T00:00:00
BH404	2015-03-16T10:00:00	1.36	6.1	4.74	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8	12.5	GRAVEL / COBBLES	SP	12.5	-01-15T00:00:00
BH404	2015-03-09T11:00:00	0	6.1	6.1	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8	12.5	GRAVEL / COBBLES	SP	12.5	-01-15T00:00:00
BH401	2015-05-06T09:17:00	3.17	5.95	2.78	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	12.5	Sandy GRAVEL	SP	12.5	-01-12T00:00:00
BH401	2015-03-16T09:14:00	1.27	5.95	4.68	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	12.5	Sandy GRAVEL	SP	12.5	-01-12T00:00:00
BH401	2015-03-09T10:14:00	1.3	5.95	4.65	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	12.5	Sandy GRAVEL	SP	12.5	-01-12T00:00:00
BH323	2015-05-21T14:38:00	2.26	11.55	9.29	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	0.5	3	Clayey GRAVEL	SP	3	-03-30T00:00:00
BH323	2015-04-23T10:14:00	1.7	11.55	9.85	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	0.5	3	Clayey GRAVEL	SP	3	-03-30T00:00:00
BH323	2015-04-30T09:44:00	1.72	11.55	9.83	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	0.5	3	Clayey GRAVEL	SP	3	-03-30T00:00:00
BH325C	2015-05-05T12:44:00	3.2	8.16	4.96	TFD	Shallow GW	TIDAL FLAT DEPOSITS	3.5	5.5	Silty CLAY	SP	5.5	-01-13T00:00:00
BH325C	2015-03-13T10:44:00	3.3	8.16	4.86	TFD	Shallow GW	TIDAL FLAT DEPOSITS	3.5	5.5	Silty CLAY	SP	5.5	-01-13T00:00:00
BH325C	2015-02-27T09:14:00	2.95	8.16	5.21	TFD	Shallow GW	TIDAL FLAT DEPOSITS	3.5	5.5	Silty CLAY	SP	5.5	-01-13T00:00:00
BH325C	2015-03-06T09:14:00	3.54	8.16	4.62	TFD	Shallow GW	TIDAL FLAT DEPOSITS	3.5	5.5	Silty CLAY	SP	5.5	-01-13T00:00:00
BH404	2015-03-16T10:00:00	0	6.1	6.1	TFD	Shallow GW	TIDAL FLAT DEPOSITS	1	4	Silty CLAY	SP	4	-01-15T00:00:00
BH404	2015-03-09T11:00:00	0	6.1	6.1	TFD	Shallow GW	TIDAL FLAT DEPOSITS	1	4	Silty CLAY	SP	4	-01-15T00:00:00
BHD5	1997-12-03T12:10:00	1.52	6	4.48	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8.5	13	Cobbly GRAVEL	SPIE	12.72	-11-16T00:00:00
BHD5	1997-11-25T12:35:00	1.44	6	4.56	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8.5	13	Cobbly GRAVEL	SPIE	12.72	-11-16T00:00:00
BHD5	1997-12-18T13:50:00	1.68	6	4.32	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8.5	13	Cobbly GRAVEL	SPIE	12.72	-11-16T00:00:00
BHD5	1997-12-12T15:30:00	1.54	6	4.46	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8.5	13	Cobbly GRAVEL	SPIE	12.72	-11-16T00:00:00
BHD5	1997-11-15T10:00:00	1.52	6	4.48	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8.5	13	Cobbly GRAVEL	SPIE	12.72	-11-16T00:00:00
BHD3	1997-12-03T12:00:00	1.52	5.9	4.38	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8	11.5	Silty sandy GRAVEL	SPIE	11	-11-16T00:00:00
BHD3	1997-12-12T15:20:00	1.42	5.9	4.48	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8	11.5	Silty sandy GRAVEL	SPIE	11	-11-16T00:00:00
BHD3	1997-12-18T13:40:00	1.42	5.9	4.48	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8	11.5	Silty sandy GRAVEL	SPIE	11	-11-16T00:00:00
BHD3	1997-11-28T09:00:00	1.53	5.9	4.37	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	8	11.5	Silty sandy GRAVEL	SPIE	11	-11-16T00:00:00
BHC5A	1997-12-12T15:10:00	0.83	11.1	10.27	RTD	Shallow GW	RIVER TERRACE DEPOSITS	1.8	2.8	Clayey silty gravelly SAND	SPIE	2.3	-11-20T00:00:00
BHC5A	1997-12-02T17:05:00	0.62	11.1	10.48	RTD	Shallow GW	RIVER TERRACE DEPOSITS	1.8	2.8	Clayey silty gravelly SAND	SPIE	2.3	-11-20T00:00:00
BHC5A	1997-12-18T13:30:00	0.73	11.1	10.37	RTD	Shallow GW	RIVER TERRACE DEPOSITS	1.8	2.8	Clayey silty gravelly SAND	SPIE	2.3	-11-20T00:00:00
BHC5A	1997-11-25T12:10:00	0.77	11.1	10.33	RTD	Shallow GW	RIVER TERRACE DEPOSITS	1.8	2.8	Clayey silty gravelly SAND	SPIE	2.3	-11-20T00:00:00
SBHD03 CP	2008-02-25T14:52:00	0.43	5.42	4.99	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	9.6	10.2	Sandy GRAVEL	SPIE	10	-12-05T00:00:00
SBHD03 CP	2008-01-30T11:01:00	0.47	5.42	4.95	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	9.6	10.2	Sandy GRAVEL	SPIE	10	-12-05T00:00:00
SBHD03 CP	2008-03-07T14:25:00	0.56	5.42	4.86	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	9.6	10.2	Sandy GRAVEL	SPIE	10	-12-05T00:00:00
SBHD03 CP	2008-03-20T16:45:00	0.58	5.42	4.84	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	9.6	10.2	Sandy GRAVEL	SPIE	10	-12-05T00:00:00
SBHD03 CP	2008-04-18T07:40:00	0.6	5.42	4.82	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	9.6	10.2	Sandy GRAVEL	SPIE	10	-12-05T00:00:00
SBHD03 CP	2008-04-04T08:13:00	0.53	5.42	4.89	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	9.6	10.2	Sandy GRAVEL	SPIE	10	-12-05T00:00:00
SBHD06 RC	2008-03-07T14:25:00	1.39	6.18	4.79	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	15	SAND & GRAVELS	SP	15	
SBHD06 RC	2008-04-18T07:40:00	1.44	6.18	4.74	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	15	SAND & GRAVELS	SP	15	
SBHD06 RC	2008-04-04T09:30:00	1.33	6.18	4.85	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	15	SAND & GRAVELS	SP	15	
SBHD06 RC	2008-02-21T10:30:00	1.39	6.18	4.79	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	15	SAND & GRAVELS	SP	15	
SBHD06 RC	2008-03-20T17:55:00	1.2	6.18	4.98	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	15	SAND & GRAVELS	SP	15	
SBHD06 RC	2008-01-30T13:00:00	1.13	6.18	5.05	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	7.5	15	SAND & GRAVELS	SP	15	
SBHD05 RC	2008-02-25T15:35:00	1.05	6.05	5	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	11.6	12.2	SAND and GRAVEL	SPIE	12	
SBHD05 RC	2008-03-07T14:25:00	1.77	6.05	4.28	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	11.6	12.2	SAND and GRAVEL	SPIE	12	
SBHD05 RC	2008-01-31T09:00:00	1.02	6.05	5.03	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	11.6	12.2	SAND and GRAVEL	SPIE	12	
SBHD05 RC	2008-03-20T16:00:00	1.08	6.05	4.97	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	11.6	12.2	SAND and GRAVEL	SPIE	12	
SBHD05 RC	2008-04-04T09:15:00	1.22	6.05	4.83	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	11.6	12.2	SAND and GRAVEL	SPIE	12	
SBHD05 RC	2008-04-18T07:40:00	1.32	6.05	4.73	GFD	Shallow GW	GLACIOFLUVIAL DEPOSITS	11.6	12.2	SAND and GRAVEL	SPIE	12	
BH312	2015-05-05T10:36:00	8.45	75.15	66.7	SMF	Bedrock	ST MAUGHANS FORMATION	1.5	10.5	SILTSTONE	SP	10.5	-02-02T00:00:00
BH312	2015-03-04T09:14:00	5.43	75.15	69.72	SMF	Bedrock	ST MAUGHANS FORMATION	1.5	10.5	SILTSTONE	SP	10.5	-02-02T00:00:00
BH312	2015-02-25T11:14:00	3.88	75.15	71.27	SMF	Bedrock	ST MAUGHANS FORMATION	1.5	10.5	SILTSTONE	SP	10.5	-02-02T00:00:00
BH312	2015-03-11T08:44:00	6.85	75.15	68.3	SMF	Bedrock	ST MAUGHANS FORMATION	1.5	10.5	SILTSTONE	SP	10.5	-02-02T00:00:00
BHD6	1997-12-03T12:15:00	1.33	5.9	4.57	MMG	Bedrock	MERCIA MUDSTONE GROUP	14	19	MUDSTONE	SPIE	18.4	-11-16T00:00:00
BHD6	1997-11-15T10:40:00	1.5	5.9	4.4	MMG	Bedrock	MERCIA MUDSTONE GROUP	14	19	MUDSTONE	SPIE	18.4	-11-16T00:00:00
BHD6	1997-12-12T15:45:00	1.64	5.9	4.26	MMG	Bedrock	MERCIA MUDSTONE GROUP	14	19	MUDSTONE	SPIE	18.4	-11-16T00:00:00
BHD6	1997-12-18T14:05:00	1.73	5.9	4.17	MMG	Bedrock	MERCIA MUDSTONE GROUP	14	19	MUDSTONE	SPIE	18.4	-11-16T00:00:00
BHD6	1997-11-25T12:41:00	0.72	5.9	5.18	MMG	Bedrock	MERCIA MUDSTONE GROUP	14	19	MUDSTONE	SPIE	18.4	-11-16T00:00:00
BHB9A	1997-12-15T13:20:00	1.02	101.7	100.68	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-11-05T17:00:00	2.38	101.7	99.32	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-10-30T13:10:00	2.1	101.7	99.6	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-13T13:20:00	1.02	101.7	100.68	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-11-25T10:55:00	0.98	101.7	100.72	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-16T15:20:00	0.97	101.7	100.73	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-21T10:05:00	1.13	101.7	100.57	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-01T09:25:00	0.91	101.7	100.79	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-19T12:30:00	1.12	101.7	100.58	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-11-14T15:00:00	1.23	101.7	100.47	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-20T15:30:00	1.75	101.7	99.95	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB9A	1997-12-09T16:50:00	0.94	101.7	100.76	SMF	Bedrock	ST MAUGHANS FORMATION	2.5	4.5	MUDSTONE	SPIE	4.18	-10-22T00:00:00
BHB11A	1997-12-18T12:55:00	0.92	64.2	63.28	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB11A	1997-11-10T12:15:00	0.5	64.2	63.7	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB11A	1997-11-25T10:10:00	1.1	64.2	63.1	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB11A	1997-12-02T16:15:00	0.02	64.2	64.18	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB11A	1997-12-12T13:35:00	1.04	64.2	63.16	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB11A	1997-11-14T14:30:00	0.92	64.2	63.28	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB11A	1997-11-05T15:10:00	5.58	64.2	58.62	SMF	Bedrock	ST MAUGHANS FORMATION	5	8.5	SANDSTONE	SPIE	8.01	-11-05T00:00:00
BHB6A	1997-11-25T11:10:00	3.59	104.6	101.01	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB6A	1997-12-02T15:20:00	3.61	104.6	100.99	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB6A	1997-11-11T12:10:00	3.4	104.6	101.2	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB6A	1997-12-09T15:40:00	3.6	104.6	101	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB6A	1997-05-11T15:50:00	5.03	104.6	99.57	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB6A	1997-11-14T15:15:00	3.6	104.6	101	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB6A	1997-12-18T12:40:00	3.56	104.6	101.04	SMF	Bedrock	ST MAUGHANS FORMATION	11	13.5	SANDSTONE	SPIE	13.13	-11-02T00:00:00
BHB8A	1997-11-05T15:40:00	5.58	82.2	76.62	SMF	Bedrock	ST MAUGHANS FORMATION	15	21	SANDSTONE	SPIE	20.65	-10-29T00:00:00
BHB8A	1997-11-11T12:30:00	18.98	82.2	63.22	SMF	Bedrock	ST MAUGHANS FORMATION	15	21	SANDSTONE	SPIE	20.65	-10-29T00:00:00
BHB8A	1997-12-18T12:30:00	14.63	82.2	67.57	SMF	Bedrock	ST MAUGHANS FORMATION	15	21	SANDSTONE	SPIE	20.65	-10-29T00:00:00
BHB8A	1997-12-09T15:30:00	16.02	82.2	66.18	SMF	Bedrock	ST MAUGHANS FORMATION	15	21	SANDSTONE	SPIE	20.65	-10-29T00:00:00
BHB8A	1997-11-14T14:35:00	18.53	82.2	63.67	SMF	Bedrock	ST MAUGHANS FORMATION	15	21	SANDSTONE	SPIE	20.65	-10-29T00:00:00
BHB8A	1997-11-25T10:15:00	15.17	82.2	67.03	SMF	Bedrock	ST MAUGHANS FORMATION	15	21	SANDSTONE	SPIE	20.65	-10-29T00:00:00
BHB7A	1997-12-17T09:20:00	26.01	97.4	71.39	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-13T14:40:00	25.52	97.4	71.88	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-11-11T12:50:00	26.2	97.4	71.2	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-09T12:40:00	23.82	97.4	73.58	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-11-14T15:10:00	25.02	97.4	72.38	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-02T15:25:00	23.97	97.4	73.43	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-15T14:40:00	24.96	97.4	72.44	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-18T12:45:00	24.72	97.4	72.68	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-21T11:35:00	24.62	97.4	72.78	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-11-25T11:05:00	23.79	97.4	73.61	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-19T14:00:00	24.05	97.4	73.35	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB7A	1997-12-20T09:30:00	23.51	97.4	73.89	SMF	Bedrock	ST MAUGHANS FORMATION	19	29	MUDSTONE	SPIE	28.48	-11-05T00:00:00
BHB3	1997-11-14T15:30:00	3.02	54.7	51.68	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-02T16:00:00	1.42	54.7	53.28	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-09T13:00:00	2.57	54.7	52.13	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-15T09:40:00	25.37	54.7	29.33	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-11-05T16:20:00	7.82	54.7	46.88	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-13T09:40:00	1.53	54.7	53.17	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water level (MAoD)	Response Zone Geology	GW Unit	GeologyCodeDescription	ponseZone	ponseZone	LegendCodeDescription	strumentTy	Distance	teInstallation
BHB3	1997-11-04T13:10:00	6.52	54.7	48.18	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-17T10:40:00	2.97	54.7	51.73	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-21T13:35:00	1.76	54.7	52.94	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-19T15:00:00	3.21	54.7	51.49	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-11-25T11:35:00	2.61	54.7	52.09	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-20T10:50:00	1.63	54.7	53.07	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB3	1997-12-18T11:40:00	2.87	54.7	51.83	SMF	Bedrock	ST MAUGHANS FORMATION	5	10.5	SANDSTONE	SPIE	10.05	-10-17T00:00:00
BHB15A	1997-11-05T15:20:00	1.21	79.7	78.49	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB15A	1997-11-10T12:10:00	0.18	79.7	79.52	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB15A	1997-12-02T14:50:00	0.22	79.7	79.48	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB15A	1997-11-14T14:15:00	0.13	79.7	79.57	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB15A	1997-12-12T13:45:00	0.2	79.7	79.5	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB15A	1997-11-25T09:50:00	0.2	79.7	79.5	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB15A	1997-12-18T12:05:00	0.21	79.7	79.49	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.4	-10-29T00:00:00
BHB4A	1997-12-18T11:30:00	11.17	81.8	70.63	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-11-05T16:00:00	13.03	81.8	68.77	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-19T15:20:00	11.12	81.8	70.68	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-13T10:00:00	11.21	81.8	70.59	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-11-14T15:20:00	9.02	81.8	72.78	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-11-25T11:25:00	11.1	81.8	70.7	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-15T10:00:00	10.94	81.8	70.86	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-17T11:00:00	11.07	81.8	70.73	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-09T15:50:00	11.05	81.8	70.75	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-11-11T13:00:00	12.4	81.8	69.4	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-21T14:55:00	11.04	81.8	70.76	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-02T15:45:00	10.94	81.8	70.86	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB4A	1997-12-20T11:10:00	11.01	81.8	70.79	SMF	Bedrock	ST MAUGHANS FORMATION	10	15	SANDSTONE	SPIE	14.51	-10-28T00:00:00
BHB16B	1997-12-09T13:50:00	DRY	71.5	dry	SMF	Bedrock	ST MAUGHANS FORMATION	14	20	MUDSTONE	SPIE	19.85	-11-28T00:00:00
BHB16B	1997-12-18T12:10:00	DRY	71.5	dry	SMF	Bedrock	ST MAUGHANS FORMATION	14	20	MUDSTONE	SPIE	19.85	-11-28T00:00:00
BHB16B	1997-12-01T09:30:00	DRY	71.5	dry	SMF	Bedrock	ST MAUGHANS FORMATION	14	20	MUDSTONE	SPIE	19.85	-11-28T00:00:00
BHB10B	1997-12-12T14:05:00	3.02	85.9	82.88	SMF	Bedrock	ST MAUGHANS FORMATION	13	18	MUDSTONE	SPIE	17.5	-11-28T00:00:00
BHB10B	1997-12-01T10:00:00	2.7	85.9	83.2	SMF	Bedrock	ST MAUGHANS FORMATION	13	18	MUDSTONE	SPIE	17.5	-11-28T00:00:00
BHB10B	1997-12-18T12:25:00	3.02	85.9	82.88	SMF	Bedrock	ST MAUGHANS FORMATION	13	18	MUDSTONE	SPIE	17.5	-11-28T00:00:00
BHB10A	1997-12-21T09:45:00	0.42	85.9	85.48	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-11-05T16:05:00	6.71	85.9	79.19	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-16T15:00:00	0.44	85.9	85.46	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-19T12:10:00	0.11	85.9	85.79	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-11-14T14:40:00	1.5	85.9	84.4	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-13T13:00:00	1.01	85.9	84.89	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-12T14:05:00	1.42	85.9	84.48	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-20T15:10:00	0.68	85.9	85.22	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-18T12:25:00	0.4	85.9	85.5	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-01T10:35:00	0.16	85.9	85.74	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-12-15T13:00:00	1.09	85.9	84.81	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB10A	1997-11-25T10:25:00	0.77	85.9	85.13	SMF	Bedrock	ST MAUGHANS FORMATION	21	26	MUDSTONE	SPIE	25.51	-11-02T00:00:00
BHB19A	1997-12-09T13:25:00	9.62	31.93	22.31	SMF	Bedrock	ST MAUGHANS FORMATION	14	19.7	MUDSTONE	SPIE	19	-11-27T00:00:00
BHB19A	1997-12-06T12:30:00	9.3	31.93	22.63	SMF	Bedrock	ST MAUGHANS FORMATION	14	19.7	MUDSTONE	SPIE	19	-11-27T00:00:00
BHB19A	1997-12-18T11:45:00	9.51	31.93	22.42	SMF	Bedrock	ST MAUGHANS FORMATION	14	19.7	MUDSTONE	SPIE	19	-11-27T00:00:00
BHB18	1997-12-18T12:00:00	DRY	48.2	Dry	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.2	-11-18T00:00:00
BHB18	1997-12-02T14:45:00	DRY	48.2	Dry	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.2	-11-18T00:00:00
BHB18	1997-12-12T13:40:00	DRY	48.2	Dry	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.2	-11-18T00:00:00
BHB18	1997-11-26T10:00:00	9.9	48.2	38.3	SMF	Bedrock	ST MAUGHANS FORMATION	5.5	10.5	MUDSTONE	SPIE	10.2	-11-18T00:00:00
BHB7B	1997-12-09T12:40:00	4.7	97.4	92.7	SMF	Bedrock	ST MAUGHANS FORMATION	13	19	MUDSTONE	SPIE	18.5	-11-28T00:00:00
BHB7B	1997-12-18T12:45:00	4.87	97.4	92.53	SMF	Bedrock	ST MAUGHANS FORMATION	13	19	MUDSTONE	SPIE	18.5	-11-28T00:00:00
BHB7B	1997-12-01T10:30:00	3.82	97.4	93.58	SMF	Bedrock	ST MAUGHANS FORMATION	13	19	MUDSTONE	SPIE	18.5	-11-28T00:00:00
BHB9B	1997-12-16T00:00:00	0.82	101.8	100.98	SMF	Bedrock	ST MAUGHANS FORMATION	11	16	MUDSTONE	SPIE	15.5	-11-28T00:00:00
BHC5	1997-12-02T17:00:00	2.05	11.1	9.05	SMF	Bedrock	ST MAUGHANS FORMATION	4.5	8	MUDSTONE	SPIE	7.42	-11-17T00:00:00
BHC5	1997-12-18T13:30:00	2.71	11.1	8.39	SMF	Bedrock	ST MAUGHANS FORMATION	4.5	8	MUDSTONE	SPIE	7.42	-11-17T00:00:00
BHC5	1997-11-15T09:20:00	2.75	11.1	8.35	SMF	Bedrock	ST MAUGHANS FORMATION	4.5	8	MUDSTONE	SPIE	7.42	-11-17T00:00:00
BHC5	1997-12-12T15:10:00	2.65	11.1	8.45	SMF	Bedrock	ST MAUGHANS FORMATION	4.5	8	MUDSTONE	SPIE	7.42	-11-17T00:00:00
BHC5	1997-11-26T10:50:00	2.85	11.1	8.25	SMF	Bedrock	ST MAUGHANS FORMATION	4.5	8	MUDSTONE	SPIE	7.42	-11-17T00:00:00
SBHC01 RC	2008-01-30T09:50:00	2.45	10.48	8.03	SMF	Bedrock	ST MAUGHANS FORMATION	7.65	8.25	MUDSTONE	SPIE	8.05	-11-12T00:00:00
SBHC01 RC	2008-04-04T08:00:00	2.59	10.48	7.89	SMF	Bedrock	ST MAUGHANS FORMATION	7.65	8.25	MUDSTONE	SPIE	8.05	-11-12T00:00:00
SBHC01 RC	2008-03-07T14:25:00	2.6	10.48	7.88	SMF	Bedrock	ST MAUGHANS FORMATION	7.65	8.25	MUDSTONE	SPIE	8.05	-11-12T00:00:00
SBHC01 RC	2008-02-25T14:34:00	2.48	10.48	8	SMF	Bedrock	ST MAUGHANS FORMATION	7.65	8.25	MUDSTONE	SPIE	8.05	-11-12T00:00:00
SBHC01 RC	2008-04-18T07:40:00	2.66	10.48	7.82	SMF	Bedrock	ST MAUGHANS FORMATION	7.65	8.25	MUDSTONE	SPIE	8.05	-11-12T00:00:00
SBHC01 RC	2008-03-20T16:30:00	2.57	10.48	7.91	SMF	Bedrock	ST MAUGHANS FORMATION	7.65	8.25	MUDSTONE	SPIE	8.05	-11-12T00:00:00

Location	Date and Time	Reading (mbGL)	GL (MAOD)	Water Level (MAOD)	Response Zone Geology	ResponseZoneTop (mBGL)	Response ZoneBase (mBGL)	RZ Top (MAOD)	RZ Base (MAOD)	strumentTy	Distance	teInstallation
BH413	2015-05-12T13:55:00	3.38	9.9	6.52	MG	1	4.5	8.9	5.4	SP	4.5	-02-05T00:00:00
BH413	2015-05-05T11:59:00	2.24	9.9	7.66	MG	1	4.5	8.9	5.4	SP	4.5	-02-05T00:00:00
BH413	2015-04-20T13:44:00	2.28	9.9	7.62	MG	1	4.5	8.9	5.4	SP	4.5	-02-05T00:00:00
BH413	2015-04-27T11:14:00	2.36	9.9	7.54	MG	1	4.5	8.9	5.4	SP	4.5	-02-05T00:00:00
BH412	2015-05-21T12:12:00	Dry	10.5	DRY	MG	1	3	9.5	7.5	SP	3	-02-25T00:00:00
BH412	2015-04-23T12:44:00	2.83	10.5	7.67	MG	1	3	9.5	7.5	SP	3	-02-25T00:00:00
BH412	2015-04-30T13:14:00	2.84	10.5	7.66	MG	1	3	9.5	7.5	SP	3	-02-25T00:00:00
BH408	2015-03-16T12:14:00	0.48	6.4	5.92	TFD	0.5	5	5.9	1.4	SP	5	-01-22T00:00:00
BH408	2015-05-06T09:57:00	2.58	6.4	3.82	TFD	0.5	5	5.9	1.4	SP	5	-01-22T00:00:00
BH408	2015-03-09T12:14:00	0.49	6.4	5.91	TFD	0.5	5	5.9	1.4	SP	5	-01-22T00:00:00
BH411	2015-05-14T10:54:00	4.62	6.55	1.93	TFD	3	8	3.55	-1.45	SP	8	-03-19T00:00:00
BH411	2015-04-23T11:14:00	5.49	6.55	1.06	TFD	3	8	3.55	-1.45	SP	8	-03-19T00:00:00
BH411	2015-04-30T11:44:00	7.22	6.55	-0.67	TFD	3	8	3.55	-1.45	SP	8	-03-19T00:00:00
BH412	2015-04-30T13:14:00	9.85	10.5	0.65	GFD	15	20	-4.5	-9.5	SP	20	-02-25T00:00:00
BH412	2015-05-21T12:13:00	10.57	10.5	-0.07	GFD	15	20	-4.5	-9.5	SP	20	-02-25T00:00:00
BH412	2015-04-23T12:44:00	8.79	10.5	1.71	GFD	15	20	-4.5	-9.5	SP	20	-02-25T00:00:00
BH408	2015-03-16T12:14:00	2.79	6.4	3.61	GFD	8	12	-1.6	-5.6	SP	12	-01-22T00:00:00
BH408	2015-05-06T09:58:00	4.33	6.4	2.07	GFD	8	12	-1.6	-5.6	SP	12	-01-22T00:00:00
BH408	2015-03-09T12:14:00	2.58	6.4	3.82	GFD	8	12	-1.6	-5.6	SP	12	-01-22T00:00:00
BH411	2015-04-23T11:14:00	5.33	6.55	1.22	GFD	9.5	14	-2.95	-7.45	SP	14	-03-19T00:00:00
BH411	2015-04-30T11:44:00	7.35	6.55	-0.8	GFD	9.5	14	-2.95	-7.45	SP	14	-03-19T00:00:00
BH411	2015-05-14T10:55:00	9.7	6.55	-3.15	GFD	9.5	14	-2.95	-7.45	SP	14	-03-19T00:00:00
BHE4	1997-11-05T16:40:00	4.74	6.5	1.76	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHE4	1997-11-14T14:00:00	4.21	6.5	2.29	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHE4	1997-12-18T14:20:00	3.83	6.5	2.67	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHE4	1997-12-12T16:00:00	3.65	6.5	2.85	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHE4	1997-11-13T16:20:00	3.38	6.5	3.12	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHE4	1997-11-25T13:00:00	3.92	6.5	2.58	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHE4	1997-12-03T11:40:00	3.27	6.5	3.23	GFD	9	12.5	-2.5	-6	SPIE	12.14	-11-04T00:00:00
BHF2	1997-12-17T13:20:00	7.37	8.8	1.43	GFD	15.5	17.5	-6.7	-8.7	SPIE	17.01	-11-14T00:00:00
BHF2	1997-12-03T10:45:00	6.92	8.8	1.88	GFD	15.5	17.5	-6.7	-8.7	SPIE	17.01	-11-14T00:00:00
BHF2	1997-11-15T08:30:00	7.62	8.8	1.18	GFD	15.5	17.5	-6.7	-8.7	SPIE	17.01	-11-14T00:00:00
BHF2	1997-11-25T14:05:00	7.81	8.8	0.99	GFD	15.5	17.5	-6.7	-8.7	SPIE	17.01	-11-14T00:00:00
BHF2	1997-12-11T14:30:00	7.42	8.8	1.38	GFD	15.5	17.5	-6.7	-8.7	SPIE	17.01	-11-14T00:00:00
SBHF02A CP	2008-02-01T14:40:00	7.61	9.17	1.56	GFD	16.7	17.3	-7.53	-8.13	SPIE	17	
SBHF02A CP	2008-03-07T14:25:00	9	9.17	0.17	GFD	16.7	17.3	-7.53	-8.13	SPIE	17	
SBHF02A CP	2008-03-20T15:10:00	5.6	9.17	3.57	GFD	16.7	17.3	-7.53	-8.13	SPIE	17	
SBHF02A CP	2008-02-25T17:13:00	7.57	9.17	1.6	GFD	16.7	17.3	-7.53	-8.13	SPIE	17	
SBHF02A CP	2008-04-18T07:40:00	5.77	9.17	3.4	GFD	16.7	17.3	-7.53	-8.13	SPIE	17	
SBHF02A CP	2008-04-04T10:28:00	5.7	9.17	3.47	GFD	16.7	17.3	-7.53	-8.13	SPIE	17	
BH413	2015-05-05T11:59:00	7.79	9.9	2.11	GFD / MMG	15	18	-5.1	-8.1	SP	18	-02-05T00:00:00
BH413	2015-05-12T13:56:00	9.28	9.9	0.62	GFD / MMG	15	18	-5.1	-8.1	SP	18	-02-05T00:00:00
BH413	2015-04-20T13:44:00	7.86	9.9	2.04	GFD / MMG	15	18	-5.1	-8.1	SP	18	-02-05T00:00:00
BH413	2015-04-27T11:14:00	8.09	9.9	1.81	GFD / MMG	15	18	-5.1	-8.1	SP	18	-02-05T00:00:00
BHF1	1997-12-11T14:40:00	0	5.3	5.3	MMG	14.5	18.5	-9.2	-13.2	SPIE	18	-11-22T00:00:00
BHF1	1997-12-17T13:40:00	0	5.3	5.3	MMG	14.5	18.5	-9.2	-13.2	SPIE	18	-11-22T00:00:00
BHF1	1997-12-03T10:20:00	0	5.3	5.3	MMG	14.5	18.5	-9.2	-13.2	SPIE	18	-11-22T00:00:00
BHF1	1997-11-28T10:30:00	0	5.3	5.3	MMG	14.5	18.5	-9.2	-13.2	SPIE	18	-11-22T00:00:00
BHE3A	1997-11-25T12:05:00	3.49	6.4	2.91	MMG	23	29.5	-16.6	-23.1	SPIE	28.85	-11-16T00:00:00
BHE3A	1997-12-18T14:15:00	3.42	6.4	2.98	MMG	23	29.5	-16.6	-23.1	SPIE	28.85	-11-16T00:00:00
BHE3A	1997-12-03T11:30:00	3.52	6.4	2.88	MMG	23	29.5	-16.6	-23.1	SPIE	28.85	-11-16T00:00:00
BHE3A	1997-12-12T15:55:00	3.51	6.4	2.89	MMG	23	29.5	-16.6	-23.1	SPIE	28.85	-11-16T00:00:00
BHE3A	1997-11-15T11:40:00	3.61	6.4	2.79	MMG	23	29.5	-16.6	-23.1	SPIE	28.85	-11-16T00:00:00
SBHD08 RC	2008-03-07T14:25:00	1.4	6.17	4.77	MMG	29.1	29.7	-22.93	-23.53	SPIE	29.5	
SBHD08 RC	2008-03-19T18:30:00	1.28	6.17	4.89	MMG	29.1	29.7	-22.93	-23.53	SPIE	29.5	
SBHD08 RC	2008-02-25T15:58:00	2.02	6.17	4.15	MMG	29.1	29.7	-22.93	-23.53	SPIE	29.5	
SBHD08 RC	2008-04-18T07:40:00	1.52	6.17	4.65	MMG	29.1	29.7	-22.93	-23.53	SPIE	29.5	
SBHD08 RC	2008-04-04T10:00:00	1.39	6.17	4.78	MMG	29.1	29.7	-22.93	-23.53	SPIE	29.5	
SBHD08 RC	2008-01-30T13:50:00	1.2	6.17	4.97	MMG	29.1	29.7	-22.93	-23.53	SPIE	29.5	
SBHE02 RC	2008-03-07T14:25:00	2.48	6.53	4.05	MMG	24.6	25.2	-18.07	-18.67	SPIE	25	-11-28T00:00:00
SBHE02 RC	2008-04-04T08:50:00	2.46	6.53	4.07	MMG	24.6	25.2	-18.07	-18.67	SPIE	25	-11-28T00:00:00
SBHE02 RC	2008-04-18T07:40:00	2.54	6.53	3.99	MMG	24.6	25.2	-18.07	-18.67	SPIE	25	-11-28T00:00:00
SBHE02 RC	2008-03-20T16:20:00	2.23	6.53	4.3	MMG	24.6	25.2	-18.07	-18.67	SPIE	25	-11-28T00:00:00
SBHE02 RC	2008-02-25T16:20:00	2.09	6.53	4.44	MMG	24.6	25.2	-18.07	-18.67	SPIE	25	-11-28T00:00:00
SBHE02 RC	2008-01-31T09:25:00	2.18	6.53	4.35	MMG	24.6	25.2	-18.07	-18.67	SPIE	25	-11-28T00:00:00
SBHF01 RC	2008-02-25T16:32:00	5.72	6.33	0.61	MMG	18.6	19.2	-12.27	-12.87	SPIE	19	
SBHF01 RC	2008-01-31T09:40:00	5.69	6.33	0.64	MMG	18.6	19.2	-12.27	-12.87	SPIE	19	
SBHF01 RC	2008-04-04T08:40:00	5.55	6.33	0.78	MMG	18.6	19.2	-12.27	-12.87	SPIE	19	
SBHF01 RC	2008-03-20T15:30:00	5.5	6.33	0.83	MMG	18.6	19.2	-12.27	-12.87	SPIE	19	
SBHF01 RC	2008-04-18T07:40:00	5.58	6.33	0.75	MMG	18.6	19.2	-12.27	-12.87	SPIE	19	
SBHF01 RC	2008-03-07T14:25:00	5.43	6.33	0.9	MMG	18.6	19.2	-12.27	-12.87	SPIE	19	
SBHE04 RC	2008-04-04T09:00:00	1.8	6.53	4.73	MMG	16.8	17.4	-10.27	-10.87	SPIE	17.2	-11-26T00:00:00
SBHE04 RC	2008-01-31T09:15:00	2.31	6.53	4.22	MMG	16.8	17.4	-10.27	-10.87	SPIE	17.2	-11-26T00:00:00
SBHE04 RC	2008-03-07T14:25:00	2.59	6.53	3.94	MMG	16.8	17.4	-10.27	-10.87	SPIE	17.2	-11-26T00:00:00
SBHE04 RC	2008-04-18T07:40:00	1.8	6.53	4.73	MMG	16.8	17.4	-10.27	-10.87	SPIE	17.2	-11-26T00:00:00
SBHE04 RC	2008-03-20T15:45:00	2.2	6.53	4.33	MMG	16.8	17.4	-10.27	-10.87	SPIE	17.2	-11-26T00:00:00
SBHE04 RC	2008-02-25T16:11:00	2.51	6.53	4.02	MMG	16.8	17.4	-10.27	-10.87	SPIE	17.2	-11-26T00:00:00

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water Level (MAOD)	Response Zone Geology	GW Unit	ResponseZoneTop (mbGL)	ResponseZone Base (mBGL)	RZ Top (MAOD)	RZ Base (MAOD)	strumentTy	Distance
BH417	2015-05-05T09:14:00	0.6	9.1	8.5	MG	Perched	0.9	2.5	8.2	6.6	SP	2.5
BH417	2015-05-12T12:05:00	2.12	9.1	6.98	MG	Perched	0.9	2.5	8.2	6.6	SP	2.5
BH417	2015-04-20T10:14:00	1.25	9.1	7.85	MG	Perched	0.9	2.5	8.2	6.6	SP	2.5
BH417	2015-04-27T08:44:00	1.23	9.1	7.87	MG	Perched	0.9	2.5	8.2	6.6	SP	2.5
BH426	2015-05-06T13:30:00	0.5	7.75	7.25	MG	Perched	1	2	6.75	5.75	SP	2
BH426	2015-05-12T09:14:00	0.43	7.75	7.32	MG	Perched	1	2	6.75	5.75	SP	2
BH426	2015-04-28T14:00:00	0.1	7.75	7.65	MG	Perched	1	2	6.75	5.75	SP	2
BH420	2015-04-27T12:44:00	2.09	10.55	8.46	MG / TFD	Perched	1	7	9.55	3.55	SP	7
BH420	2015-05-05T12:44:00	1.98	10.55	8.57	MG / TFD	Perched	1	7	9.55	3.55	SP	7
BH420	2015-04-20T15:14:00	2.09	10.55	8.46	MG / TFD	Perched	1	7	9.55	3.55	SP	7
BH420	2015-05-14T09:46:00	3.42	10.55	7.13	MG / TFD	Perched	1	7	9.55	3.55	SP	7
BH422A	2015-05-21T13:25:00	1.58	7.95	6.37	TFD	Shallow GW	1	4	6.95	3.95	SP	4
BH422A	2015-05-08T13:14:00	1.8	7.95	6.15	TFD	Shallow GW	1	4	6.95	3.95	SP	4
BH422A	2015-04-30T14:44:00	2.24	7.95	5.71	TFD	Shallow GW	1	4	6.95	3.95	SP	4
BH422A	2015-04-23T14:14:00	2.2	7.95	5.75	TFD	Shallow GW	1	4	6.95	3.95	SP	4
BH426	2015-05-06T13:44:00	0.7	7.75	7.05	TFD	Shallow GW	4	13	3.75	-5.25	SP	13
BH426	2015-04-28T14:14:00	1.69	7.75	6.06	TFD	Shallow GW	4	13	3.75	-5.25	SP	13
BH426	2015-05-12T09:14:00	1.77	7.75	5.98	TFD	Shallow GW	4	13	3.75	-5.25	SP	13
BH420	2015-05-05T12:44:00	7.73	10.55	2.82	GFD	Shallow GW	17	21	-6.45	-10.45	SP	21
BH420	2015-05-14T09:47:00	9.18	10.55	1.37	GFD	Shallow GW	17	21	-6.45	-10.45	SP	21
BH420	2015-04-20T15:14:00	7.79	10.55	2.76	GFD	Shallow GW	17	21	-6.45	-10.45	SP	21
BH420	2015-04-27T12:44:00	7.83	10.55	2.72	GFD	Shallow GW	17	21	-6.45	-10.45	SP	21
BH415	2015-05-12T12:57:00	8.06	9.15	1.09	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-05-05T10:29:00	6.36	9.15	2.79	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-04-27T09:44:00	6.66	9.15	2.49	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-04-20T11:14:00	6.08	9.15	3.07	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-05-12T12:56:00	7.77	9.15	1.38	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-05-12T12:57:00	8.06	9.15	1.09	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-05-05T10:29:00	6.36	9.15	2.79	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-04-27T09:44:00	6.66	9.15	2.49	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-04-20T11:14:00	6.08	9.15	3.07	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH415	2015-05-12T12:56:00	7.77	9.15	1.38	GFD	Shallow GW	13	17	-3.85	-7.85	SP	17
BH423	2015-05-19T09:53:00	7.4	7	-0.4	GFD	Shallow GW	15	18	-8	-11	SP	18
BH423	2015-05-06T11:14:00	5.18	7	1.82	GFD	Shallow GW	15	18	-8	-11	SP	18
BH423	2015-05-11T16:14:00	6.37	7	0.63	GFD	Shallow GW	15	18	-8	-11	SP	18
BH423	2015-04-28T11:14:00	6.21	7	0.79	GFD	Shallow GW	15	18	-8	-11	SP	18
BH425	2015-05-06T12:44:00	4.45	7.85	3.4	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH425	2015-05-19T10:55:00	7.24	7.85	0.61	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH425	2015-05-12T10:44:00	5.27	7.85	2.58	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH425	2015-04-28T12:44:00	2.1	7.85	5.75	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH417	2015-05-05T09:14:00	6.43	9.1	2.67	GFD	Shallow GW	11.9	15	-2.8	-5.9	SP	15
BH417	2015-04-20T10:14:00	6.66	9.1	2.44	GFD	Shallow GW	11.9	15	-2.8	-5.9	SP	15
BH417	2015-04-27T08:44:00	6.51	9.1	2.59	GFD	Shallow GW	11.9	15	-2.8	-5.9	SP	15
BH425	2015-05-06T12:44:00	4.45	7.85	3.4	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH425	2015-05-19T10:55:00	7.24	7.85	0.61	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH425	2015-05-12T10:44:00	5.27	7.85	2.58	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BH425	2015-04-28T12:44:00	2.1	7.85	5.75	GFD	Shallow GW	11.8	12.3	-3.95	-4.45	SP	12.3
BHF5	1997-12-03T10:55:00	6.72	9.8	3.08	GFD	Shallow GW	15.5	17.5	-5.7	-7.7	SPIE	17
BHF5	1997-12-11T14:00:00	7.16	9.8	2.64	GFD	Shallow GW	15.5	17.5	-5.7	-7.7	SPIE	17
BHF5	1997-12-17T13:00:00	7.32	9.8	2.48	GFD	Shallow GW	15.5	17.5	-5.7	-7.7	SPIE	17
BHF5	1997-11-27T14:15:00	6.81	9.8	2.99	GFD	Shallow GW	15.5	17.5	-5.7	-7.7	SPIE	17
BHG2	1997-12-11T13:20:00	3.98	8	4.02	GFD	Shallow GW	12.5	14	-4.5	-6	SPIE	13.72
BHG2	1997-12-17T12:10:00	4.12	8	3.88	GFD	Shallow GW	12.5	14	-4.5	-6	SPIE	13.72
BHG2	1997-12-03T08:50:00	4.2	8	3.8	GFD	Shallow GW	12.5	14	-4.5	-6	SPIE	13.72
BHG2	1997-11-27T11:30:00	5.72	8	2.28	GFD	Shallow GW	12.5	14	-4.5	-6	SPIE	13.72
BHG6	1997-12-11T13:00:00	4.52	7	2.48	GFD	Shallow GW	13.5	16.5	-6.5	-9.5	SPIE	16
BHG6	1997-12-03T09:05:00	4.03	7	2.97	GFD	Shallow GW	13.5	16.5	-6.5	-9.5	SPIE	16
BHG6	1997-12-17T11:55:00	4.68	7	2.32	GFD	Shallow GW	13.5	16.5	-6.5	-9.5	SPIE	16
BHG6	1997-11-27T09:30:00	4.72	7	2.28	GFD	Shallow GW	13.5	16.5	-6.5	-9.5	SPIE	16
SBHF03 RC	2008-03-20T14:55:00	7.2	10.03	2.83	GFD	Shallow GW	17.6	18.2	-7.57	-8.17	SPIE	18
SBHF03 RC	2008-02-26T08:55:00	6.77	10.03	3.26	GFD	Shallow GW	17.6	18.2	-7.57	-8.17	SPIE	18
SBHF03 RC	2008-03-07T14:25:00	7.22	10.03	2.81	GFD	Shallow GW	17.6	18.2	-7.57	-8.17	SPIE	18
SBHF03 RC	2008-04-04T10:36:00	7.38	10.03	2.65	GFD	Shallow GW	17.6	18.2	-7.57	-8.17	SPIE	18
SBHF03 RC	2008-04-18T07:40:00	7.42	10.03	2.61	GFD	Shallow GW	17.6	18.2	-7.57	-8.17	SPIE	18
SBHF03 RC	2008-01-31T10:35:00	6.97	10.03	3.06	GFD	Shallow GW	17.6	18.2	-7.57	-8.17	SPIE	18
BH425	2015-04-28T12:44:00	5.46	7.85	2.39	MMG	Bedrock	20	30	-12.15	-22.15	SP	30
BH425	2015-05-19T10:56:00	6.73	7.85	1.12	MMG	Bedrock	20	30	-12.15	-22.15	SP	30
BH425	2015-05-12T10:44:00	5.41	7.85	2.44	MMG	Bedrock	20	30	-12.15	-22.15	SP	30
BH425	2015-05-06T12:44:00	5.3	7.85	2.55	MMG	Bedrock	20	30	-12.15	-22.15	SP	30
BH423	2015-04-28T11:14:00	6.02	7	0.98	MMG	Bedrock	25	40	-18	-33	SP	40
BH423	2015-05-11T16:14:00	6.2	7	0.8	MMG	Bedrock	25	40	-18	-33	SP	40
BH423	2015-05-19T09:54:00	6.9	7	0.1	MMG	Bedrock	25	40	-18	-33	SP	40
BH423	2015-05-06T11:14:00	5.27	7	1.73	MMG	Bedrock	25	40	-18	-33	SP	40
BHF6	1997-12-17T12:37:00	8.6	8.8	0.2	MMG	Bedrock	25	30	-16.2	-21.2	SPIE	29.6
BHF6	1997-12-11T13:50:00	8.32	8.8	0.48	MMG	Bedrock	25	30	-16.2	-21.2	SPIE	29.6
BHF6	1997-11-28T11:00:00	7.3	8.8	1.5	MMG	Bedrock	25	30	-16.2	-21.2	SPIE	29.6
BHF6	1997-12-03T11:05:00	5.93	8.8	2.87	MMG	Bedrock	25	30	-16.2	-21.2	SPIE	29.6
BHG1	1997-12-03T08:30:00	3.72	6.2	2.48	MMG	Bedrock	30	36.5	-23.8	-30.3	SPIE	36
BHG1	1997-12-17T12:15:00	4.02	6.2	2.18	MMG	Bedrock	30	36.5	-23.8	-30.3	SPIE	36
BHG1	1997-11-27T10:45:00	6.05	6.2	0.15	MMG	Bedrock	30	36.5	-23.8	-30.3	SPIE	36
BHG1	1997-12-11T13:25:00	3.81	6.2	2.39	MMG	Bedrock	30	36.5	-23.8	-30.3	SPIE	36
BHF4	1997-11-27T13:30:00	6.97	9.3	2.33	MMG	Bedrock	23	32	-13.7	-22.7	SPIE	31.5
BHF4	1997-12-03T10:50:00	6.83	9.3	2.47	MMG	Bedrock	23	32	-13.7	-22.7	SPIE	31.5
BHF4	1997-12-11T14:20:00	6.32	9.3	2.98	MMG	Bedrock	23	32	-13.7	-22.7	SPIE	31.5
BHF4	1997-12-17T13:10:00	6.64	9.3	2.66	MMG	Bedrock	23	32	-13.7	-22.7	SPIE	31.5
BHG3	1997-12-03T09:00:00	3.12	8	4.88	MMG	Bedrock	16	20	-8	-12	SPIE	19.5
BHG3	1997-12-11T13:10:00	3.62	8	4.38	MMG	Bedrock	16	20	-8	-12	SPIE	19.5
BHG3	1997-12-17T12:00:00	3.7	8	4.3	MMG	Bedrock	16	20	-8	-12	SPIE	19.5
BHG3	1997-11-25T14:10:00	3.52	8	4.48	MMG	Bedrock	16	20	-8	-12	SPIE	19.5
BHG3	1997-11-15T12:15:00	5.21	8	2.79	MMG	Bedrock	16	20	-8	-12	SPIE	19.5

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water Level (MAOD)	Response Zone Geology	GW Unit	ResponseZoneTop (mbgl)	ResponseZoneBase (mbgL)	RZ Top (MAOD)	RZ BASE (MAOD)	strumentTy	Distance
BH512	2015-05-14T12:17:00	1.3	6.5	5.2	MG	Perched	0.85	2	5.65	4.5	SP	2
BH512	2015-04-28T09:59:00	1.64	6.5	4.86	MG	Perched	0.85	2	5.65	4.5	SP	2
BH512	2015-05-06T15:14:00	1.59	6.5	4.91	MG	Perched	0.85	2	5.65	4.5	SP	2
BH512	2015-04-21T12:44:00	1.52	6.5	4.98	MG	Perched	0.85	2	5.65	4.5	SP	2
BH515	2015-03-06T13:14:00	Dry	10.65	#VALUE!	MG	Perched	0.85	5.2	9.8	5.45	SP	5.2
BH515	2015-05-07T11:04:00	Dry	10.65	#VALUE!	MG	Perched	0.85	5.2	9.8	5.45	SP	5.2
BH515	2015-03-18T12:44:00	Dry	10.65	#VALUE!	MG	Perched	0.85	5.2	9.8	5.45	SP	5.2
BH515	2015-03-13T08:44:00	Dry	10.65	#VALUE!	MG	Perched	0.85	5.2	9.8	5.45	SP	5.2
BH525	2015-04-02T12:14:00	1.66	5.95	4.29	MG	Perched	0.5	2.8	5.45	3.15	SP	2.6
BH525	2015-05-07T14:54:00	Dry	5.95	#VALUE!	MG	Perched	0.5	2.8	5.45	3.15	SP	2.6
BH525	2015-03-19T12:14:00	1.32	5.95	4.63	MG	Perched	0.5	2.8	5.45	3.15	SP	2.6
BH525	2015-03-26T12:44:00	1.64	5.95	4.31	MG	Perched	0.5	2.8	5.45	3.15	SP	2.6
SBHJ05	2008-04-03T17:39:00	9.1	13.24	4.14	MG	Perched	9.5	11.5	3.74	1.74	SP	11.5
SBHJ05	2008-02-01T11:10:00	8.91	13.24	4.33	MG	Perched	9.5	11.5	3.74	1.74	SP	11.5
SBHJ05	2008-03-06T14:25:00	9.16	13.24	4.08	MG	Perched	9.5	11.5	3.74	1.74	SP	11.5
SBHJ05	2008-03-18T13:50:00	9.02	13.24	4.22	MG	Perched	9.5	11.5	3.74	1.74	SP	11.5
SBHJ05	2008-02-22T09:00:00	9.07	13.24	4.17	MG	Perched	9.5	11.5	3.74	1.74	SP	11.5
SBHJ05	2008-04-17T07:40:00	9.11	13.24	4.13	MG	Perched	9.5	11.5	3.74	1.74	SP	11.5
SBHJ09 CP	2008-03-18T10:25:00	0.69	5.76	5.07	MG	Perched	1	2.2	4.76	3.56	SP	2.2
SBHJ09 CP	2008-04-03T17:58:00	0.82	5.76	4.94	MG	Perched	1	2.2	4.76	3.56	SP	2.2
SBHJ09 CP	2008-03-06T14:25:00	0.9	5.76	4.86	MG	Perched	1	2.2	4.76	3.56	SP	2.2
SBHJ09 CP	2008-02-01T11:30:00	0.65	5.76	5.11	MG	Perched	1	2.2	4.76	3.56	SP	2.2
SBHJ09 CP	2008-04-17T07:40:00	0.9	5.76	4.86	MG	Perched	1	2.2	4.76	3.56	SP	2.2
SBHJ09 CP	2008-02-21T12:25:00	0.85	5.76	4.91	MG	Perched	1	2.2	4.76	3.56	SP	2.2
SWSJ23	2008-03-06T09:35:00	6.97	12.29	5.32	MG	Perched	0.5	7.8	11.79	4.49	SP	7.8
SWSJ23	2008-02-22T09:55:00	6.62	12.29	5.67	MG	Perched	0.5	7.8	11.79	4.49	SP	7.8
SWSJ23	2008-02-01T11:22:00	5.92	12.29	6.37	MG	Perched	0.5	7.8	11.79	4.49	SP	7.8
SWSJ23	2008-04-17T10:45:00	7.2	12.29	5.09	MG	Perched	0.5	7.8	11.79	4.49	SP	7.8
SWSJ23	2008-04-03T17:35:00	7.2	12.29	5.09	MG	Perched	0.5	7.8	11.79	4.49	SP	7.8
SWSJ23	2008-03-18T15:05:00	7.58	12.29	4.71	MG	Perched	0.5	7.8	11.79	4.49	SP	7.8
SWSJ13	2008-02-01T12:00:00	Dry	11.01	#VALUE!	MG	Perched	0.5	2.55	10.51	8.46	SP	2.5
SWSJ13	2008-04-03T18:12:00	Dry	11.01	#VALUE!	MG	Perched	0.5	2.55	10.51	8.46	SP	2.5
SWSJ13	2008-03-06T09:35:00	Dry	11.01	#VALUE!	MG	Perched	0.5	2.55	10.51	8.46	SP	2.5
SWSJ13	2008-04-17T10:45:00	Dry	11.01	#VALUE!	MG	Perched	0.5	2.55	10.51	8.46	SP	2.5
SWSJ13	2008-02-22T13:45:00	Dry	11.01	#VALUE!	MG	Perched	0.5	2.55	10.51	8.46	SP	2.5
SWSJ13	2008-03-17T13:25:00	Dry	11.01	#VALUE!	MG	Perched	0.5	2.55	10.51	8.46	SP	2.5
SWSJ34	2008-03-06T09:35:00	3.08	10.52	7.44	MG	Perched	3	6	7.52	4.52	SP	6
SWSJ34	2008-04-03T17:23:00	3.26	10.52	7.26	MG	Perched	3	6	7.52	4.52	SP	6
SWSJ34	2008-03-19T08:55:00	2.36	10.52	8.16	MG	Perched	3	6	7.52	4.52	SP	6
SWSJ34	2008-02-01T11:05:00	2.52	10.52	8	MG	Perched	3	6	7.52	4.52	SP	6
SWSJ34	2008-04-17T10:45:00	Dry	10.52	#VALUE!	MG	Perched	3	6	7.52	4.52	SP	6
SWSJ34	2008-02-22T10:55:00	3.33	10.52	7.19	MG	Perched	3	6	7.52	4.52	SP	6
BH521	2015-05-07T14:00:00	3.57	6	2.43	TFD	Shallow GW	8.8	11.2	-2.8	-5.2	SP	11
BH521	2015-04-02T10:44:00	1.99	6	4.01	TFD	Shallow GW	8.8	11.2	-2.8	-5.2	SP	11
BH521	2015-03-26T11:14:00	2.95	6	3.05	TFD	Shallow GW	8.8	11.2	-2.8	-5.2	SP	11
BH521	2015-03-19T10:44:00	2.93	6	3.07	TFD	Shallow GW	8.8	11.2	-2.8	-5.2	SP	11
BH509	2015-03-11T11:44:00	2.3	6.45	4.15	TFD	Shallow GW	10.8	13.2	-4.35	-6.75	SP	13.2
BH509	2015-03-18T09:14:00	2.11	6.45	4.34	TFD	Shallow GW	10.8	13.2	-4.35	-6.75	SP	13.2
BH509	2015-03-04T11:14:00	1.95	6.45	4.5	TFD	Shallow GW	10.8	13.2	-4.35	-6.75	SP	13.2
BH509	2015-05-06T13:20:00	3.74	6.45	2.71	TFD	Shallow GW	10.8	13.2	-4.35	-6.75	SP	13.2
BH510	2015-03-18T10:44:00	1.22	5.45	4.23	TFD / PEAT	Shallow GW	9	12	-3.55	-6.55	SP	12
BH510	2015-03-12T08:29:00	1.6	5.45	3.85	TFD / PEAT	Shallow GW	9	12	-3.55	-6.55	SP	12
BH510	2015-05-07T09:56:00	2.7	5.45	2.75	TFD / PEAT	Shallow GW	9	12	-3.55	-6.55	SP	12
BH510	2015-03-04T12:44:00	0.87	5.45	4.58	TFD / PEAT	Shallow GW	9	12	-3.55	-6.55	SP	12
BH536A	2015-03-10T13:00:00	0	4.55	4.55	PEAT	Shallow GW	0.8	4.2	3.75	0.35	SP	4
BH536A	2015-03-27T12:30:00	0	4.55	4.55	PEAT	Shallow GW	0.8	4.2	3.75	0.35	SP	4
BH536A	2015-04-13T13:30:00	0	4.55	4.55	PEAT	Shallow GW	0.8	4.2	3.75	0.35	SP	4
BH536A	2015-03-03T12:05:00	0	4.55	4.55	PEAT	Shallow GW	0.8	4.2	3.75	0.35	SP	4
BH536A	2015-03-17T13:30:00	0	4.55	4.55	PEAT	Shallow GW	0.8	4.2	3.75	0.35	SP	4
BH533	2015-03-10T09:14:00	1.22	5.65	4.43	TFD / PEAT	Shallow GW	4	5.5	1.65	0.15	SP	5.5
BH533	2015-03-03T09:14:00	1.02	5.65	4.63	TFD / PEAT	Shallow GW	4	5.5	1.65	0.15	SP	5.5
BH533	2015-05-06T10:49:00	2.96	5.65	2.69	TFD / PEAT	Shallow GW	4	5.5	1.65	0.15	SP	5.5
BH533	2015-03-17T09:14:00	1.48	5.65	4.17	TFD / PEAT	Shallow GW	4	5.5	1.65	0.15	SP	5.5
BH519	2015-03-19T08:44:00	0.74	5.85	5.11	PEAT	Shallow GW	0.85	4.2	5	1.65	SP	4
BH519	2015-03-26T09:14:00	1.35	5.85	4.5	PEAT	Shallow GW	0.85	4.2	5	1.65	SP	4
BH519	2015-05-07T12:27:00	2.65	5.85	3.2	PEAT	Shallow GW	0.85	4.2	5	1.65	SP	4
BH519	2015-04-02T08:44:00	1.27	5.85	4.58	PEAT	Shallow GW	0.85	4.2	5	1.65	SP	4
BH525	2015-04-02T12:14:00	1.8	5.95	4.15	GFD	Shallow GW	9.8	11.8	-3.85	-5.85	SP	11.6
BH525	2015-05-07T14:55:00	3.26	5.95	2.69	GFD	Shallow GW	9.8	11.8	-3.85	-5.85	SP	11.6
BH525	2015-03-26T12:44:00	2.02	5.95	3.93	GFD	Shallow GW	9.8	11.8	-3.85	-5.85	SP	11.6
BH525	2015-03-19T12:14:00	1.8	5.95	4.15	GFD	Shallow GW	9.8	11.8	-3.85	-5.85	SP	11.6
BH505	2015-03-23T12:44:00	1.48	6.8	5.32	GFD	Shallow GW	12.5	14	-5.7	-7.2	SP	14
BH505	2015-04-14T11:14:00	3.53	6.8	3.27	GFD	Shallow GW	12.5	14	-5.7	-7.2	SP	14
BH505	2015-03-30T09:14:00	2.9	6.8	3.9	GFD	Shallow GW	12.5	14	-5.7	-7.2	SP	14
BH505	2015-05-08T12:59:00	4.02	6.8	2.78	GFD	Shallow GW	12.5	14	-5.7	-7.2	SP	14
BH509	2015-03-04T11:06:00	0.74	6.45	5.71	TFD/PEAT	Shallow GW	4.3	7.7	2.15	-1.25	SP	7.7
BH509	2015-05-06T13:19:00	2.37	6.45	4.08	TFD/PEAT	Shallow GW	4.3	7.7	2.15	-1.25	SP	7.7
BH509	2015-03-18T09:14:00	0.86	6.45	5.59	TFD/PEAT	Shallow GW	4.3	7.7	2.15	-1.25	SP	7.7
BH509	2015-03-11T11:44:00	1.12	6.45	5.33	TFD/PEAT	Shallow GW	4.3	7.7	2.15	-1.25	SP	7.7
BH503A	2015-05-08T11:42:00	3.17	6.25	3.08	TFD	Shallow GW	7.5	10	-1.25	-3.75	SP	10
BH503A	2015-03-30T09:14:00	1.64	6.25	4.61	TFD	Shallow GW	7.5	10	-1.25	-3.75	SP	10
BH503A	2015-04-14T08:44:00	2.04	6.25	4.21	TFD	Shallow GW	7.5	10	-1.25	-3.75	SP	10
BH503A	2015-03-23T09:44:00	0.54	6.25	5.71	TFD	Shallow GW	7.5	10	-1.25	-3.75	SP	10
BH510	2015-03-12T08:23:00	0.44	5.45	5.01	TFD / PEAT	Shallow GW	3	6	2.45	-0.55	SP	6
BH510	2015-03-18T10:44:00	0.83	5.45	4.62	TFD / PEAT	Shallow GW	3	6	2.45	-0.55	SP	6
BH510	2015-03-04T12:44:00	0.68	5.45	4.77	TFD / PEAT	Shallow GW	3	6	2.45	-0.55	SP	6
BH510	2015-05-07T09:55:00	2.28	5.45	3.17	TFD / PEAT	Shallow GW	3	6	2.45	-0.55	SP	6
BH528	2015-03-20T12:14:00	0.49	5.2	4.71	TFD / PEAT	Shallow GW	6	7	-0.8	-1.8	SP	7
BH528	2015-03-27T10:44:00	0.99	5.2	4.21	TFD / PEAT	Shallow GW	6	7	-0.8	-1.8	SP	7
BH528	2015-05-08T10:51:00	1.63	5.2	3.57	TFD / PEAT	Shallow GW	6	7	-0.8	-1.8	SP	7
BH528	2015-04-13T12:14:00	0.58	5.2	4.62	TFD / PEAT	Shallow GW	6	7	-0.8	-1.8	SP	7
BH530	2015-04-14T13:44:00	2.07	6.25	4.18	TFD / PEAT	Shallow GW	5	8	1.25	-1.75	SP	8
BH530	2015-05-11T09:36:00	2.62	6.25	3.63	TFD / PEAT	Shallow GW	5	8	1.25	-1.75	SP	8
BH530	2015-03-30T12:14:00	1.52	6.25	4.73	TFD / PEAT	Shallow GW	5	8	1.25	-1.75	SP	8
BH530	2015-04-21T09:44:00	1.84	6.25	4.41	TFD / PEAT	Shallow GW	5	8	1.25	-1.75	SP	8
BH512	2015-05-14T12:18:00	3.63	6.5	2.87	TFD	Shallow GW	6.8	11	-0.3	-4.5	SP	11
BH512	2015-04-21T12:44:00	2.32	6.5	4.18	TFD	Shallow GW	6.8	11	-0.3	-4.5	SP	11
BH512	2015-05-06T15:14:00	2.32	6.5	4.18	TFD	Shallow GW	6.8	11	-0.3	-4.5	SP	11
BH512	2015-04-28T09:59:00	2.32	6.5	4.18	TFD	Shallow GW	6.8	11	-0.3	-4.5	SP	11
BH521	2015-05-07T13:59:00	2.66	6	3.34	PEAT	Shallow GW	4.3	6.2	1.7	-0.2	SP	6
BH521	2015-04-02T10:44:00	1.34	6	4.66	PEAT	Shallow GW	4.3	6.2	1.7	-0.2	SP	6
BH521	2015-03-19T10:44:00	0.85	6	5.15	PEAT	Shallow GW	4.3	6.2	1.7	-0.2	SP	6
BH521	2015-03-26T11:14:00	1.26	6	4.74	PEAT	Shallow GW	4.3	6.2	1.7	-0.2	SP	6
BH515	2015-03-06T13:14:00	6.25	10.65	4.4	TFD / PEAT	Shallow GW	9.8	13.2	0.85	-2.55	SP	13.2
BH515	2015-03-18T12:44:00	6.22	10.65	4.43	TFD / PEAT	Shallow GW	9.8	13.2	0.85	-2.55	SP	13.2
BH515	2015-03-13T08:44:00	6.39	10.65	4.26	TFD / PEAT	Shallow GW	9.8	13.2	0.85	-2.55	SP	13.2
BH515	2015-05-07T11:05:00	7.83	10.65	2.82	TFD / PEAT	Shallow GW	9.8	13.2	0.85	-2.55	SP	13.2
BH533	2015-03-03T09:14:00	1.12	5.65	4.53	TFD	Shallow GW	7	9	-1.35	-3.35	SP	9
BH533	2015-03-10T09:14:00	1.8	5.65	3.85	TFD	Shallow GW	7	9	-1.35	-3.35	SP	9
BH533	2015-03-17T09:14:00	1.82	5.65	3.83	TFD	Shallow GW	7	9	-1.35	-3.35	SP	9
BH533	2015-05-06T10:50:00	3.08	5.65	2.57	TFD	Shallow GW	7	9	-1.35	-3.35	SP	9
BH527	2015-04-13T09:44:00	1.48	5.95	4.47	TFD	Shallow GW	4.9	9	1.05	-3.05	SP	9
BH527	2015-05-08T09:47:00	2.74	5.95	3.21	TFD	Shallow GW	4.9	9	1.05	-3.05	SP	9
BH527	2015-03-20T10:14:00	0.67	5.95	5.28	TFD	Shallow GW	4.9	9	1.05	-3.05	SP	9
BH527	2015-03-27T08:44:00	1.75	5.95	4.2	TFD	Shallow GW	4.9	9	1.05	-3.05	SP	9
BH534	2015-03-03T10:14:00	0.76	5.25	4.49	TFD / PEAT	Shallow GW	1	7	4.25	-1.75	SP	7
BH534	2015-03-17T10:44:00	0.85	5.25	4.4	TFD / PEAT	Shallow GW	1	7	4.25	-1.75	SP	7
BH534	2015-03-10T10:44:00	1.05	5.25	4.2	TFD / PEAT	Shallow GW	1	7	4.25	-1.75	SP	7
BH534	2015-05-06T11:36:00	1.86	5.25	3.39	TFD / PEAT	Shallow GW	1	7	4.25	-1.75	SP	7
BH519	2015-05-07T12:28:00	3.5	5.85	2.35	TFD	Shallow GW	11.2	6.8	-5.35	-0.95	SP	11
BH519	2015-03-26T09:14:00	1.65	5.85	4.2	TFD	Shallow GW	11.2	6.8	-5.35	-0.95	SP	11
BH519	2015-03-19T08:44:00	1.37	5.85	4.48	TFD	Shallow GW	11.2	6.8	-5.35	-0.95	SP	11
BH519	2015-04-02T08:44:00	1.82	5.85	4.03	TFD	Shallow GW	11.2	6.8	-5.35	-0.95	SP	11
BH506	2015-05-06T09:14:00	2.09	5.75	3.66	TFD / PEAT	Shallow GW	6	9	-0.25	-3.25	SP	9
BH506	2015-05-14T13:22:00	2.32	5.75	3.43	TFD / PEAT	Shallow GW	6	9	-0.25	-3.25	SP	9
BH506	2015-04-21T13:44:00	1.68	5.75	4.07	TFD / PEAT	Shallow GW	6	9	-0.25	-3.25	SP	9
BH506	2015-04-28T08:44:00	1.92	5.75	3.83	TFD / PEAT	Shallow GW	6	9	-0.25	-3.25	SP	9
BHM2	1997-12-01T16:30:00	0.04	4.7	4.66	GFD	Shallow GW	7	8.5	-2.3	-3.8	SPIE	8
BHM2	1997-12-10T14:10:00	0.03	4.7	4.67	GFD	Shallow GW	7	8.5	-2.3	-3.8	SPIE	8
BHM2	1997-11-14T11:10:00	0.18	4.7	4.52	GFD	Shallow GW	7	8.5	-2.3	-3.8	SPIE	8
BHM2	1997-12-16T15:46:00	0.03	4.7	4.67	GFD	Shallow GW	7	8.5	-2.3	-3.8	SPIE	8
BHM2	1997-11-25T15:15:00	0.06	4.7	4.64	GFD	Shallow GW	7	8.5	-2.3	-3.8	SPIE	8
BHM2	1997-10-22T12:00:00	0.56	4.7	4.14	GFD	Shallow GW	7	8.5	-2.3	-3.8	SPIE	8
SBHJ10 CP	2008-03-06T14:25:00	2.16	6.05	3.89	TFD	Shallow GW	9	10	-2.95	-3.95	SP	10
SBHJ10 CP	2008-04-17T07:40:00	2	6.05	4.05	TFD	Shallow GW	9	10	-2.95	-3.95	SP	10
SBHJ10 CP	2008-02-21T13:45:00	2.24	6.05	3.81	TFD	Shallow GW	9	10	-2.95	-3.95	SP	10
SBHJ10 CP	2008-02-01T10:40:00	2.3	6.05	3.75	TFD	Shallow GW	9	10	-2.95	-3.95	SP	10
SBHJ10 CP	2008-04-03T17:50:00	2	6.05	4.05	TFD	Shallow GW	9	10	-2.95	-3.95	SP	10
SBHJ10 CP	2008-03-17T09:15:00	2.1	6.05	3.95	TFD	Shallow GW	9	10	-2.95	-3.95	SP	10
SBHK02 CP	2008-04-17T07:40:00	1.46	5.53	4.07	TFD	Shallow GW	9.2	11.2	-3.67	-5.67	SP	11.2
SBHK02 CP	2008-02-25T11:20:00	1.33	5.53	4.2	TFD	Shallow GW	9.2	11.2	-3.67	-5.67	SP	11.2
SBHK02 CP	2008-03-19T11:15:00	1.46	5.53	4.07	TFD	Shallow GW	9.2	11.2	-3.67	-5.67	SP	11.2
SBHK02 CP	2008-04-03T16:45:00	1.48	5.53	4.05	TFD	Shallow GW	9.2	11.2	-3.67	-5.67	SP	11.2
SBHK02 CP	2008-02-01T10:50:00	1.34	5.53	4.19	TFD	Shallow GW	9.2	11.2	-3.67	-5.67	SP	11.2
SBHK02 CP	2008-03-06T14:25:00	1.47	5.53	4.06	TFD	Shallow GW	9.2	11.2	-3.67	-5.67	SP	11.2
SBHJ01 CP	2008-04-17T07:40:00	1.8	6.57	4.77	PEAT	Shallow GW	5.8	7.5	0.77	-0.93	SP	7.5

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water Level (MAOD)	Response Zone Geology	GW Unit	ResponseZoneTop (mbgl)	ResponseZoneBase (mbgL)	RZ Top (MAOD)	RZ BASE (MAOD)	strumentTy	Distance
SBHJ01 CP	2008-03-19T14:15:00	1.81	6.57	4.76	PEAT	Shallow GW	5.8	7.5	0.77	-0.93	SP	7.5
SBHJ01 CP	2008-04-03T16:05:00	1.9	6.57	4.67	PEAT	Shallow GW	5.8	7.5	0.77	-0.93	SP	7.5
SBHJ01 CP	2008-03-06T14:25:00	1.82	6.57	4.75	PEAT	Shallow GW	5.8	7.5	0.77	-0.93	SP	7.5
SBHJ01 CP	2008-02-01T12:20:00	1.34	6.57	5.23	PEAT	Shallow GW	5.8	7.5	0.77	-0.93	SP	7.5
SBHJ01 CP	2008-02-21T11:45:00	5.98	6.57	0.59	PEAT	Shallow GW	5.8	7.5	0.77	-0.93	SP	7.5
SBHK03 CP	2008-03-06T14:25:00	1	5.83	4.83	PEAT	Shallow GW	4.9	5.9	0.93	-0.07	SP	5.9
SBHK03 CP	2008-03-19T11:45:00	1.04	5.83	4.79	PEAT	Shallow GW	4.9	5.9	0.93	-0.07	SP	5.9
SBHK03 CP	2008-04-03T16:48:00	1.07	5.83	4.76	PEAT	Shallow GW	4.9	5.9	0.93	-0.07	SP	5.9
SBHK03 CP	2008-02-25T12:00:00	0.89	5.83	4.94	PEAT	Shallow GW	4.9	5.9	0.93	-0.07	SP	5.9
SBHK03 CP	2008-02-01T10:45:00	0.87	5.83	4.96	PEAT	Shallow GW	4.9	5.9	0.93	-0.07	SP	5.9
SBHK03 CP	2008-04-17T07:40:00	0.98	5.83	4.85	PEAT	Shallow GW	4.9	5.9	0.93	-0.07	SP	5.9
SBHJ08A CP	2008-02-21T13:05:00	2.31	5.89	3.58	PEAT	Shallow GW	6.4	7.4	-0.51	-1.51	SP	7.4
SBHJ08A CP	2008-02-01T11:35:00	3.49	5.89	2.4	PEAT	Shallow GW	6.4	7.4	-0.51	-1.51	SP	7.4
SBHJ08A CP	2008-04-17T07:40:00	2.5	5.89	3.39	PEAT	Shallow GW	6.4	7.4	-0.51	-1.51	SP	7.4
SBHJ08A CP	2008-03-18T10:00:00	2.5	5.89	3.39	PEAT	Shallow GW	6.4	7.4	-0.51	-1.51	SP	7.4
SBHJ08A CP	2008-03-06T14:25:00	2.67	5.89	3.22	PEAT	Shallow GW	6.4	7.4	-0.51	-1.51	SP	7.4
SBHJ08A CP	2008-04-03T17:55:00	2.5	5.89	3.39	PEAT	Shallow GW	6.4	7.4	-0.51	-1.51	SP	7.4
SBHK01 CP	2008-04-03T16:40:00	1	5.26	4.26	PEAT	Shallow GW	4.8	6.8	0.46	-1.54	SP	6.8
SBHK01 CP	2008-02-01T10:55:00	0.7	5.26	4.56	PEAT	Shallow GW	4.8	6.8	0.46	-1.54	SP	6.8
SBHK01 CP	2008-03-06T14:25:00	1.06	5.26	4.2	PEAT	Shallow GW	4.8	6.8	0.46	-1.54	SP	6.8
SBHK01 CP	2008-04-17T07:40:00	0.94	5.26	4.32	PEAT	Shallow GW	4.8	6.8	0.46	-1.54	SP	6.8
SBHK01 CP	2008-03-19T10:45:00	0.88	5.26	4.38	PEAT	Shallow GW	4.8	6.8	0.46	-1.54	SP	6.8
SBHK01 CP	2008-02-25T10:30:00	1	5.26	4.26	PEAT	Shallow GW	4.8	6.8	0.46	-1.54	SP	6.8
SBHJ04	2008-04-17T07:40:00	6.8	11.24	4.44	TFD / PEAT	Shallow GW	12.1	13.1	-0.86	-1.86	SP	13.1
SBHJ04	2008-03-17T13:35:00	6.64	11.24	4.6	TFD / PEAT	Shallow GW	12.1	13.1	-0.86	-1.86	SP	13.1
SBHJ04	2008-04-03T18:10:00	6.74	11.24	4.5	TFD / PEAT	Shallow GW	12.1	13.1	-0.86	-1.86	SP	13.1
SBHJ04	2008-02-22T13:55:00	6.67	11.24	4.57	TFD / PEAT	Shallow GW	12.1	13.1	-0.86	-1.86	SP	13.1
SBHJ04	2008-02-01T11:55:00	6.61	11.24	4.63	TFD / PEAT	Shallow GW	12.1	13.1	-0.86	-1.86	SP	13.1
SBHJ04	2008-03-06T14:25:00	6.75	11.24	4.49	TFD / PEAT	Shallow GW	12.1	13.1	-0.86	-1.86	SP	13.1
SBHJ06 CP	2008-03-17T12:55:00	1.29	6.18	4.89	TFD / PEAT	Shallow GW	3.1	4.1	3.08	2.08	SP	4.1
SBHJ06 CP	2008-02-21T15:30:00	1.32	6.18	4.86	TFD / PEAT	Shallow GW	3.1	4.1	3.08	2.08	SP	4.1
SBHJ06 CP	2008-04-03T17:43:00	1.33	6.18	4.85	TFD / PEAT	Shallow GW	3.1	4.1	3.08	2.08	SP	4.1
SBHJ06 CP	2008-04-17T07:40:00	1.2	6.18	4.98	TFD / PEAT	Shallow GW	3.1	4.1	3.08	2.08	SP	4.1
SBHJ06 CP	2008-03-06T14:25:00	1.33	6.18	4.85	TFD / PEAT	Shallow GW	3.1	4.1	3.08	2.08	SP	4.1
SBHJ06 CP	2008-02-01T11:45:00	1.31	6.18	4.87	TFD / PEAT	Shallow GW	3.1	4.1	3.08	2.08	SP	4.1
SBHJ03 CP	2008-02-01T08:00:00	0.54	5.37	4.83	PEAT	Shallow GW	3.4	5.2	1.97	0.17	SP	5.2
SBHJ03 CP	2008-04-03T18:25:00	0.82	5.37	4.55	PEAT	Shallow GW	3.4	5.2	1.97	0.17	SP	5.2
SBHJ03 CP	2008-03-19T16:40:00	0.78	5.37	4.59	PEAT	Shallow GW	3.4	5.2	1.97	0.17	SP	5.2
SBHJ03 CP	2008-04-17T07:40:00	0.8	5.37	4.57	PEAT	Shallow GW	3.4	5.2	1.97	0.17	SP	5.2
SBHJ03 CP	2008-03-07T14:25:00	0.68	5.37	4.69	PEAT	Shallow GW	3.4	5.2	1.97	0.17	SP	5.2
SBHJ03 CP	2008-02-27T16:15:00	0.7	5.37	4.67	PEAT	Shallow GW	3.4	5.2	1.97	0.17	SP	5.2
SWSJ37	2008-02-01T11:25:00	0.46	6.25	5.79	PEAT	Shallow GW	4.1	6.45	2.15	-0.2	SP	5.6
SWSJ37	2008-03-06T09:35:00	0.61	6.25	5.64	PEAT	Shallow GW	4.1	6.45	2.15	-0.2	SP	5.6
SWSJ37	2008-04-03T17:25:00	0.67	6.25	5.58	PEAT	Shallow GW	4.1	6.45	2.15	-0.2	SP	5.6
SWSJ37	2008-02-22T11:30:00	0.55	6.25	5.7	PEAT	Shallow GW	4.1	6.45	2.15	-0.2	SP	5.6
SWSJ37	2008-03-18T11:15:00	0.55	6.25	5.7	PEAT	Shallow GW	4.1	6.45	2.15	-0.2	SP	5.6
SWSJ37	2008-04-17T10:45:00	0.63	6.25	5.62	PEAT	Shallow GW	4.1	6.45	2.15	-0.2	SP	5.6
BH534	2015-03-17T10:44:00	1.46	5.25	3.79	MMG	Bedrock	9.5	11	-4.25	-5.75	SP	11
BH534	2015-05-06T11:37:00	2.94	5.25	2.31	MMG	Bedrock	9.5	11	-4.25	-5.75	SP	11
BH534	2015-03-10T10:44:00	1.64	5.25	3.61	MMG	Bedrock	9.5	11	-4.25	-5.75	SP	11
BH534	2015-03-03T10:14:00	0.9	5.25	4.35	MMG	Bedrock	9.5	11	-4.25	-5.75	SP	11
BH527	2015-05-08T09:48:00	3.1	5.95	2.85	MMG	Bedrock	12.9	19	-6.95	-13.05	SP	19
BH527	2015-04-13T09:44:00	1.91	5.95	4.04	MMG	Bedrock	12.9	19	-6.95	-13.05	SP	19
BH527	2015-03-27T08:44:00	1.71	5.95	4.24	MMG	Bedrock	12.9	19	-6.95	-13.05	SP	19
BH527	2015-03-20T10:14:00	1.89	5.95	4.06	MMG	Bedrock	12.9	19	-6.95	-13.05	SP	19
BH506	2015-05-06T09:14:00	2.37	5.75	3.38	MMG	Bedrock	12	15.5	-6.25	-9.75	SP	15.5
BH506	2015-05-14T13:23:00	6.41	5.75	-0.66	MMG	Bedrock	12	15.5	-6.25	-9.75	SP	15.5
BH506	2015-04-28T08:44:00	2.73	5.75	3.02	MMG	Bedrock	12	15.5	-6.25	-9.75	SP	15.5
BH506	2015-04-21T13:44:00	2.8	5.75	2.95	MMG	Bedrock	12	15.5	-6.25	-9.75	SP	15.5
BH505	2015-04-14T11:14:00	4.73	6.8	2.07	MMG	Bedrock	15	19	-8.2	-12.2	SP	19
BH505	2015-03-23T12:44:00	4.51	6.8	2.29	MMG	Bedrock	15	19	-8.2	-12.2	SP	19
BH505	2015-05-08T13:00:00	5.38	6.8	1.42	MMG	Bedrock	15	19	-8.2	-12.2	SP	19
BH505	2015-03-30T09:14:00	3.7	6.8	3.1	MMG	Bedrock	15	19	-8.2	-12.2	SP	19
BH536A	2015-03-27T12:30:00	0	4.55	4.55	TSG	Bedrock	7.8	10.2	-3.25	-5.65	SP	10
BH536A	2015-03-17T13:30:00	0	4.55	4.55	TSG	Bedrock	7.8	10.2	-3.25	-5.65	SP	10
BH536A	2015-03-03T12:14:00	0	4.55	4.55	TSG	Bedrock	7.8	10.2	-3.25	-5.65	SP	10
BH536A	2015-03-10T13:14:00	0	4.55	4.55	TSG	Bedrock	7.8	10.2	-3.25	-5.65	SP	10
BH536A	2015-04-13T13:30:00	0	4.55	4.55	TSG	Bedrock	7.8	10.2	-3.25	-5.65	SP	10
BHL3	1997-12-16T15:55:00	1.15	5.2	4.05	MMG	Bedrock	10	14	-4.8	-8.8	SPIE	13.5
BHL3	1997-12-10T14:50:00	1.1	5.2	4.1	MMG	Bedrock	10	14	-4.8	-8.8	SPIE	13.5
BHL3	1997-11-25T14:35:00	1.21	5.2	3.99	MMG	Bedrock	10	14	-4.8	-8.8	SPIE	13.5
BHL3	1997-11-13T14:20:00	1.31	5.2	3.89	MMG	Bedrock	10	14	-4.8	-8.8	SPIE	13.5
BHL3	1997-11-14T11:30:00	1.22	5.2	3.98	MMG	Bedrock	10	14	-4.8	-8.8	SPIE	13.5
BHH7	1997-12-11T12:40:00	1.43	7.02	5.59	MMG	Bedrock	13	15	-5.98	-7.98	SPIE	14.43
BHH7	1997-11-15T16:10:00	3.3	7.02	3.72	MMG	Bedrock	13	15	-5.98	-7.98	SPIE	14.43
BHH7	1997-12-17T11:30:00	1.62	7.02	5.4	MMG	Bedrock	13	15	-5.98	-7.98	SPIE	14.43
BHH7	1997-11-25T14:15:00	1.32	7.02	5.7	MMG	Bedrock	13	15	-5.98	-7.98	SPIE	14.43
BHJ2	1997-12-10T15:10:00	0.47	5.1	4.63	MMG	Bedrock	12.5	14	-7.4	-8.9	SPIE	13.3
BHJ2	1997-12-16T16:15:00	0.62	5.1	4.48	MMG	Bedrock	12.5	14	-7.4	-8.9	SPIE	13.3
BHJ2	1997-11-14T12:00:00	1.22	5.1	3.88	MMG	Bedrock	12.5	14	-7.4	-8.9	SPIE	13.3
BHJ2	1997-11-25T12:25:00	0.31	5.1	4.79	MMG	Bedrock	12.5	14	-7.4	-8.9	SPIE	13.3
BHJ2	1997-11-13T15:00:00	0.73	5.1	4.37	MMG	Bedrock	12.5	14	-7.4	-8.9	SPIE	13.3
BHM4	1997-12-16T15:35:00	0.04	4.6	4.56	MMG	Bedrock	6.7	8.2	-2.1	-3.6	SPIE	7.84
BHM4	1997-11-15T13:30:00	0.04	4.6	4.56	MMG	Bedrock	6.7	8.2	-2.1	-3.6	SPIE	7.84
BHM4	1997-12-10T14:00:00	0.04	4.6	4.56	MMG	Bedrock	6.7	8.2	-2.1	-3.6	SPIE	7.84
BHM4	1997-12-01T16:35:00	0.02	4.6	4.58	MMG	Bedrock	6.7	8.2	-2.1	-3.6	SPIE	7.84
BHM4	1997-11-25T15:20:00	0.02	4.6	4.58	MMG	Bedrock	6.7	8.2	-2.1	-3.6	SPIE	7.84
SBHH01 RC	2008-03-07T14:25:00	3.65	6.21	2.56	MMG	Bedrock	24.6	25.2	-18.39	-18.99	SPIE	25
SBHH01 RC	2008-03-20T14:25:00	3.6	6.21	2.61	MMG	Bedrock	24.6	25.2	-18.39	-18.99	SPIE	25
SBHH01 RC	2008-04-18T07:40:00	3.62	6.21	2.59	MMG	Bedrock	24.6	25.2	-18.39	-18.99	SPIE	25
SBHH01 RC	2008-04-04T15:00:00	3.6	6.21	2.61	MMG	Bedrock	24.6	25.2	-18.39	-18.99	SPIE	25
SBHH01 RC	2008-01-31T11:15:00	3.45	6.21	2.76	MMG	Bedrock	24.6	25.2	-18.39	-18.99	SPIE	25
SBHH01 RC	2008-02-26T09:39:00	3.42	6.21	2.79	MMG	Bedrock	24.6	25.2	-18.39	-18.99	SPIE	25
SBHH05 RC	2008-01-31T11:30:00	2.22	5.89	3.67	MMG	Bedrock	21.1	21.7	-15.21	-15.81	SPIE	21.5
SBHH05 RC	2008-04-18T07:40:00	2.9	5.89	2.99	MMG	Bedrock	21.1	21.7	-15.21	-15.81	SPIE	21.5
SBHH05 RC	2008-03-07T14:25:00	3.1	5.89	2.79	MMG	Bedrock	21.1	21.7	-15.21	-15.81	SPIE	21.5
SBHH05 RC	2008-02-26T10:01:00	2.13	5.89	3.76	MMG	Bedrock	21.1	21.7	-15.21	-15.81	SPIE	21.5
SBHH05 RC	2008-04-04T15:15:00	2.78	5.89	3.11	MMG	Bedrock	21.1	21.7	-15.21	-15.81	SPIE	21.5
SBHH05 RC	2008-03-20T17:30:00	2.17	5.89	3.72	MMG	Bedrock	21.1	21.7	-15.21	-15.81	SPIE	21.5
SBHH06 CP	2008-01-30T15:30:00	3.75	6.52	2.77	TFD / MMG	Bedrock	10.3	12.3	-3.78	-5.78	SP	12.3
SBHH06 CP	2008-04-04T15:20:00	3.89	6.52	2.63	TFD / MMG	Bedrock	10.3	12.3	-3.78	-5.78	SP	12.3
SBHH06 CP	2008-03-17T15:20:00	3.88	6.52	2.64	TFD / MMG	Bedrock	10.3	12.3	-3.78	-5.78	SP	12.3
SBHH06 CP	2008-03-07T14:25:00	3.87	6.52	2.65	TFD / MMG	Bedrock	10.3	12.3	-3.78	-5.78	SP	12.3
SBHH06 CP	2008-04-17T07:40:00	3.9	6.52	2.62	TFD / MMG	Bedrock	10.3	12.3	-3.78	-5.78	SP	12.3
SBHH06 CP	2008-02-21T08:00:00	3.76	6.52	2.76	TFD / MMG	Bedrock	10.3	12.3	-3.78	-5.78	SP	12.3
SBHH07A RC	2008-04-04T15:28:00	1.92	5.9	3.98	MMG	Bedrock	24.6	25.2	-18.7	-19.3	SPIE	24.85
SBHH07A RC	2008-04-18T07:40:00	0.88	5.9	5.02	MMG	Bedrock	24.6	25.2	-18.7	-19.3	SPIE	24.85
SBHH07A RC	2008-03-07T14:25:00	1.07	5.9	4.83	MMG	Bedrock	24.6	25.2	-18.7	-19.3	SPIE	24.85
SBHH07A RC	2008-02-26T10:40:00	1.34	5.9	4.56	MMG	Bedrock	24.6	25.2	-18.7	-19.3	SPIE	24.85
SBHH07A RC	2008-01-30T14:50:00	1.7	5.9	4.2	MMG	Bedrock	24.6	25.2	-18.7	-19.3	SPIE	24.85
SBHH07A RC	2008-03-20T13:55:00	1.33	5.9	4.57	MMG	Bedrock	24.6	25.2	-18.7	-19.3	SPIE	24.85
SBHL02 RC	2008-04-17T07:40:00	2.45	6.53	4.08	MMG	Bedrock	14.8	15.4	-8.27	-8.87	SPIE	15.2
SBHL02 RC	2008-03-19T12:50:00	2.44	6.53	4.09	MMG	Bedrock	14.8	15.4	-8.27	-8.87	SPIE	15.2
SBHL02 RC	2008-02-25T12:49:00	2.31	6.53	4.22	MMG	Bedrock	14.8	15.4	-8.27	-8.87	SPIE	15.2
SBHL02 RC	2008-02-01T10:35:00	2.27	6.53	4.26	MMG	Bedrock	14.8	15.4	-8.27	-8.87	SPIE	15.2
SBHL02 RC	2008-04-03T17:00:00	2.45	6.53	4.08	MMG	Bedrock	14.8	15.4	-8.27	-8.87	SPIE	15.2
SBHL02 RC	2008-03-06T14:25:00	2.42	6.53	4.11	MMG	Bedrock	14.8	15.4	-8.27	-8.87	SPIE	15.2
SBHJ07 CP	2008-03-06T14:25:00	1.56	5.79	4.23	TFD / MMG	Bedrock	8.4	10.4	-2.61	-4.61	SP	10.4
SBHJ07 CP	2008-03-17T10:25:00	1.59	5.79	4.2	TFD / MMG	Bedrock	8.4	10.4	-2.61	-4.61	SP	10.4
SBHJ07 CP	2008-02-01T11:43:00	1.35	5.79	4.44	TFD / MMG	Bedrock	8.4	10.4	-2.61	-4.61	SP	10.4
SBHJ07 CP	2008-04-03T17:47:00	1.5	5.79	4.29	TFD / MMG	Bedrock	8.4	10.4	-2.61	-4.61	SP	10.4
SBHJ07 CP	2008-04-17T07:40:00	1.47	5.79	4.32	TFD / MMG	Bedrock	8.4	10.4	-2.61	-4.61	SP	10.4
SBHJ07 CP	2008-02-21T14:40:00	1.4	5.79	4.39	TFD / MMG	Bedrock	8.4	10.4	-2.61	-4.61	SP	10.4
SBHL03 RC	2008-03-07T14:25:00	0.66	4.77	4.11	MMG	Bedrock	14.6	15.2	-9.83	-10.43	SPIE	15
SBHL03 RC	2008-04-08T15:40:00	0.64	4.77	4.13	MMG	Bedrock	14.6	15.2	-9.83	-10.43	SPIE	15
SBHL03 RC	2008-04-18T07:40:00	0.62	4.77	4.15	MMG	Bedrock	14.6	15.2	-9.83	-10.43	SPIE	15
SBHL03 RC	2008-03-20T13:25:00	0.76	4.77	4.01	MMG	Bedrock	14.6	15.2	-9.83	-10.43	SPIE	15
SBHL03 RC	2008-01-31T16:20:00	0.61	4.77	4.16	MMG	Bedrock	14.6	15.2	-9.83	-10.43	SPIE	15
SBHL03 RC	2008-02-26T11:15:00	0.51	4.77	4.26	MMG	Bedrock	14.6	15.2	-9.83	-10.43	SPIE	15
SBHH02 RC	2008-03-07T14:25:00	3.64	6.21	2.57	MMG	Bedrock	14.5	15.1	-8.29	-8.89	SPIE	14.9
SBHH02 RC	2008-03-20T14:30:00	4.27	6.21	1.94	MMG	Bedrock	14.5	15.1	-8.29	-8.89	SPIE	14.9
SBHH02 RC	2008-04-04T15:05:00	3.64	6.21	2.57	MMG	Bedrock	14.5	15.1	-8.29	-8.89	SPIE	14.9
SBHH02 RC	2008-02-26T09:20:00	3.88	6.21	2.33	MMG	Bedrock	14.5	15.1	-8.29	-8.89	SPIE	14.9
SBHH02 RC	2008-04-18T07:40:00	3.7	6.21	2.51	MMG	Bedrock	14.5	15.1	-8.29	-8.89	SPIE	14.9
SBHH02 RC	2008-01-31T11:10:00	3.42	6.21	2.79	MMG	Bedrock	14.5	15.1	-8.29	-8.89	SPIE	14.9

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water Level (MAOD)	Response Zone Geology	GW units	ponseZone	onseZoneE	LegendCodeDescription	strumentTy	Distance
BH537	2015-05-08T14:22:00	1.61	4.55	2.94	PEAT	Shallow GW	1	3	PEAT	SP	3
BH537	2015-03-31T09:14:00	0	4.55	4.55	PEAT	Shallow GW	1	3	PEAT	SP	3
BH537	2015-03-24T09:14:00	0.27	4.55	4.28	PEAT	Shallow GW	1	3	PEAT	SP	3
BH537	2015-04-16T09:14:00	0.35	4.55	4.2	PEAT	Shallow GW	1	3	PEAT	SP	3
BH553	2015-05-07T09:14:00	6.16	13.15	6.99	RTD	Shallow GW	3	6.9	Sandy GRAVEL	SP	6.9
BH553	2015-05-12T13:14:00	6.28	13.15	6.87	RTD	Shallow GW	3	6.9	Sandy GRAVEL	SP	6.9
BH553	2015-04-29T09:14:00	6.25	13.15	6.9	RTD	Shallow GW	3	6.9	Sandy GRAVEL	SP	6.9
BH553	2015-05-20T10:31:00	Dry	13.15	#VALUE!	RTD	Shallow GW	3	6.9	Sandy GRAVEL	SP	6.9
BH539	2015-05-08T15:08:00	2.03	6.35	4.32	TFD / TSG	Shallow GW	1	3	Gravelly SAND	SP	3
BH539	2015-04-16T09:14:00	1.06	6.35	5.29	TFD / TSG	Shallow GW	1	3	Gravelly SAND	SP	3
BH539	2015-03-24T10:44:00	0.56	6.35	5.79	TFD / TSG	Shallow GW	1	3	Gravelly SAND	SP	3
BH539	2015-03-31T11:14:00	0.71	6.35	5.64	TFD / TSG	Shallow GW	1	3	Gravelly SAND	SP	3
BHN10B	1997-12-01T15:35:00	3.12	10.8	7.68	GFD	Shallow GW	4	7	Clayey sandy GRAVEL	SPIE	6.48
BHN10B	1997-11-14T10:25:00	3.98	10.8	6.82	GFD	Shallow GW	4	7	Clayey sandy GRAVEL	SPIE	6.48
BHN10B	1997-11-11T14:50:00	4.17	10.8	6.63	GFD	Shallow GW	4	7	Clayey sandy GRAVEL	SPIE	6.48
BHN10B	1997-12-16T14:55:00	3.93	10.8	6.87	GFD	Shallow GW	4	7	Clayey sandy GRAVEL	SPIE	6.48
BHN10B	1997-11-24T15:40:00	3.22	10.8	7.58	GFD	Shallow GW	4	7	Clayey sandy GRAVEL	SPIE	6.48
BHN10B	1997-12-10T13:50:00	3.87	10.8	6.93	GFD	Shallow GW	4	7	Clayey sandy GRAVEL	SPIE	6.48
BH558	2015-05-07T11:44:00	16.54	37.3	20.76	CL	Bedrock	8	16.5	LIMESTONE	SP	16.5
BH558	2015-05-20T13:09:00	Dry	37.3	#VALUE!	CL	Bedrock	8	16.5	LIMESTONE	SP	16.5
BH558	2015-04-29T10:44:00	16.41	37.3	20.89	CL	Bedrock	8	16.5	LIMESTONE	SP	16.5
BH558	2015-05-13T10:15:00	16.43	37.3	20.87	CL	Bedrock	8	16.5	LIMESTONE	SP	16.5
BH558	2015-05-07T11:44:00	Dry	37.3	#VALUE!	MMMF	Bedrock	3.5	5.5	Gravelly CLAY	SP	5.5
BH558	2015-05-13T10:14:00	Dry	37.3	#VALUE!	MMMF	Bedrock	3.5	5.5	Gravelly CLAY	SP	5.5
BH558	2015-05-20T13:08:00	Dry	37.3	#VALUE!	MMMF	Bedrock	3.5	5.5	Gravelly CLAY	SP	5.5
BH558	2015-04-29T10:44:00	Dry	37.3	#VALUE!	MMMF	Bedrock	3.5	5.5	Gravelly CLAY	SP	5.5
BH561	2015-05-11T12:44:00	Dry	26.9	#VALUE!	MMMF	Bedrock	2	15	BRECCIA	SP	15
BH561	2015-05-05T15:14:00	Dry	26.9	#VALUE!	MMMF	Bedrock	2	15	BRECCIA	SP	15
BH561	2015-05-21T09:38:00	Dry	26.9	#VALUE!	MMMF	Bedrock	2	15	BRECCIA	SP	15
BH561	2015-04-27T15:14:00	Dry	26.9	#VALUE!	MMMF	Bedrock	2	15	BRECCIA	SP	15
BH539	2015-03-24T10:44:00	1.09	6.35	5.26	TSG	Bedrock	5	14.2	SANDSTONE	SP	14
BH539	2015-03-31T11:14:00	1.23	6.35	5.12	TSG	Bedrock	5	14.2	SANDSTONE	SP	14
BH539	2015-05-08T15:09:00	3.39	6.35	2.96	TSG	Bedrock	5	14.2	SANDSTONE	SP	14
BH539	2015-04-16T09:14:00	1.65	6.35	4.7	TSG	Bedrock	5	14.2	SANDSTONE	SP	14
BH542	2015-04-16T13:14:00	Dry	23.15	#VALUE!	TSG	Bedrock	1	4	SANDSTONE	SP	4
BH542	2015-03-24T12:44:00	Dry	23.15	#VALUE!	TSG	Bedrock	1	4	SANDSTONE	SP	4
BH542	2015-03-31T12:44:00	Dry	23.15	#VALUE!	TSG	Bedrock	1	4	SANDSTONE	SP	4
BHP1	1997-11-14T12:55:00	6.8	41.7	34.9	CL	Bedrock	4	8.5	LIMESTONE	SPIE	7.9
BHP1	1997-11-24T16:05:00	6.52	41.7	35.18	CL	Bedrock	4	8.5	LIMESTONE	SPIE	7.9
BHP1	1997-12-10T13:45:00	6.87	41.7	34.83	CL	Bedrock	4	8.5	LIMESTONE	SPIE	7.9
BHP1	1997-10-23T14:20:00	DRY	41.7	#VALUE!	CL	Bedrock	4	8.5	LIMESTONE	SPIE	7.9
BHP1	1997-12-01T11:55:00	8.82	41.7	32.88	CL	Bedrock	4	8.5	LIMESTONE	SPIE	7.9
BHP1	1997-12-16T14:50:00	6.91	41.7	34.79	CL	Bedrock	4	8.5	LIMESTONE	SPIE	7.9
BHP4	1997-12-10T13:25:00	DRY	25.5	#VALUE!	MMMF	Bedrock	0	7	CONGLOMERATE	SPIE	7.4
BHP4	1997-12-01T11:50:00	DRY	25.5	#VALUE!	MMMF	Bedrock	0	7	CONGLOMERATE	SPIE	7.4
BHP4	1997-11-24T16:15:00	DRY	25.5	#VALUE!	MMMF	Bedrock	0	7	CONGLOMERATE	SPIE	7.4
BHP4	1997-11-14T12:45:00	DRY	25.5	#VALUE!	MMMF	Bedrock	0	7	CONGLOMERATE	SPIE	7.4
BHP4	1997-12-16T14:30:00	DRY	25.5	#VALUE!	MMMF	Bedrock	0	7	CONGLOMERATE	SPIE	7.4
BHP4	1997-10-30T12:20:00	DRY	25.5	#VALUE!	MMMF	Bedrock	0	7	CONGLOMERATE	SPIE	7.4
BHP5	1997-12-16T14:40:00	6.21	26.9	20.69	MMMF	Bedrock	4.5	7.5	LIMESTONE	SPIE	7.1
BHP5	1997-11-24T16:13:00	6.22	26.9	20.68	MMMF	Bedrock	4.5	7.5	LIMESTONE	SPIE	7.1
BHP5	1997-10-30T11:30:00	DRY	26.9	#VALUE!	MMMF	Bedrock	4.5	7.5	LIMESTONE	SPIE	7.1
BHP5	1997-11-14T12:50:00	6.01	26.9	20.89	MMMF	Bedrock	4.5	7.5	LIMESTONE	SPIE	7.1
BHP5	1997-12-10T13:35:00	6.18	26.9	20.72	MMMF	Bedrock	4.5	7.5	LIMESTONE	SPIE	7.1
BHP5	1997-12-01T11:40:00	6.06	26.9	20.84	MMMF	Bedrock	4.5	7.5	LIMESTONE	SPIE	7.1
BHN4	1997-12-10T14:25:00	3.87	21.38	17.51	MMMF	Bedrock	3	6	MUDSTONE	SPIE	5.45
BHN4	1997-12-01T16:05:00	3.59	21.38	17.79	MMMF	Bedrock	3	6	MUDSTONE	SPIE	5.45
BHN4	1997-11-11T14:20:00	3.49	21.38	17.89	MMMF	Bedrock	3	6	MUDSTONE	SPIE	5.45
BHN4	1997-12-16T15:30:00	3.92	21.38	17.46	MMMF	Bedrock	3	6	MUDSTONE	SPIE	5.45
BHN4	1997-11-24T16:55:00	3.94	21.38	17.44	MMMF	Bedrock	3	6	MUDSTONE	SPIE	5.45
BHN4	1997-11-14T10:35:00	3.78	21.38	17.6	MMMF	Bedrock	3	6	MUDSTONE	SPIE	5.45
BHN5	1997-11-15T15:00:00	DRY	24.3	#VALUE!	MMMF	Bedrock	12	15	LIMESTONE	SPIE	14.47
BHN5	1997-12-10T14:55:00	DRY	24.3	#VALUE!	MMMF	Bedrock	12	15	LIMESTONE	SPIE	14.47
BHN5	1997-11-24T16:48:00	DRY	24.3	#VALUE!	MMMF	Bedrock	12	15	LIMESTONE	SPIE	14.47
BHN5	1997-12-01T15:50:00	DRY	24.3	#VALUE!	MMMF	Bedrock	12	15	LIMESTONE	SPIE	14.47
BHN5	1997-12-16T15:00:00	DRY	24.3	#VALUE!	MMMF	Bedrock	12	15	LIMESTONE	SPIE	14.47
BHN9	1997-11-11T14:40:00	3.5	10.2	6.7	MMMF	Bedrock	8	9.7	CONGLOMERATE	SPIE	9.17
BHN9	1997-12-10T13:55:00	2.67	10.2	7.53	MMMF	Bedrock	8	9.7	CONGLOMERATE	SPIE	9.17
BHN9	1997-12-16T15:00:00	2.7	10.2	7.5	MMMF	Bedrock	8	9.7	CONGLOMERATE	SPIE	9.17
BHN9	1997-11-14T10:00:00	3.29	10.2	6.91	MMMF	Bedrock	8	9.7	CONGLOMERATE	SPIE	9.17
BHN9	1997-12-01T15:30:00	2.28	10.2	7.92	MMMF	Bedrock	8	9.7	CONGLOMERATE	SPIE	9.17
BHN9	1997-11-24T15:35:00	2.7	10.2	7.5	MMMF	Bedrock	8	9.7	CONGLOMERATE	SPIE	9.17
BHP12	1997-10-23T15:00:00	8.1	36	27.9	MMMF	Bedrock	6	10.5	MUDSTONE	SPIE	10.4
BHP12	1997-11-24T16:00:00	6.82	36	29.18	MMMF	Bedrock	6	10.5	MUDSTONE	SPIE	10.4
BHP12	1997-12-10T13:20:00	6.82	36	29.18	MMMF	Bedrock	6	10.5	MUDSTONE	SPIE	10.4
BHP12	1997-12-16T14:25:00	7.01	36	28.99	MMMF	Bedrock	6	10.5	MUDSTONE	SPIE	10.4
BHP12	1997-12-01T11:00:00	5.77	36	30.23	MMMF	Bedrock	6	10.5	MUDSTONE	SPIE	10.4
BHP12	1997-11-14T12:30:00	6.62	36	29.38	MMMF	Bedrock	6	10.5	MUDSTONE	SPIE	10.4
BHN8	1997-12-01T15:25:00	4.59	12.2	7.61	MMMF	Bedrock	4.5	9.5	CONGLOMERATE	SPIE	8.9
BHN8	1997-11-11T14:30:00	5.64	12.2	6.56	MMMF	Bedrock	4.5	9.5	CONGLOMERATE	SPIE	8.9
BHN8	1997-12-10T14:00:00	4.7	12.2	7.5	MMMF	Bedrock	4.5	9.5	CONGLOMERATE	SPIE	8.9
BHN8	1997-11-14T10:20:00	5.5	12.2	6.7	MMMF	Bedrock	4.5	9.5	CONGLOMERATE	SPIE	8.9
BHN8	1997-12-16T15:05:00	4.87	12.2	7.33	MMMF	Bedrock	4.5	9.5	CONGLOMERATE	SPIE	8.9
BHN8	1997-11-24T15:50:00	4.07	12.2	8.13	MMMF	Bedrock	4.5	9.5	CONGLOMERATE	SPIE	8.9
BHN2	1997-11-14T10:40:00	7.9	28.1	20.2	MMMF	Bedrock	6	10	LIMESTONE	SPIE	9.3
BHN2	1997-12-01T16:00:00	7.32	28.1	20.78	MMMF	Bedrock	6	10	LIMESTONE	SPIE	9.3
BHN2	1997-12-10T14:20:00	7.92	28.1	20.18	MMMF	Bedrock	6	10	LIMESTONE	SPIE	9.3
BHN2	1997-12-16T15:25:00	8.03	28.1	20.07	MMMF	Bedrock	6	10	LIMESTONE	SPIE	9.3
BHN2	1997-11-11T14:00:00	8.23	28.1	19.87	MMMF	Bedrock	6	10	LIMESTONE	SPIE	9.3
BHN2	1997-11-24T17:00:00	4.15	28.1	23.95	MMMF	Bedrock	6	10	LIMESTONE	SPIE	9.3
BHM6	1997-12-02T11:00:00	1.67	11.1	9.43	TSG	Bedrock	5	7.5	SANDSTONE	SPIE	6.53
BHM6	1997-12-10T14:30:00	1.86	11.1	9.24	TSG	Bedrock	5	7.5	SANDSTONE	SPIE	6.53
BHM6	1997-11-15T14:00:00	3.52	11.1	7.58	TSG	Bedrock	5	7.5	SANDSTONE	SPIE	6.53
BHM6	1997-12-16T15:35:00	1.93	11.1	9.17	TSG	Bedrock	5	7.5	SANDSTONE	SPIE	6.53
BHM6	1997-11-25T15:25:00	3.17	11.1	7.93	TSG	Bedrock	5	7.5	SANDSTONE	SPIE	6.53
SBHQ01 RC	2008-04-08T17:13:00	7.24	11.76	4.52	CL	Bedrock	11.4	12	LIMESTONE	SPIE	11.8
SBHQ01 RC	2008-03-07T09:35:00	7.2	11.76	4.56	CL	Bedrock	11.4	12	LIMESTONE	SPIE	11.8
SBHQ01 RC	2008-04-18T10:45:00	7.48	11.76	4.28	CL	Bedrock	11.4	12	LIMESTONE	SPIE	11.8

Shallow GW Levels

Min	Dry
Max	6.28
Average	2.80

Bedrock GW Levels

Min	Dry
Max	16.54
Average	5.31

Location	Date and Time	Reading (mbGL)	Ground Level (MAOD)	Water Level (MAOD)	Response Zone Geology	GW units	ponseZone	onseZoneB	LegendCodeDescription	strumentTy	Distance
SBHQ01 RC	2008-03-20T10:40:00	6.72	11.76	5.04	CL	Bedrock	11.4	12	LIMESTONE	SPIE	11.8
SBHQ01 RC	2008-02-26T12:46:00	6.74	11.76	5.02	CL	Bedrock	11.4	12	LIMESTONE	SPIE	11.8
SBHQ01 RC	2008-01-31T14:20:00	5.76	11.76	6	CL	Bedrock	11.4	12	LIMESTONE	SPIE	11.8
SBHM01 RC	2008-02-01T08:20:00	0.26	4.71	4.45	CL	Bedrock	20.6	21.2	LIMESTONE	SPIE	21
SBHM01 RC	2008-03-20T13:05:00	0.21	4.71	4.5	CL	Bedrock	20.6	21.2	LIMESTONE	SPIE	21
SBHM01 RC	2008-04-18T07:40:00	0.01	4.71	4.7	CL	Bedrock	20.6	21.2	LIMESTONE	SPIE	21
SBHM01 RC	2008-02-26T11:30:00	0.26	4.71	4.45	CL	Bedrock	20.6	21.2	LIMESTONE	SPIE	21
SBHM01 RC	2008-04-08T15:48:00	0.45	4.71	4.26	CL	Bedrock	20.6	21.2	LIMESTONE	SPIE	21
SBHM01 RC	2008-03-07T14:25:00	0.05	4.71	4.66	CL	Bedrock	20.6	21.2	LIMESTONE	SPIE	21
SBHP01 RC	2008-03-07T09:35:00	Dry	20.42	#VALUE!	CL	Bedrock	7.6	8.2	LIMESTONE	SPIE	8
SBHP01 RC	2008-04-08T16:40:00	Dry	20.42	#VALUE!	CL	Bedrock	7.6	8.2	LIMESTONE	SPIE	8
SBHP01 RC	2008-02-26T14:12:00	Dry	20.42	#VALUE!	CL	Bedrock	7.6	8.2	LIMESTONE	SPIE	8
SBHP01 RC	2008-01-31T14:50:00	Dry	20.42	#VALUE!	CL	Bedrock	7.6	8.2	LIMESTONE	SPIE	8
SBHP01 RC	2008-04-18T10:45:00	Dry	20.42	#VALUE!	CL	Bedrock	7.6	8.2	LIMESTONE	SPIE	8
SBHP01 RC	2008-03-20T12:00:00	Dry	20.42	#VALUE!	CL	Bedrock	7.6	8.2	LIMESTONE	SPIE	8
SBHN04 RC	2008-01-31T15:30:00	9.99	32.88	22.89	CL	Bedrock	9.6	10.1	LIMESTONE	SPIE	10
SBHN04 RC	2008-03-07T14:25:00	Dry	32.88	#VALUE!	CL	Bedrock	9.6	10.1	LIMESTONE	SPIE	10
SBHN04 RC	2008-04-18T07:40:00	Dry	32.88	#VALUE!	CL	Bedrock	9.6	10.1	LIMESTONE	SPIE	10
SBHN04 RC	2008-04-08T16:28:00	Dry	32.88	#VALUE!	CL	Bedrock	9.6	10.1	LIMESTONE	SPIE	10
SBHN04 RC	2008-03-20T12:10:00	Dry	32.88	#VALUE!	CL	Bedrock	9.6	10.1	LIMESTONE	SPIE	10
SBHN04 RC	2008-02-26T14:42:00	Dry	32.88	#VALUE!	CL	Bedrock	9.6	10.1	LIMESTONE	SPIE	10
SBHQ02 RC	2008-04-08T17:18:00	Dry	12.1	#VALUE!	MMMF	Bedrock	5.6	6.2	LIMESTONE	SPIE	6
SBHQ02 RC	2008-04-18T10:45:00	Dry	12.1	#VALUE!	MMMF	Bedrock	5.6	6.2	LIMESTONE	SPIE	6
SBHQ02 RC	2008-03-07T09:35:00	5.98	12.1	6.12	MMMF	Bedrock	5.6	6.2	LIMESTONE	SPIE	6
SBHQ02 RC	2008-03-20T10:45:00	4.91	12.1	7.19	MMMF	Bedrock	5.6	6.2	LIMESTONE	SPIE	6
SBHQ02 RC	2008-01-31T14:15:00	4.98	12.1	7.12	MMMF	Bedrock	5.6	6.2	LIMESTONE	SPIE	6
SBHQ02 RC	2008-02-26T12:59:00	5.16	12.1	6.94	MMMF	Bedrock	5.6	6.2	LIMESTONE	SPIE	6
SBHQ04 RC	2008-04-18T10:45:00	Dry	14.91	#VALUE!	MMMF	Bedrock	7.6	8.2	SANDSTONE	SPIE	8
SBHQ04 RC	2008-03-20T11:30:00	6.97	14.91	7.94	MMMF	Bedrock	7.6	8.2	SANDSTONE	SPIE	8
SBHQ04 RC	2008-04-08T17:02:00	Dry	14.91	#VALUE!	MMMF	Bedrock	7.6	8.2	SANDSTONE	SPIE	8
SBHQ04 RC	2008-03-07T00:00:00	6.94	14.91	7.97	MMMF	Bedrock	7.6	8.2	SANDSTONE	SPIE	8
SBHQ04 RC	2008-01-31T13:05:00	4.35	14.91	10.56	MMMF	Bedrock	7.6	8.2	SANDSTONE	SPIE	8
SBHQ04 RC	2008-02-26T13:36:00	6.18	14.91	8.73	MMMF	Bedrock	7.6	8.2	SANDSTONE	SPIE	8
SBHQ03 RC	2008-02-26T13:29:00	7.22	12.51	5.29	MMMF	Bedrock	10.6	11.2	LIMESTONE	SPIE	11
SBHQ03 RC	2008-04-08T17:05:00	7.69	12.51	4.82	MMMF	Bedrock	10.6	11.2	LIMESTONE	SPIE	11
SBHQ03 RC	2008-04-18T10:45:00	8	12.51	4.51	MMMF	Bedrock	10.6	11.2	LIMESTONE	SPIE	11
SBHQ03 RC	2008-03-20T10:50:00	6.76	12.51	5.75	MMMF	Bedrock	10.6	11.2	LIMESTONE	SPIE	11
SBHQ03 RC	2008-01-31T13:20:00	6.04	12.51	6.47	MMMF	Bedrock	10.6	11.2	LIMESTONE	SPIE	11
SBHQ03 RC	2008-03-07T09:35:00	7.59	12.51	4.92	MMMF	Bedrock	10.6	11.2	LIMESTONE	SPIE	11
SBHP02 RC	2008-03-20T11:45:00	5.59	18.63	13.04	MMMF	Bedrock	9.4	10	LIMESTONE	SPIE	9.8
SBHP02 RC	2008-01-31T00:00:00	7.2	18.63	11.43	MMMF	Bedrock	9.4	10	LIMESTONE	SPIE	9.8
SBHP02 RC	2008-02-26T13:59:00	8.09	18.63	10.54	MMMF	Bedrock	9.4	10	LIMESTONE	SPIE	9.8
SBHP02 RC	2008-04-08T16:55:00	7.98	18.63	10.65	MMMF	Bedrock	9.4	10	LIMESTONE	SPIE	9.8
SBHP02 RC	2008-04-18T10:45:00	8.2	18.63	10.43	MMMF	Bedrock	9.4	10	LIMESTONE	SPIE	9.8
SBHP02 RC	2008-03-07T09:35:00	8.25	18.63	10.38	MMMF	Bedrock	9.4	10	LIMESTONE	SPIE	9.8
SBHN03 RC	2008-04-18T07:40:00	2.37	10.76	8.39	MMMF	Bedrock	14.6	15.2	MUDSTONE	SPIE	15
SBHN03 RC	2008-03-07T14:25:00	2.34	10.76	8.42	MMMF	Bedrock	14.6	15.2	MUDSTONE	SPIE	15
SBHN03 RC	2008-01-31T15:45:00	1.07	10.76	9.69	MMMF	Bedrock	14.6	15.2	MUDSTONE	SPIE	15
SBHN03 RC	2008-03-20T12:30:00	1.6	10.76	9.16	MMMF	Bedrock	14.6	15.2	MUDSTONE	SPIE	15
SBHN03 RC	2008-04-08T16:17:00	2.07	10.76	8.69	MMMF	Bedrock	14.6	15.2	MUDSTONE	SPIE	15
SBHN03 RC	2008-02-26T12:03:00	1.73	10.76	9.03	MMMF	Bedrock	14.6	15.2	MUDSTONE	SPIE	15
SBHN02 RC	2008-02-26T11:57:00	4.19	12.34	8.15	MMMF	Bedrock	20	20.6	MUDSTONE	SPIE	20.4
SBHN02 RC	2008-03-20T12:45:00	4.26	12.34	8.08	MMMF	Bedrock	20	20.6	MUDSTONE	SPIE	20.4
SBHN02 RC	2008-03-07T14:25:00	4.84	12.34	7.5	MMMF	Bedrock	20	20.6	MUDSTONE	SPIE	20.4
SBHN02 RC	2008-04-08T16:12:00	2.64	12.34	9.7	MMMF	Bedrock	20	20.6	MUDSTONE	SPIE	20.4
SBHN02 RC	2008-04-18T07:40:00	4.85	12.34	7.49	MMMF	Bedrock	20	20.6	MUDSTONE	SPIE	20.4
SBHN02 RC	2008-01-31T15:55:00	3.67	12.34	8.67	MMMF	Bedrock	20	20.6	MUDSTONE	SPIE	20.4
SBHN01A RC	2008-04-18T07:40:00	13.27	20.48	7.21	MMMF	Bedrock	14.4	15	SILTSTONE	SPIE	14.9
SBHN01A RC	2008-03-20T12:55:00	12.14	20.48	8.34	MMMF	Bedrock	14.4	15	SILTSTONE	SPIE	14.9
SBHN01A RC	2008-02-01T15:20:00	8.49	20.48	11.99	MMMF	Bedrock	14.4	15	SILTSTONE	SPIE	14.9
SBHN01A RC	2008-04-08T16:05:00	12.58	20.48	7.9	MMMF	Bedrock	14.4	15	SILTSTONE	SPIE	14.9
SBHN01A RC	2008-03-07T14:25:00	13.18	20.48	7.3	MMMF	Bedrock	14.4	15	SILTSTONE	SPIE	14.9
SBHN01A RC	2008-02-27T17:15:00	12.23	20.48	8.25	MMMF	Bedrock	14.4	15	SILTSTONE	SPIE	14.9
SBHP03 RC	2008-03-07T09:35:00	4.78	26.42	21.64	MMMF	Bedrock	4.6	5.2	LIMESTONE	SPIE	5
SBHP03 RC	2008-04-08T16:50:00	Dry	26.42	#VALUE!	MMMF	Bedrock	4.6	5.2	LIMESTONE	SPIE	5
SBHP03 RC	2008-01-31T13:40:00	4.09	26.42	22.33	MMMF	Bedrock	4.6	5.2	LIMESTONE	SPIE	5
SBHP03 RC	2008-02-26T13:48:00	4.76	26.42	21.66	MMMF	Bedrock	4.6	5.2	LIMESTONE	SPIE	5
SBHP03 RC	2008-03-20T11:40:00	2.8	26.42	23.62	MMMF	Bedrock	4.6	5.2	LIMESTONE	SPIE	5
SBHP03 RC	2008-04-18T10:45:00	4.93	26.42	21.49	MMMF	Bedrock	4.6	5.2	LIMESTONE	SPIE	5
SBHQ06 RC	2008-01-31T13:00:00	3.89	9.27	5.38	NR	Bedrock	7.1	8	SAND	SPIE	7.35
SBHQ06 RC	2008-04-18T10:45:00	4.79	9.27	4.48	NR	Bedrock	7.1	8	SAND	SPIE	7.35
SBHQ06 RC	2008-02-26T13:16:00	4.4	9.27	4.87	NR	Bedrock	7.1	8	SAND	SPIE	7.35
SBHQ06 RC	2008-04-08T17:20:00	6.63	9.27	2.64	NR	Bedrock	7.1	8	SAND	SPIE	7.35
SBHQ06 RC	2008-03-20T11:20:00	4.47	9.27	4.8	NR	Bedrock	7.1	8	SAND	SPIE	7.35
SBHQ06 RC	2008-03-07T09:35:00	4.63	9.27	4.64	NR	Bedrock	7.1	8	SAND	SPIE	7.35
SBHM02 RC	2008-02-01T08:25:00	0.19	5.4	5.21	TSG	Bedrock	19.6	20.2	SANDSTONE	SPIE	20
SBHM02 RC	2008-04-18T07:40:00	0.61	5.4	4.79	TSG	Bedrock	19.6	20.2	SANDSTONE	SPIE	20
SBHM02 RC	2008-03-07T14:25:00	0.68	5.4	4.72	TSG	Bedrock	19.6	20.2	SANDSTONE	SPIE	20
SBHM02 RC	2008-04-08T15:52:00	0.61	5.4	4.79	TSG	Bedrock	19.6	20.2	SANDSTONE	SPIE	20
SBHM02 RC	2008-02-26T11:41:00	0.49	5.4	4.91	TSG	Bedrock	19.6	20.2	SANDSTONE	SPIE	20
SBHM02 RC	2008-03-20T13:10:00	0.61	5.4	4.79	TSG	Bedrock	19.6	20.2	SANDSTONE	SPIE	20

Annex J: Groundwater Quality Dataset

Monitoring Round	Units	Screening Criteria																
Location				SWSJ37	SWSJ37	SWSJ34	SWSJ34	SWSJ23	SWSJ21	SWSJ21	SWSJ08	SWSJ08	SSSJ03A	SSSJ01A	SBHK04 CP	SBHK04 CP	SBHK03 CP	SBHK03 CP
Depth				0.55	5.6	3.33	6	6.62	5.72	6	0.37	3.3	0	0	8.87	12.2	0.89	5.9
Response Zone Details (RZ)				TFD (Peat)		MG		MG	MG		MG / TFD				TFD / weathered BR (MMG)		TFD (Peat)	
Drainage Area		EQS	DWS	Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern	Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern				Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern	
Installation Details				4.1 - 5.6		3 - 6		5.8 - 7.8	4 - 6		0.3 - 3.3				10.2 - 12.2		4.9 - 5.9	
Date Sampled				2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI
Metals																		
Arsenic Dissolved	ug/l	50	10	3.7	3.7	8	6.2	3	5	5	6	5.7	<1	<1	16	2.1	23	23
Beryllium Dissolved	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Boron Dissolved	ug/l	2000	1000															
Chromium Dissolved	ug/l		50	15	15	2	<1	<1	2	2	6	5	<1	<1	9	9	15	15
Copper Dissolved	ug/l	10	2000	4.2	4.2	7.2	7.2	23	4.1	4.1	8.7	4.1	<1.6	1.9	12	2.8	7.8	5.7
Iron Dissolved	ug/l	1000	200										430	420				
Lead Dissolved	ug/l	1.2	10	1.1	<0.4	71	53	1000	1500	1500	0.9	1	<0.4	0.5	4.8	<0..4	0.9	0.9
Magnesium Dissolved	ug/l			150000	150000	<40	<40	<40	<40	<40	94000	88000	60	5300	320000	120000	340000	340000
Manganese Dissolved	ug/l	30	50	2100	850	6	6	4	3	2	21000	18000	<50	<50	1800	560	860	860
Nickel Dissolved	ug/l	4	20	6.9	6.9	8.1	4.9	9.7	36	10	20	22	12	9.8	20	3.9	17	17
Selenium Dissolved	ug/l		10	9	9	1	<1	4	4	3	8	6	<1	<1	46	2	39	39
Cadmium Dissolved	ug/l	0.15	5										<0.5	<0.5				
Vanadium Dissolved	ug/l			7	7	1	1	<1	<1	<1	2	3	<1	<1				
Zinc Dissolved	ug/l	75																
Mercury Dissolved	ug/l	0.07	1										<0.01	0.01				
Cadmium Total	ug/l	0.15	5	<0.4	<0.4	45	45	10	480	0.5	6.9	9.7	<0.4	<0.4	0.8	<0.4	3.4	3.4
Zinc Total	ug/l	75		1600	1600	82000	82000	12000	3200	3200	640	950	89	160	230	89	540	540
Mercury Total	ug/l	0.07	1	<0.01	<0.01	0.05	0.05	<0.01	<0.01	<0.01	0.07	0.1	0.03	<0.01	0.04	<0.01	0.04	0.04
Non-Metal Inorganics																		
Hardness Total	mg/l			1100	850	680	570	1200	1800	1800	1500	1500	290	120	2300	690	2100	2100
Total Alkalinity as CaCO3	mg/l			1500	1500	20000	1600	1700	8700	1600	840	630	770	110	1000	1000	1100	1100
BOD	mg/l	5		73	2	15	15	10	41	<1	<1	<1	<1	380	3	3	7	<1
COD	mg/l			2900	530	350	280	530	2000	2000	700	480	<5	6900	620	78	1300	1300
Calcium Dissolved	mg/l			180	110	290	270	470	690	690	470	440	250	31	420	120	360	360
Potassium Dissolved	mg/l			47	38	580	340	320	150	150	1.7	2.6	50	1.2	66	42	75	75
Sodium Dissolved	mg/l		200	980	980	380	200	170	62	59	240	240	23	4.7	3300	590	3500	3500
Chloride	mg/l	250	250	950	950	90	45	160	110	110	110	110	26	22	5300	350	5200	5200
Nitrate as NO3	mg/l		50	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	0.7	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total Diss Sulphur	mg/l																	
Sulphate	mg/l	#N/A	#N/A															
Sulphate (soluble)	mg/l	400	250	26	<3	8	8	17	11	9	1200	1200	7	12	550	500	440	280
Sulphide	mg/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	<0.5	<0.5	<0.5
Sulphide (free)	mg/l	#N/A	#N/A															
Ammoniacal Nitrogen as N	mg/l	0.6		32	18	1.2	1.2	3.4	2.1	2.1	1.4	1.1	3	5.4	27	5.6	35	35
Total Ammonium as NH4	mg/l		0.5			1.8		3.1			1.8				35		6.8	
Thiocyanate	mg/l																	
Thiocyanate as SCN	mg/l																	
Total Cyanide	mg/l	0.001	0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	0.78	0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	mg/l																	
Free Cyanide Low	mg/l																	
Complex Cyanide	mg/l																	
Complex Cyanide Low	mg/l																	
Ferro/Ferricyanide	mg/l	#N/A	#N/A															
Carbon Dioxide Dissolved	ug/l					<1		<1			100				92		26	
pH Value	pH units	6-9	6.5-10	8.72	8.72	12.74	12.61	12.65	12.62	12.62	7.02	8.04	12.29	8.11	8.95	8.95	8.69	8.26
Phenols																		
Dimethylphenols	ug/l																	
Trimethylphenols	ug/l																	
2-Chlorophenol	ug/l	50		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2 - Methyl-4,6-Dinitrophenol	ug/l																	
2-Methylphenol	ug/l	100		<1	<1	2	<1	9	3	3	<1	<1	1	<1	<1	<1	<1	<1
2-Nitrophenol	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol	ug/l			<1	<1	<1	<1	7	2	2	<1	<1	<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	ug/l	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol	ug/l	100		<1	<1	3	2	18	7	7	<1	<1	15	<1	<1	<1	<1	<1
4-Nitrophenol	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol	ug/l	0.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cresols	ug/l																	
Phenol	ug/l	7.7		<1	<1	7	6	18	8	8	<1	<1	62	<1	<1	<1	<1	<1
Phenols Monohydric	mg/l			<0.01		0.04	<0.01	0.14	0.06	0.06	<0.01	<0.01	0.15	<0.01	<0.01	<0.01	<0.01	<0.01
Phenol Index	mg/l																	
Phenols	mg/l	0.0077																
BTEX																		
GRO (C4-C12)				<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MTBE	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10
Benzene	ug/l	10	1	<1	<1	<1	<1	1	<1	<1	<1	<1	1	<1	<10	<10	<10	<10
Toluene	ug/l	50		<1	<1	5	5	2	1	1	<1	<1	<1	<1	<10	<10	<10	<10
Ethyl benzene	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10
m & p Xylene	ug/l	30		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10
o Xylene	ug/l	30		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10
TPH																		
Aliphatics C5-C6	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 Aqueous	ug/l			<10	<10	<10	<10	<10	42	<10	<10	<10	72	220	<10	<10	<10	<10
Aliphatics >C16-C21 Aqueous	ug/l			<10	<10	<10	<10	<10	1300	<10	<10	<10	760	3200	<10	<10	<10	<10
Aliphatics >C21-C35 Aqueous	ug/l			<10	<10	<10	<10	<10	940	<10	<10	<10	9000	41000	<10	<10	<10	<10
Total Aliphatics C5-C35 Aqueous	ug/l			<10	<10	<10	<10	<10	2300	<10	<10	<10	9800	44000	<10	<10	<10	<10
Aliphatics >C35-44	ug/l																	
Aromatics >C5-C7	ug/l																	
Aromatics C6-C7	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >C7-C8	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 Aqueous	ug/l			<10	<10	<10	<10	<10	55	<10	<10	<10	49	88	<10	<10	<10	<10
Aromatics >EC16-EC21 Aqueous	ug/l			<10	<10	<10	<10	<10	300	<10	<10	<10	180	570	<10	<10	<10	<10
Aromatics >EC21-EC35 Aqueous	ug/l			<10	<10	<10	<10	<10	720	<10	<10	<10	1600	7500	<10	<10	<10	<10
Total Aromatics C6-C35 Aqueous	ug/l			<10	<10	<10	<10	<10	1100	<10	<10	<10	1900	8200	<10	<10	<10	<10
Aromatics >C35-44	ug/l																	
Total Aliphatic TPH	ug/l																	
Total Aromatic TPH	ug/l																	
TPH (Aliphatics and Aromatics C5-C35)	ug/l			<10	<10	<10	<10	<10	3300	<10	<10	<10	12000	53000	<10	<10	<10	<10
Total petroleum hydrocarbons	ug/l																	
TPH GC	ug/l																	
PAHs																		
2-Chloronaphthalene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Methylnaphthalene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	ug/l	0.1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	ug/l	0.00017	0.01	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene	ug/l	0.017	0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	ug/l	0.017	0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	ug/l	0.0063		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluorene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(ghi)perylene	ug/l	0.0082	0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	ug/l		0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	2		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Phenanthrene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pyrene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total PAHs (USEPA 16)	ug/l																	
Phthalates																		
Bis(2-ethylhexyl) phthalate	ug/l	1.3		4	4	<2	<2	<2	<2	<2	<2	20	<2	<2	<2	<2	<2	<2
Butylbenzyl phthalate	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-n-butyl phthalate	ug/l	8		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-n-Octyl phthalate	ug/l	20		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diethyl phthalate	ug/l	200		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1
Dimethyl phthalate	ug/l	800		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Monitoring Round	Units	Screening Criteria																
Location				SWSJ37	SWSJ37	SWSJ34	SWSJ34	SWSJ23	SWSJ21	SWSJ21	SWSJ08	SWSJ08	SSSJ03A	SSSJ01A	SBHK04 CP	SBHK04 CP	SBHK03 CP	SBHK03 CP
Depth				0.55	5.6	3.33	6	6.62	5.72	6	0.37	3.3	0	0	8.87	12.2	0.89	5.9
Response Zone Details (RZ)				TFD (Peat)		MG		MG	MG		MG / TFD				TFD / weathered BR (MMG)		TFD (Peat)	
Drainage Area		EQS	DWS	Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern	Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern				Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern	
Installation Details				4.1 - 5.6		3 - 6		5.8 - 7.8	4 - 6		0.3 - 3.3				10.2 - 12.2		4.9 - 5.9	
Date Sampled				2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI
VOCs																		
1,1,1,2-Tetrachloroethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,1,1-Trichloroethane	ug/l	100		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,1,2,2-Tetrachloroethane				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,1,2-Trichloroethane	ug/l	400		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,1-Dichloroethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,1-Dichloroethene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,1-Dichloropropene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,2,3-Trichlorobenzene	ug/l	0.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,2,3-Trichloropropane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,2,4-Trichlorobenzene	ug/l	0.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	ug/l			13	<1	3	<1	11	<1	<1	<1	<1	<1	<1				
1,2-Dibromo-3-Chloropropane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,2-Dibromoethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,2-Dichlorobenzene	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	ug/l	10	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,2-Dichloropropane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,3,5-Trimethylbenzene	ug/l			<1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1				
1,3-Dichlorobenzene	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
1,4-Dichlorobenzene	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	ug/l	#N/A	#N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
2-Chlorotoluene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
4-Chlorotoluene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
4-Isopropyltoluene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Benzene	ug/l	10	1	<1	<1	<1	<1	1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1
Bromobenzene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Bromochloromethane	ug/l		100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Bromodichloromethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Bromoform	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Bromomethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Carbon Disulphide	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Chlorobenzene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Chloroethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Chloroethene	ug/l																	
Chloroform	ug/l	2.5	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Chloromethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
cis-1,2-Dichloroethene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
cis-1,3-Dichloropropene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Dibromochloromethane	ug/l		100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Dibromomethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Dichlorodifluoromethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Ethylbenzene	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10
Hexachlorobutadiene (HCBD)	ug/l	0.6		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Isopropylbenzene	ug/l			<1	<1	<1	<1	3	<1	<1	<1	<1	<1	<1				
m,p xylenes	ug/l	30		<1	<1	<1	<1	4	<1	<1	<1	10	<1	<1				
Methyl tert-butyl ether (MTBE)	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10
n-Butylbenzene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
n-propylbenzene	ug/l			<1	<1	<1	<1	3	<1	<1	<1	<1	<1	<1				
O-Xylene	ug/l	30		<1	<1	<1	<1	4	<1	<1	<1	<1	<1	<1				
p-Isopropyltoluene	ug/l	#N/A	#N/A															
Sec-Butylbenzene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Styrene	ug/l	50		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Tert-Butylbenzene	ug/l			<1	<1	<1	<1	6	<1	<1	<1	<1	<1	<1				
Tetrachloroethene	ug/l	10	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Tetrachloromethane (Carbon Tetra Chl	ug/l	12	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Toluene	ug/l	50		<1	<1	5	5	2	1	1	<1	<1	<1	<1	<10	<10	<10	<10
trans-1,2-Dichloroethene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
trans-1,3-Dichloropropene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Tribromomethane	ug/l		100															
Trichloroethene	ug/l	10	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Trichlorofluoromethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
Vinyl Chloride	ug/l	0	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				
SVOCs																		
1,3-Dichlorobenzene	ug/l	20																
2,4-Dinitrotoluene	ug/l																	
2,6-Dinitrotoluene	ug/l																	
2-Chloronaphthalene	ug/l																	
2-Chlorophenol	ug/l	50																
2-Methyl-4,6-Dinitrophenol	ug/l																	
2-Methylnaphthalene	ug/l																	
2-Methylphenol	ug/l	100																
2-Nitroaniline	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Nitrophenol	ug/l																	
3-Nitroaniline	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Bromophenyl Phenyl Ether	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-Methylphenol	ug/l	40		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloroaniline	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorophenyl Phenyl Ether	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol	ug/l	100																
4-Nitroaniline	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Azobenzene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethoxy)methane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethyl)ether	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroisopropyl)ether	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-ethylhexyl)phthalate	ug/l	1.3		4	4	<2	<2	<2	<2	<2	<2	20	<2	<2	<2	<2	<2	<2
Butylbenzylphthalate	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbazole	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzofuran	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethylphthalate	ug/l	200		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dimethylphthalate	ug/l	800		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-N-Butyl Phthalate	ug/l	8		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-N-Octyl Phthalate	ug/l	20		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<5	<5
Hexachlorobenzene (HCB)	ug/l	0.05		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isophorone	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nitrobenzene	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-nitrosodimethylamine	ug/l																	
N-Nitroso-Di-N-Propylamine	ug/l			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol (PCP)	ug/l	0.4		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PCBs																		
PCB- ARO	ug/l																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher	ug/l																	
Pcb-118 2,3',4,4',5 - Pentachlorobipher	ug/l																	
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe	ug/l																	
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe	ug/l																	
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi	ug/l																	
Pcb-28 2,4,4' - Trichlororbiphenyl	ug/l																	
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	ug/l																	

Monitoring Round																		
Location	**SBHK02 CP**	**SBHK02 CP**	**SBHK01 CP**	**SBHK01 CP**	**SBHJ10 CP**	**SBHJ10 CP**	**SBHJ09 CP**	**SBHJ09 CP**	**SBHJ08A CP**	**SBHJ08A CP**	**SBHJ07 CP**	**SBHJ07 CP**	**SBHJ06 CP**	**SBHJ06 CP**	**SBHJ05**	**SBHJ05**	**SBHJ04**	**SBHJ04**
Depth	1.33	11.2	1	6.8	2.24	10	0.85	2.2	2.31	7.4	1.4	10.4	1.32	4.1	9.07	11.5	6.67	13.1
Response Zone Details (RZ)	TFD		TFD (Peat)		TFD		MG		TFD (Peat)		TFD / Weatherd BR (MMG)		TFD (Peat)		MG		TFD (Peat)	
Drainage Area	Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern	
Installation Details	7.2 - 11.2		4.8 - 6.8		9 - 10		1 - 2.2		6.4 - 7.4		8.4 - 10.4		3.1 - 4.1		9.5 - 11.5		12.1 - 13.1	
Date Sampled	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI
Metals																		
Arsenic Dissolved	17	17	19	14	21	21	2	1	6	6	18	18	7	5	5	4	2<1	2<1
Beryllium Dissolved					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Boron Dissolved																		
Chromium Dissolved	10	10	14	14	12	12	2	2	1	1	26	26	13	12	2	2	18	18
Copper Dissolved	9	9	8	5.7	<1.6	<1.6	10	4.5	5.8	5.8	2.5	2.5	2.2	<1.6	6	6	5.3	<1.6
Iron Dissolved																		
Lead Dissolved	2.7	0.4	1.6	0.5	0.8	<0.4	1.5	1.5	5.2	0.7	8.2	<0.4	2.8	<0.4	1.8	0.8	1.3	<0.4
Magnesium Dissolved	190000	190000	170000	150000	200000	200000	100	<40	<40	<40	160000	160000	200000	180000	790	<40	270000	270000
Manganese Dissolved	720	640	1100	940	520	520	3	<1	2	2	2100	630	2100	1900	9	1	2300	1800
Nickel Dissolved	14	14	8.6	8.6	7.3	6.9	19	11	12	12	5.5	5.5	7.7	5.5	9.5	8.1	5.9	5.9
Selenium Dissolved	25	25	20	9	31	31	3	<1	2	2	9	9	19	12	6	6	33	33
Cadmium Dissolved																		
Vanadium Dissolved					3	<1	3	2	8	8	1<1	1<1	4	4	110	64	5	5
Zinc Dissolved																		
Mercury Dissolved																		
Cadmium Total	0.8	0.8	12	12	3.8	3.8	1.3	<0.4	<0.4	<0.4	18	18	3	2.3	0.5	<0.4	23	23
Zinc Total	370	370	4800	4800	8000	8000	490	250	160	160	6500	6500	320	230	190	130	8100	8100
Mercury Total	0.01	<0.01	0.05	0.05	0.07	0.07	0.03	<0.01	0.02	0.02	0.01	0.01	<0.01	<0.01	0.02	0.02	<0.01	<0.01
Non-Metal Inorganics																		
Hardness Total	1200	1200	990	870	1100	1100	2100	2100	1600	1100	890	810	1300	1100	160	160	1300	1300
Total Alkalinity as CaCO3	880	880	3300	3300	4400	4400	2000	2000	1600	950	1200	810	1500	1400	360	360	6900	6900
BOD	<1	<1	12	12	33	33	9	9	55	55	30	30	5	<1	47	18	41	41
COD	550	550	6200	4900	7400	7400	310	310	2600	2600	3200	3200	1200	1200	1300	400	2900	2900
Calcium Dissolved	240	240	130	110	140	140	800	800	610	430	190	120	220	210	66	66	150	150
Potassium Dissolved	48	48	53	51	69	68	26	26	23	23	63	63	53	53	170	170	80	80
Sodium Dissolved	2500	2500	1500	1200	4600	3500	42	22	72	72	1400	1400	1300	1200	120	120	2900	2700
Chloride	3300	3300	1900	1400	4300	4300	30	20	60	60	1300	1300	1700	1700	140	100	3400	3400
Nitrate as NO3	<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	<0.3	<0.3	<0.3	<0.3	<0.3
Total Diss Sulphur																		
Sulphate																		
Sulphate (soluble)	330	160	110	71	550	550	17	17	19	19	170	110	16	7	48	38	89	59
Sulphide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sulphide (free)																		
Ammoniacal Nitrogen as N	18	18	14	14	36	36	1.6	1.6	5.6	5.6	16	16	9.8	9.4	6.2	6.2	35	35
Total Ammonium as NH4	19		18				1.9				12				7.5		39	
Thiocyanate									<0.05	<0.05								
Thiocyanate as SCN																		
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide																		
Free Cyanide Low									<0.01									
Complex Cyanide									<0.05	<0.05								
Complex Cyanide Low									<0.01									
Ferro/Ferricyanide																		
Carbon Dioxide Dissolved	51		86				<1				59				<1		74	
pH Value	8.3	8.3	8.59	8.59	8.04	8.04	12.71	12.7	12.72	12.35	8.01	8.01	7.85	7.85	11.85	11.85	7.76	7.76
Phenols																		
Dimethylphenols																		
Trimethylphenols																		
2-Chlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2 - Methyl-4,6-Dinitrophenol																		
2-Methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1	<1
2-Nitrophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	3	<1	<1
2,4,5-Trichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol	<1	<1	<1	<1	<1	<1	2	2	11	11	<1	<1	<1	<1	4	4	<1	<1
4-Nitrophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cresols																		
Phenol	<1	<1	<1	<1	<1	<1	8	8	89	89	<1	<1	<1	<1	23	20	<1	<1
Phenols Monohydric	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.02	0.28	0.28	<0.01	<0.01	<0.01	<0.01	0.13	0.13	<0.01	<0.01
Phenol Index																		
Phenols																		
BTEX																		
GRO (C4-C12)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MTBE	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<10	<10	<10	<10	6	6	<1	<1	3	3	<1	<1	<1	<1	2	2	7	5
Ethyl benzene	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																		
Aliphatics C5-C6	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	54	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 Aqueous	<10	<10	270	<10	150	<10	39	<10	820	690	56	<10	<10	<10	<10	<10	<10	<10
Total Aliphatics C5-C35 Aqueous	<10	<10	270	<10	150	<10	39	<10	870	690	56	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C35-44																		
Aromatics >C5-C7																		
Aromatics C6-C7	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >C7-C8	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	150	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total Aromatics C6-C35 Aqueous	<10	<10	<10	<10	<10	<10	<10	<10	150	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >C35-44																		
Total Aliphatic TPH																		
Total Aromatic TPH																		
TPH (Aliphatics and Aromatics C5-C35)	<10	<10	270	<10	150	<10	39	<10	1000	690	56	<10	<10	<10	<10	<10	<10	<10
Total petroleum hydrocarbons																		
TPH GC																		
PAHs																		
2-Chloronaphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Methylnaphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acenaphthylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	2	<1	<1
Fluorene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(ghi)perylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	0	<1	<1
Phenanthrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	2	<1	<1
Pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1	<1
Total PAHs (USEPA 16)																		
Phthalates																		
Bis(2-ethylhexyl) phthalate	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-n-butyl phthalate	<1	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1
Di-n-Octyl phthalate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diethyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dimethyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Monitoring Round																		
Location	**SBHK02 CP**	**SBHK02 CP**	**SBHK01 CP**	**SBHK01 CP**	**SBHJ10 CP**	**SBHJ10 CP**	**SBHJ09 CP**	**SBHJ09 CP**	**SBHJ08A CP**	**SBHJ08A CP**	**SBHJ07 CP**	**SBHJ07 CP**	**SBHJ06 CP**	**SBHJ06 CP**	**SBHJ05**	**SBHJ05**	**SBHJ04**	**SBHJ04**
Depth	1.33	11.2	1	6.8	2.24	10	0.85	2.2	2.31	7.4	1.4	10.4	1.32	4.1	9.07	11.5	6.67	13.1
Response Zone Details (RZ)	TFD		TFD (Peat)		TFD		MG		TFD (Peat)		TFD / Weatherd BR (MMG)		TFD (Peat)		MG		TFD (Peat)	
Drainage Area	Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern		Caldicot Levels Area 4 Llanwern	
Installation Details	7.2 - 11.2		4.8 - 6.8		9 - 10		1 - 2.2		6.4 - 7.4		8.4 - 10.4		3.1 - 4.1		9.5 - 11.5		12.1 - 13.1	
Date Sampled	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI
VOCs																		
1,1,1,2-Tetrachloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulphide					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethene																		
Chloroform					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m,p xylenes					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-propylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
O-Xylene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																		
Sec-Butylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tert-Butylbenzene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloromethane (Carbon Tetra Chl					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<10	<10	<10	<10	6	6	<1	<1	3	3	<1	<1	<1	<1	2	2	7	5
trans-1,2-Dichloroethene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tribromomethane																		
Trichloroethene					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SVOCs																		
1,3-Dichlorobenzene																		
2,4-Dinitrotoluene																		
2,6-Dinitrotoluene																		
2-Chloronaphthalene																		
2-Chlorophenol																		
2-Methyl-4,6-Dinitrophenol																		
2-Methylnaphthalene																		
2-Methylphenol																		
2-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Nitrophenol																		
3-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Bromophenyl Phenyl Ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-Methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorophenyl Phenyl Ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol																		
4-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Azobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethoxy)methane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethyl)ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroisopropyl)ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-ethylhexyl)phthalate	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Butylbenzylphthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbazole	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1	<1
Dibenzofuran	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethylphthalate	<1	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1
Dimethylphthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-N-Butyl Phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-N-Octyl Phthalate	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobenzene (HCB)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isophorone	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nitrobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-nitrosodimethylamine																		
N-Nitroso-Di-N-Propylamine	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol (PCP)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PCBs																		
PCB- ARO																		
Pcb-101 2,2',4,5,5' - Pentachlorobipher																		
Pcb-118 2,3',4,4',5 - Pentachlorobipher																		
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe																		
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe																		
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi																		
Pcb-28 2,4,4' - Trichlororbiphenyl																		
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl																		

Monitoring Round																		
Location	**SBHJ03 CP**	**SBHJ03 CP**	**SBHJ01 CP**	**SBHJ01 CP**	**SBHH06 CP**	**SBHH06 CP**	**SBHF02A CP**	**SBHF01 CP**	**SBHE06 CP**	**SBHE04 CP**	**SBHE03 CP**	**SBHE02 CP**	**SBHE01 CP**	**SBHD06 RC**	**SBHD06 RC**	**SBHC01 CP**	**RBBH10**	**RBBH10**
Depth	0.7	5.2	5.98	7.5	3.76	12.3	8.3	9	2.6	2.2	10	7.5	2.7	1.39	15	4	0.67	6.85
Response Zone Details (RZ)	TFD (Peat)		TFD (Peat)		TFD / Weatherd BR (MMG)		GFD	GFD	TFD	TFD	GFD	GFD	TFD	GFD		Weathered BR (StMF)		
Drainage Area	Caldicot Levels Area 4		Caldicot Levels Area 4		Caldicot Levels Area 4		Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Castleton Area 1	Castleton Area 1	Castleton Area 1		
Installation Details	3.4 - 5.2		5.8 - 7.5		10.3 - 12.3		16.7 - 17.3	N/A	N/A	N/A	N/A	N/A	N/A	7.5 - 15		N/A		
Date Sampled	27/02/2008	17/03/2008	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	21/02/2008	19/03/2008	2007 GI	2007 GI	2007 GI
Metals																		
Arsenic Dissolved	8	7.9	16	16	25	25								1	<1		6	2.7
Beryllium Dissolved	<1	<1	<1	<1					<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Boron Dissolved																		
Chromium Dissolved	19	5	23	23	19	17								3	<1		3	<1
Copper Dissolved	2.6	2.6	5	2.6	3.1	<1.6								3.1	1.7		4	4
Iron Dissolved																		
Lead Dissolved	<0.4	<0.4	6.5	1.2	6.3	0.6								<0.4	<0.4		<0.4	<0.4
Magnesium Dissolved	94000	88000	250000	240000	260000	260000								43000	42000		<40	<40
Manganese Dissolved	1600	850	1600	1300	830	510								920	920		<1	<1
Nickel Dissolved	3.2	3.2	7.4	5.2	10	10								3.3	<1.5		4.5	4.5
Selenium Dissolved	8	6	34	25	38	36								4	<1		8	8
Cadmium Dissolved																		
Vanadium Dissolved	5	3	12	12													36	36
Zinc Dissolved																		
Mercury Dissolved																		
Cadmium Total	18	1.6	40	40	6	6								0.6	<0.4		<0.4	<0.4
Zinc Total	1800	160	4400	4400	2400	2400								150	67		98	98
Mercury Total	<0.01	<0.01	<0.01	<0.01	0.01	0.01								0.05	0.01		0.01	0.01
Non-Metal Inorganics																		
Hardness Total	580	550	1200	1100	1300	1300								350	340		570	570
Total Alkalinity as CaCO3	2000	1300	2900	2900	2900	2900								380	340		510	510
BOD	78	56	8	5	6	6								2	2		14	14
COD	1000	110	1700	1700	1800	1800								40	25		150	150
Calcium Dissolved	77	77	110	96	140	140								68	65		240	240
Potassium Dissolved	41	36	80	80	96	96								9.6	7.8		12	10
Sodium Dissolved	1200	15	2900	2700	3800	3500								110	110		27	27
Chloride	820	670	3000	2700	3900	3900								99	83		53	53
Nitrate as NO3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3								0.3	0.3		0.4	<0.3
Total Diss Sulphur																		
Sulphate							570	2	5	7	9	32	210			27		
Sulphate (soluble)	130	130	460	180	1000	510								29	27		36	31
Sulphide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5								<0.5	<0.5		<0.5	<0.5
Sulphide (free)																		
Ammoniacal Nitrogen as N	17	16	16	16	26	26								4.1	4.1		4.2	3.6
Total Ammonium as NH4	21		19		29									0.6				
Thiocyanate																		
Thiocyanate as SCN																		
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05								<0.05	<0.05		<0.05	<0.05
Free Cyanide																		
Free Cyanide Low																		
Complex Cyanide																		
Complex Cyanide Low																		
Ferro/Ferricyanide																		
Carbon Dioxide Dissolved	79		110		81									14				
pH Value	7.77	7.77	8.74	8.74	8.29	8.29	7.4	8.7	8.5	8.6	8.3	8.3	7.9	7.84	7.55	7.8	12.12	11.52
Phenols																		
Dimethylphenols																		
Trimethylphenols																		
2-Chlorophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2 - Methyl-4,6-Dinitrophenol																		
2-Methylphenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2-Nitrophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2,4-Dichlorophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2,4,5-Trichlorophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Chloro-3-methylphenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Methylphenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Nitrophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Pentachlorophenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Cresols																		
Phenol	<1	<1	<1	<1	<1	<1								<1	<1		7	7
Phenols Monohydric	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01	<0.01		0.02	0.02
Phenol Index																		
Phenols																		
BTEX																		
GRO (C4-C12)	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
MTBE	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
Benzene	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
Toluene	2	<1	5	5	<10	<10								<1	<1		<1	<1
Ethyl benzene	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
m & p Xylene	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
o Xylene	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
TPH																		
Aliphatics C5-C6	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C6-C8	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C8-C10	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C10-C12	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C12-C16 Aqueous	350	350	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C16-C21 Aqueous	140	140	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C21-C35 Aqueous	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Total Aliphatics C5-C35 Aqueous	500	500	<10	<10	<10	<10								<10	<10		<10	<10
Aliphatics >C35-44																		
Aromatics >C5-C7																		
Aromatics C6-C7	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aromatics >C7-C8	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aromatics >EC8-EC10	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aromatics >EC10-EC12	<10	<10	<10	<10	<10	<10								<10	<10		<10	<10
Aromatics >EC12-EC16 Aqueous	590	590	<10	<10	<10	<10								10000	<10		<10	<10
Aromatics >EC16-EC21 Aqueous	610	610	<10	<10	<10	<10								1400	<10		<10	<10
Aromatics >EC21-EC35 Aqueous	510	510	<10	<10	<10	<10								240	<10		<10	<10
Total Aromatics C6-C35 Aqueous	1700	1700	<10	<10	<10	<10								12000	<10		<10	<10
Aromatics >C35-44																		
Total Aliphatic TPH																		
Total Aromatic TPH																		
TPH (Aliphatics and Aromatics C5-C35)	2200	2200	<10	<10	<10	<10								12000	<10		<10	<10
Total petroleum hydrocarbons																		
TPH GC																		
PAHs																		
2-Chloronaphthalene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2-Methylnaphthalene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Acenaphthene	<1	<1	<1	<1	<1	<1								<1	<1		2	1
Acenaphthylene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Anthracene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Benzo(a)anthracene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Benzo(a)pyrene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Benzo(b)fluoranthene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Benzo(k)fluoranthene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Chrysene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Dibenzo(a,h)anthracene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Fluoranthene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Fluorene	<1	<1	<1	<1	<1	<1								<1	<1		1	<1
Benzo(ghi)perylene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Indeno(1,2,3-cd)pyrene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Naphthalene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Phenanthrene	<1	<1	<1	<1	<1	<1								<1	<1		1	1
Pyrene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Total PAHs (USEPA 16)																		
Phthalates																		
Bis(2-ethylhexyl) phthalate	<2	<2	<2	<2	6	6								<2	<2	<2	<2	<2
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1								<1	<1	<1	<1	<1
Di-n-butyl phthalate	<1	<1	<1	<1	1	<1								<1	<1	<1	<1	<1
Di-n-Octyl phthalate	<5	<5	<5	<5	<5	<5								<5	<5	<5	<5	<5
Diethyl phthalate	<1	<1	<1	<1	<1	<1								<1	<1	<1	<1	<1
Dimethyl phthalate	<1	<1	<1	<1	<1	<1								<1	<1	<1	<1	<1

Monitoring Round																		
Location	**SBHJ03 CP**	**SBHJ03 CP**	**SBHJ01 CP**	**SBHJ01 CP**	**SBHH06 CP**	**SBHH06 CP**	**SBHF02A CP**	**SBHF01 CP**	**SBHE06 CP**	**SBHE04 CP**	**SBHE03 CP**	**SBHE02 CP**	**SBHE01 CP**	**SBHD06 RC**	**SBHD06 RC**	**SBHC01 CP**	**RBBH10**	**RBBH10**
Depth	0.7	5.2	5.98	7.5	3.76	12.3	8.3	9	2.6	2.2	10	7.5	2.7	1.39	15	4	0.67	6.85
Response Zone Details (RZ)	TFD (Peat)		TFD (Peat)		TFD / Weatherd BR (MMG)		GFD	GFD	TFD	TFD	GFD	GFD	TFD	GFD		Weathered BR (StMF)		
Drainage Area	Caldicot Levels Area 4		Caldicot Levels Area 4		Caldicot Levels Area 4		Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Castleton Area 1	Castleton Area 1	Castleton Area 1		
Installation Details	3.4 - 5.2		5.8 - 7.5		10.3 - 12.3		16.7 - 17.3	N/A	N/A	N/A	N/A	N/A	N/A	7.5 - 15		N/A		
Date Sampled	27/02/2008	17/03/2008	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	21/02/2008	19/03/2008	2007 GI	2007 GI	2007 GI
VOCs																		
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1										<1	<1		<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1										<1	<1		<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1										<1	<1		<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1										<1	<1		<1	<1
1,1-Dichloroethane	<1	<1	<1	<1										<1	<1		<1	<1
1,1-Dichloroethene	<1	<1	<1	<1										<1	<1		<1	<1
1,1-Dichloropropene	<1	<1	<1	<1										<1	<1		<1	<1
1,2,3-Trichlorobenzene	<1	<1	<1	<1										<1	<1		<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1										<1	<1		<1	<1
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
1,2-Dibromo-3-Chloropropane	<1	<1	<1	<1										<1	<1		<1	<1
1,2-Dibromoethane	<1	<1	<1	<1										<1	<1		<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
1,2-Dichloroethane	<1	<1	<1	<1										<1	<1		<1	<1
1,2-Dichloropropane	<1	<1	<1	<1										<1	<1		<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
1,3-Dichloropropane	<1	<1	<1	<1										<1	<1		<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2,2-Dichloropropane	<1	<1	<1	<1										<1	<1		<1	<1
2-Chlorotoluene	<1	<1	<1	<1										<1	<1		<1	<1
4-Chlorotoluene	<1	<1	<1	<1										<1	<1		<1	<1
4-Isopropyltoluene	<1	<1	<1	<1										<1	<1		<1	<1
Benzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Bromobenzene	<1	<1	<1	<1										<1	<1		<1	<1
Bromochloromethane	<1	<1	<1	<1										<1	<1		<1	<1
Bromodichloromethane	<1	<1	<1	<1										<1	<1		<1	<1
Bromoform	<1	<1	<1	<1										<1	<1		<1	<1
Bromomethane	<1	<1	<1	<1										<1	<1		<1	<1
Carbon Disulphide	<1	<1	<1	<1										<1	<1		<1	<1
Chlorobenzene	<1	<1	<1	<1										<1	<1		<1	<1
Chloroethane	<1	<1	<1	<1										<1	<1		<1	<1
Chloroethene																		
Chloroform	<1	<1	<1	<1										<1	<1		<1	<1
Chloromethane	<1	<1	<1	<1										<1	<1		<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1										<1	<1		<1	<1
cis-1,3-Dichloropropene	<1	<1	<1	<1										<1	<1		<1	<1
Dibromochloromethane	<1	<1	<1	<1										<1	<1		<1	<1
Dibromomethane	<1	<1	<1	<1										<1	<1		<1	<1
Dichlorodifluoromethane	<1	<1	<1	<1										<1	<1		<1	<1
Ethylbenzene	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1	<1										<1	<1		<1	<1
Isopropylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
m,p xylenes	<1	<1	<1	<1										<1	<1		<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1	<1	<10	<10								<1	<1		<1	<1
n-Butylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
n-propylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
O-Xylene	<1	<1	<1	<1										<1	<1		<1	<1
p-Isopropyltoluene																		
Sec-Butylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
Styrene	<1	<1	<1	<1										<1	<1		<1	<1
Tert-Butylbenzene	<1	<1	<1	<1										<1	<1		<1	<1
Tetrachloroethene	<1	<1	<1	<1										<1	<1		<1	<1
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1	<1										<1	<1		<1	<1
Toluene	2	<1	5	5	<10	<10								<1	<1		<1	<1
trans-1,2-Dichloroethene	<1	<1	<1	<1										<1	<1		<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1										<1	<1		<1	<1
Tribromomethane																		
Trichloroethene	<1	<1	<1	<1										<1	<1		<1	<1
Trichlorofluoromethane	<1	<1	<1	<1										<1	<1		<1	<1
Vinyl Chloride	<1	<1	<1	<1										<1	<1		<1	<1
SVOCs																		
1,3-Dichlorobenzene																		
2,4-Dinitrotoluene																		
2,6-Dinitrotoluene																		
2-Chloronaphthalene																		
2-Chlorophenol																		
2-Methyl-4,6-Dinitrophenol																		
2-Methylnaphthalene																		
2-Methylphenol																		
2-Nitroaniline	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
2-Nitrophenol																		
3-Nitroaniline	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Bromophenyl Phenyl Ether	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Chloro-3-Methylphenol	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Chloroaniline	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Chlorophenyl Phenyl Ether	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
4-Methylphenol																		
4-Nitroaniline	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Azobenzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Bis(2-chloroethoxy)methane	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Bis(2-chloroethyl)ether	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Bis(2-chloroisopropyl)ether	<1	<1	<1	<1										<1	<1		<1	<1
Bis(2-ethylhexyl)phthalate	<2	<2	<2	<2										<2	<2		<2	<2
Butylbenzylphthalate	<1	<1	<1	<1										<1	<1		<1	<1
Carbazole	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Dibenzofuran	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Diethylphthalate	<1	<1	<1	<1										<1	<1		<1	<1
Dimethylphthalate	<1	<1	<1	<1										<1	<1		<1	<1
Di-N-Butyl Phthalate	<1	<1	<1	<1										<1	<1		<1	<1
Di-N-Octyl Phthalate	<1	<1	<1	<1										<1	<1		<1	<1
Hexachlorobenzene (HCB)	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Hexachloroethane	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Isophorone	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Nitrobenzene	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
n-nitrosodimethylamine																		
N-Nitroso-Di-N-Propylamine	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
Pentachlorophenol (PCP)	<1	<1	<1	<1	<1	<1								<1	<1		<1	<1
PCBs																		
PCB- ARO																		
Pcb-101 2,2',4,5,5' - Pentachlorobipher																		
Pcb-118 2,3',4,4',5 - Pentachlorobipher																		
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe																		
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe																		
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi																		
Pcb-28 2,4,4' - Trichlororbiphenyl																		
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl																		

Monitoring Round																		
Location	RBBH09	RBBH09	RBBH07	RBBH07	LGBH12	LGBH12	LGBH11	LGBH11	LGBH10	LGBH10	LGBH09	LGBH09	LGBH04	LGBH04	LGBH03	LGBH03	LGBH02	LGBH02
Depth	1.25	7.05	0.69	6.25	1.4	7.05	7.05	11.2	8.15	14.6	1.13	7	8.87	10.5	7.2	8.9	7.5	8.88
Response Zone Details (RZ)																		
Drainage Area																		
Installation Details																		
Date Sampled	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI
Metals																		
Arsenic Dissolved	1.3	1.3	1.5	1.5	5	5	6	9	22	22	8	8	3	4	2	2	1	1
Beryllium Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1								
Boron Dissolved																		
Chromium Dissolved	9	9	1	1	7	7	4	2	10	4	13	13	2	2	14	9	3	3
Copper Dissolved	10	9.8	4.9	4.9	1.7	<1.6	<1.6	6.3	<1.6	<1.6	1.9	<1.6	14	9.3	20	6	62	29
Iron Dissolved																		
Lead Dissolved	1	1	<0.4	<0.4	1.4	<0.4	<0.4	1	<0.4	<0.4	<0.4	<0.4	1.4	1.2	3.1	0.7	82	39
Magnesium Dissolved	<40	<40	<40	<40	69000	69000	39000	19000	170000	170000	190000	130000	<40	99	200	<40	<40	<40
Manganese Dissolved	1	1	2	2	1600	1600	2100	770	1300	1100	1600	1200	8	4	16	4	1	<1
Nickel Dissolved	16	16	13	13	2.6	2.6	2.6	4	4.7	3.7	4.1	4.1	11	15	8.6	8.6	6.6	6.6
Selenium Dissolved	3	3	15	15	5	5	3	6	11	11	11	11	5	7	5	5	4	4
Cadmium Dissolved																		
Vanadium Dissolved	1	<1	2	2	5	5	3	2	1<1	8	2	2	1	<1	13	5	<1	<1
Zinc Dissolved																		
Mercury Dissolved																		
Cadmium Total	<0.4	<0.4	<0.4	<0.4	0.7	0.7	1.1	<0.4	0.7	<0.4	<0.4	<0.4	21	<0.4	<0.4	<0.4	<0.4	<0.4
Zinc Total	80	29	110	51	150	150	760	140	960	130	100	62	680	120	110	110	170	170
Mercury Total	<0.01	<0.01	0.01	<0.01	0.03	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.03	<0.01	<0.01	0.05	0.05
Non-Metal Inorganics																		
Hardness Total	2200	2000	1900	1800	520	520	410	260	1100	1100	1300	710	1100	1600	1200	790	1200	910
Total Alkalinity as CaCO3	1900	1900	1900	1900	780	780	590	240	1600	1600	1600	1100	1800	1600	750	750	880	880
BOD	12	12	26	26	7	6	28	25	18	16	6	4	220	52	3	3	7	7
COD	260	38	280	72	150	150	760	580	540	540	210	91	300	340	43	43	180	91
Calcium Dissolved	810	810	730	730	94	94	110	74	160	140	160	130	660	600	480	380	510	410
Potassium Dissolved	10	10	32	27	23	19	66	100	56	56	60	38	200	190	42	42	110	99
Sodium Dissolved	27	27	77	57	230	200	200	100	1100	1100	2000	680	110	80	22	22	32	32
Chloride	36	36	170	170	140	130	150	62	910	910	1500	760	110	110	32	30	36	29
Nitrate as NO3	1.9	1.8	1.3	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	1.6	<0.3	<0.3	<0.3	<0.3
Total Diss Sulphur																		
Sulphate																		
Sulphate (soluble)	6	5	8	7	14	11	210	240	29	29	<3	<3	8	7	100	89	230	190
Sulphide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sulphide (free)																		
Ammoniacal Nitrogen as N	2.7	2.6	8.6	6.7	4.3	4.3	6	4.9	17	17	13	6.1	5.4	4.7	2.4	2.2	2.8	1.9
Total Ammonium as NH4																		
Thiocyanate																		
Thiocyanate as SCN																		
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide																		
Free Cyanide Low																		
Complex Cyanide																		
Complex Cyanide Low																		
Ferro/Ferricyanide																		
Carbon Dioxide Dissolved																		
pH Value	12.79	12.61	12.71	12.61	7.88	7.88	7.7	8.16	7.93	7.93	8.19	8.19	12.74	12.57	12.4	12.4	12.45	12.45
Phenols																		
Dimethylphenols																		
Trimethylphenols																		
2-Chlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2 - Methyl-4,6-Dinitrophenol																		
2-Methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1
2-Nitrophenol	<1	<1	1900	1900	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	3	<1	<1	<1	<1
2,4,5-Trichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol	<1	<1	1300	1300	<1	<1	<1	<1	<1	<1	<1	<1	7	5	<1	<1	<1	<1
4-Nitrophenol	<1	<1	3000	3000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cresols																		
Phenol	16	11	36000	36000	<1	<1	<1	<1	<1	<1	<1	<1	40	26	2	2	7	5
Phenols Monohydric	0.05	0.05	0.12	0.12	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.01	0.01	0.02	0.02
Phenol Index																		
Phenols																		
BTEX																		
GRO (C4-C12)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	<10	<10	<10	<10
MTBE	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																		
Aliphatics C5-C6	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	<10	<10	<10	<10
Aliphatics >C8-C10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 Aqueous	<10	<10	<10	<10	<10	<10	280	130	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 Aqueous	<10	<10	<10	<10	<10	<10	3000	1700	<10	<10	<10	<10	24	<10	<10	<10	<10	<10
Aliphatics >C21-C35 Aqueous	<10	<10	<10	<10	<10	<10	17000	9400	<10	<10	<10	<10	170	<10	<10	<10	<10	<10
Total Aliphatics C5-C35 Aqueous	<10	<10	<10	<10	<10	<10	20000	11000	<10	<10	<10	<10	190	14	<10	<10	<10	<10
Aliphatics >C35-44																		
Aromatics >C5-C7																		
Aromatics C6-C7	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >C7-C8	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 Aqueous	<10	<10	12	<10	<10	<10	92	59	<10	<10	<10	<10	75	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 Aqueous	<10	<10	<10	<10	<10	<10	840	420	<10	<10	<10	<10	170	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 Aqueous	<10	<10	<10	<10	<10	<10	5600	2700	<10	<10	<10	<10	1700	<10	<10	<10	<10	<10
Total Aromatics C6-C35 Aqueous	<10	<10	12	<10	<10	<10	6500	3200	<10	<10	<10	<10	1900	<10	<10	<10	<10	<10
Aromatics >C35-44																		
Total Aliphatic TPH																		
Total Aromatic TPH																		
TPH (Aliphatics and Aromatics C5-C35)	<10	<10	12	<10	<10	<10	27000	14000	<10	<10	<10	<10	2100	14	<10	<10	<10	<10
Total petroleum hydrocarbons																		
TPH GC																		
PAHs																		
2-Chloronaphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Methylnaphthalene	<1	<1	2700	2700	<1	<1	<1	<1	<1	<1	<1	<1	2	2	3	3	<1	<1
Acenaphthene	<1	<1	3500	3500	<1	<1	<1	<1	<1	<1	<1	<1	2	2	<1	<1	<1	<1
Acenaphthylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chrysene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoranthene	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
Fluorene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1
Benzo(ghi)perylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	1	1	22000	22000	<1	<1	<1	<1	<1	<1	<1	<1	5	7	2	2	<1	<1
Phenanthrene	<1	<1	<1	<1	<1	<1	3	<1	<1	<1	<1	<1	3	5	<1	<1	<1	<1
Pyrene	<1	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1
Total PAHs (USEPA 16)																		
Phthalates																		
Bis(2-ethylhexyl) phthalate	<2	<2	4200	4200	<2	<2	3	3	<2	<2	<2	<2	4	<2	<2	<2	<2	<2
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-n-butyl phthalate	<1	<1	<1	<1	<1	<1	<1	2	2	2	<1	<1	<1	1	<1	<1	<1	<1
Di-n-Octyl phthalate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Diethyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dimethyl phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Monitoring Round																		
Location	RBBH09	RBBH09	RBBH07	RBBH07	LGBH12	LGBH12	LGBH11	LGBH11	LGBH10	LGBH10	LGBH09	LGBH09	LGBH04	LGBH04	LGBH03	LGBH03	LGBH02	LGBH02
Depth	1.25	7.05	0.69	6.25	1.4	7.05	7.05	11.2	8.15	14.6	1.13	7	8.87	10.5	7.2	8.9	7.5	8.88
Response Zone Details (RZ)																		
Drainage Area																		
Installation Details																		
Date Sampled	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI	2007 GI
VOCs																		
1,1,1,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulphide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethene																		
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-propylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																		
Sec-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tert-Butylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tribromomethane																		
Trichloroethene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SVOCs																		
1,3-Dichlorobenzene																		
2,4-Dinitrotoluene																		
2,6-Dinitrotoluene																		
2-Chloronaphthalene																		
2-Chlorophenol																		
2-Methyl-4,6-Dinitrophenol																		
2-Methylnaphthalene																		
2-Methylphenol																		
2-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Nitrophenol																		
3-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Bromophenyl Phenyl Ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-Methylphenol	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorophenyl Phenyl Ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol																		
4-Nitroaniline	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Azobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethoxy)methane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethyl)ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroisopropyl)ether	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-ethylhexyl)phthalate	<2	<2	4200	4200	<2	<2	3	3	<2	<2	<2	<2	4	<2	<2	<2	<2	<2
Butylbenzylphthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbazole	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	2	<1	<1	<1	<1
Dibenzofuran	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1
Diethylphthalate	<1	<1	<1	<1	<1	<1	<1	2	2	2	<1	<1	<1	1	<1	<1	<1	<1
Dimethylphthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-N-Butyl Phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Di-N-Octyl Phthalate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobenzene (HCB)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isophorone	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nitrobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-nitrosodimethylamine																		
N-Nitroso-Di-N-Propylamine	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol (PCP)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
PCBs																		
PCB- ARO																		
Pcb-101 2,2',4,5,5' - Pentachlorobipher																		
Pcb-118 2,3',4,4',5 - Pentachlorobipher																		
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe																		
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe																		
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi																		
Pcb-28 2,4,4' - Trichlororbiphenyl																		
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl																		

Monitoring Round														1	2	3	1
Location	**CH8**	**CH52A**	**CH52**	**CH51**	**CH5**	**CH45**	**CH41**	**CH40**	**CH35**	**CH32**	**CH17**	**CH12**	**BHK4**	**BH563**	**BH563**	**BH563**	**BH553**
Depth	1.5	0.8	0	0.8	2.7	1.3	1.1	1.1	0.8	0.1	2.7	1.35	1	12.37	12.09	13.06	6.42
Response Zone Details (RZ)	TFD? (Silty Clay)	MG	TFD? (Organic Clay)	MG / TFD? (Organic Clay)	MG	MG / TFD? (Organic Clay)	MG	MG / TFD? (Organic Clay)	MG / TFD? (Organic Clay)	MG	MG / TFD? (Silty Clay)	MG / TFD? (Organic Clay)	No Installation Details on PDF	BR (MMG pos MMmf)			RTD
Drainage Area	Castleton Area 1	Area 4 Llanwern	Area 4 Llanwern	Area 4 Llanwern	Castleton Area 1	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3		Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East
Installation Details	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4 - 15			3 - 6.9
	TP	TP	TP	TP	TP	TP	TP	TP	TP	WS	WS	WS					
Date Sampled	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	1997 GI	27/04/2015	05/05/2015	11/05/2015	07/05/2015
Metals																	
Arsenic Dissolved	2	<1	<1	6	22	9	12	7	9	7	3	2	2.9	6.6	1.3	2.4	3.7
Beryllium Dissolved																	
Boron Dissolved	220	<50	60	190	240	<50	60	70	330	760	360	70	<10	750	710	49	1900
Chromium Dissolved	<1	<1	<1	5	1	18	4	3	2	1	<1	<1		45	6.7	27	<1
Copper Dissolved	3	2	3	9	6	9	3	10	4	19	2	13	70	2.7	2.8	<1	2.1
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	10	<1	<1	90	<1	<1	<1	4.4
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	7	2	5	4	87	4	10	6	7	9	9	7	18	2.2	1.6	<1	3.9
Selenium Dissolved	<1	3	<1	<1	7	<1	<1	<1	2	4	<1	<1	<1	4.7	2	2.6	2.5
Cadmium Dissolved	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<5	<0.08	<0.08	<0.08	0.21
Vanadium Dissolved																	
Zinc Dissolved	43	<1	50	26	75	9	34	16	30	3	7	7	<5	8.5	4.1	1.5	16
Mercury Dissolved	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	22.6	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3																	
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride						24	17	21	75								
Nitrate as NO3																	
Total Diss Sulphur	24	26.4	38.5	62	18.6	4.07	23.3	41.1	91.4	65.5	253	79.8					
Sulphate													13.1				
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)		<0.2	<0.2	<0.2		<0.2	0.8	<0.2	<0.2				<0.01				
Ammoniacal Nitrogen as N						<0.2	<0.2	<0.2	17								
Total Ammonium as NH4																	
Thiocyanate													17.5				
Thiocyanate as SCN		0.2				0.2	<0.2	<0.2	0.6								
Total Cyanide	<0.025		<0.025	0.09	<0.025					<0.025	<0.025			<0.05	<0.05	<0.05	<0.05
Free Cyanide		<0.025				<0.025	<0.025	<0.025	<0.025				0.02	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide		<0.025				<0.025	<0.025	0.05	0.05								
Complex Cyanide Low																	
Ferro/Ferricyanide													<1				
Carbon Dioxide Dissolved																	
pH Value	7	11.9	7.5	10.1	7	8.6	7.4	8.9	7.8	10.8	7.7	7.4	12.3	8.5	7.8	8.4	7.6
Phenols																	
Dimethylphenols		18.6				<0.5	<0.5	<0.5	<0.5								
Trimethylphenols		<0.5				<0.5	<0.5	<0.5	978								
2-Chlorophenol																	<0.5
2 - Methyl-4,6-Dinitrophenol																	<0.5
2-Methylphenol																	<0.5
2-Nitrophenol																	<0.5
2,4-Dichlorophenol																	<0.5
2,4-Dimethylphenol																	<0.5
2,4,5-Trichlorophenol																	<0.5
2,4,6-Trichlorophenol																	<0.5
4-Chloro-3-methylphenol																	<0.5
4-Methylphenol																	<0.5
4-Nitrophenol																	
Pentachlorophenol						<50	<50		4275								<0.5
Cresols		40.1				<0.5	2.4	<0.5	4140								
Phenol		20.4				<0.5	0.6	<0.5	1083								<0.5
Phenols Monohydric																	
Phenol Index	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1.06	0.06	<0.05	<0.05					
Phenols																	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE																	<1
Benzene						<1	<1	<1	130					<1	<1	<1	<1
Toluene						<1	<1	<1	18					<1	<1	<1	<1
Ethyl benzene						<1	<1	<1	255					<1	<1	<1	<1
m & p Xylene						<1	<1	<1	872					<1	<1	<1	<1
o Xylene						<1	<1	<1	245					<1	<1	<1	<1
TPH																	
Aliphatics C5-C6														<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8														<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10														<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12														<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous														<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous														<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous														<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44														<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7														<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8														<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10														<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12														<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous														<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous														<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous														<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44														<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH														<5	<5	<5	<5
Total Aromatic TPH														<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons														<10	<10	<10	<10
TPH GC	<LOD	270	380	570	600	5700	8000	800	10000	14000	120	220					
PAHs																	
2-Chloronaphthalene																	<0.5
2-Methylnaphthalene																	<0.5
Acenaphthene	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	0.54	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<0.1	<0.1	<0.1	<0.1
Anthracene	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.64	0.06	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	pp	<0.05	<0.05	0.12	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Chrysene	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	0.56	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.05	0.16	<0.05	<0.05	0.08	<0.05	0.21	<0.05	<0.05	0.17	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Fluorene	<0.05	0.47	<0.05	<0.05	0.11	<0.05	0.07	<0.05	1.07	0.63	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.05	0.74	<0.05	<0.05	1.19	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.05	0.69	<0.05	<0.05	0.15	<0.05	0.17	<0.05	<0.05	0.38	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Pyrene	<0.05	0.13	<0.05	<0.05	<0.05	<0.05	0.19	<0.05	<0.05	0.21	<0.05	<0.05		<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2		<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate																	<0.5
Butylbenzyl phthalate																	<0.5
Di-n-butyl phthalate																	<0.5
Di-n-Octyl phthalate																	<0.5
Diethyl phthalate																	<0.5
Dimethyl phthalate																	<0.5

Monitoring Round														1	2	3	1
Location	**CH8**	**CH52A**	**CH52**	**CH51**	**CH5**	**CH45**	**CH41**	**CH40**	**CH35**	**CH32**	**CH17**	**CH12**	**BHK4**	**BH563**	**BH563**	**BH563**	**BH553**
Depth	1.5	0.8	0	0.8	2.7	1.3	1.1	1.1	0.8	0.1	2.7	1.35	1	12.37	12.09	13.06	6.42
Response Zone Details (RZ)	TFD? (Silty Clay)	MG	TFD? (Organic Clay)	MG / TFD? (Organic Clay)	MG	MG / TFD? (Organic Clay)	MG	MG / TFD? (Organic Clay)	MG / TFD? (Organic Clay)	MG	MG / TFD? (Silty Clay)	MG / TFD? (Organic Clay)	No Installation Details on PDF	BR (MMG pos MMmf)			RTD
Drainage Area	Castleton Area 1	Area 4 Llanwern	Area 4 Llanwern	Area 4 Llanwern	Castleton Area 1	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3		Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East
Installation Details	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4 - 15			3 - 6.9
	TP	TP	TP	TP	TP	TP	TP	TP	TP	WS	WS	WS					
Date Sampled	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	2000 GI	1997 GI	27/04/2015	05/05/2015	11/05/2015	07/05/2015
VOCs																	
1,1,1,2-Tetrachloroethane						<1	<1	<1	<1								<2
1,1,1-Trichloroethane						<1	<1	<1	<1								<1
1,1,2,2-Tetrachloroethane						<5	<5	<5	<5								
1,1,2-Trichloroethane						<1	<1	<1	<1								<10
1,1-Dichloroethane						<1	<1	<1	<1								<1
1,1-Dichloroethene						<1	<1	<1	<1								<1
1,1-Dichloropropene						<1	<1	<1	<1								<1
1,2,3-Trichlorobenzene						<LOD	<LOD	<LOD	<LOD								<2
1,2,3-Trichloropropane						<LOD	<LOD	<LOD	<LOD								<50
1,2,4-Trichlorobenzene						<LOD	<LOD	<LOD	204								<1
1,2,4-Trimethylbenzene						<LOD	<LOD	<LOD	<LOD								<1
1,2-Dibromo-3-Chloropropane						<LOD	<LOD	<LOD	<LOD								<50
1,2-Dibromoethane						<1	<1	<1	<1								<5
1,2-Dichlorobenzene						<LOD	<LOD	<LOD	12								<1
1,2-Dichloroethane						<1	<1	<1	<1								<2
1,2-Dichloropropane						<1	<1	<1	<1								<1
1,3,5-Trimethylbenzene						<LOD	<LOD	<LOD	<LOD								<1
1,3-Dichlorobenzene						<LOD	<LOD	<LOD	6								
1,3-Dichloropropane						<1	<1	<1	<1								<2
1,4-Dichlorobenzene						<LOD	<LOD	<LOD	45								<1
2,2-Dichloropropane						<1	<1	<1	<1								
2-Chlorotoluene						<LOD	<LOD	<LOD	<LOD								<1
4-Chlorotoluene						<LOD	<LOD	<LOD	<LOD								<1
4-Isopropyltoluene																	<1
Benzene						<1	<1	<1	130					<1	<1	<1	<1
Bromobenzene						<5	<5	<5	<5								<1
Bromochloromethane						<1	<1	<1	<1								<5
Bromodichloromethane						<1	<1	<1	<1								<5
Bromoform																	
Bromomethane						<5	<5	<5	<5								<5
Carbon Disulphide																	
Chlorobenzene						<1	<1	<1	6								<1
Chloroethane						<1	<1	<1	<1								<1
Chloroethene																	<1
Chloroform						<1	<1	<1	<1								<1
Chloromethane						<1	<1	<1	<1								<1
cis-1,2-Dichloroethene						<1	<1	<1	<1								<1
cis-1,3-Dichloropropene						<1	<1	<1	<1								<10
Dibromochloromethane						<1	<1	<1	<1								<10
Dibromomethane						<1	<1	<1	<1								<10
Dichlorodifluoromethane						<1	<1	<1	<1								<1
Ethylbenzene						<1	<1	<1	255					<1	<1	<1	<1
Hexachlorobutadiene (HCBD)						<LOD	<LOD	<LOD	<LOD								<1
Isopropylbenzene						<5	<5	<5	<5								<1
m,p xylenes						<1	<1	<1	872					<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)																	<1
n-Butylbenzene						<LOD	<LOD	<LOD	<LOD								<1
n-propylbenzene						<5	<5	<5	<5								<1
O-Xylene						<1	<5	<5	245					<1	<1	<1	<1
p-Isopropyltoluene						<LOD	<LOD	<LOD	<LOD								
Sec-Butylbenzene						<LOD	<LOD	<LOD	<LOD								<1
Styrene						<1	<2	<3	<4								<1
Tert-Butylbenzene						<LOD	<LOD	<LOD	<LOD								<1
Tetrachloroethene						<1	<1	<1	<1								<1
Tetrachloromethane (Carbon Tetra Chl						<1	<1	<1	<1								<1
Toluene						<1	<1	<1	18					<1	<1	<1	<1
trans-1,2-Dichloroethene						<1	<1	<1	<1								<1
trans-1,3-Dichloropropene						<1	<1	<1	<1								<10
Tribromomethane																	<1
Trichloroethene						<1	<1	<1	<1								<1
Trichlorofluoromethane						<1	<1	<1	<1								<1
Vinyl Chloride						<1	<1	<1	<1								
SVOCs																	
1,3-Dichlorobenzene																	<0.5
2,4-Dinitrotoluene																	<0.5
2,6-Dinitrotoluene																	<0.5
2-Chloronaphthalene																	<0.5
2-Chlorophenol																	<0.5
2-Methyl-4,6-Dinitrophenol																	<0.5
2-Methylnaphthalene																	<0.5
2-Methylphenol																	<0.5
2-Nitroaniline																	<0.5
2-Nitrophenol																	<0.5
3-Nitroaniline																	<0.5
4-Bromophenyl Phenyl Ether																	<0.5
4-Chloro-3-Methylphenol																	<0.5
4-Chloroaniline																	<0.5
4-Chlorophenyl Phenyl Ether																	<0.5
4-Methylphenol																	<0.5
4-Nitroaniline																	<0.5
Azobenzene																	<0.5
Bis(2-chloroethoxy)methane																	<0.5
Bis(2-chloroethyl)ether																	<0.5
Bis(2-chloroisopropyl)ether																	<0.5
Bis(2-ethylhexyl)phthalate																	<0.5
Butylbenzylphthalate																	<0.5
Carbazole																	<0.5
Dibenzofuran																	<0.5
Diethylphthalate																	<0.5
Dimethylphthalate																	<0.5
Di-N-Butyl Phthalate																	<0.5
Di-N-Octyl Phthalate																	<0.5
Hexachlorobenzene (HCB)																	<0.5
Hexachlorocyclopentadiene																	<0.5
Hexachloroethane																	<0.5
Isophorone																	<0.5
Nitrobenzene																	<0.5
n-nitrosodimethylamine																	<0.5
N-Nitroso-Di-N-Propylamine																	<0.5
Pentachlorophenol (PCP)						<50	<50		4275								<0.5
PCBs																	
PCB- ARO						2.3	22	48	66	0.8							
Pcb-101 2,2',4,5,5' - Pentachlorobipher																	
Pcb-118 2,3',4,4',5 - Pentachlorobipher																	
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe																	
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe																	
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi																	
Pcb-28 2,4,4' - Trichlororbiphenyl																	
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl																	

Monitoring Round	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	
Location	BH549	BH549	BH549	BH546	BH546	BH546	BH545	BH545	BH545	BH544	BH544	BH544	BH541	BH541	BH541	BH539	BH539
Depth	9.37	11.51	10.18	5.14	6.77	6.72	6.75	7.16	7.34	8.35	8.37	8.48	6.67	6.73	6.72	1.97	3.57
Response Zone Details (RZ)	BR (TSF or MMG)			BR (TSF?)			BR (TSF?) + Superfcials			BR (TSF?)			BR (TSF?)			Weathered TSF?	BR (TSF?)
Drainage Area	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East
Installation Details	2-4 8-12	2-4 8-12	2-4 8-12	3-10			3-13			1-18.4			2-11.5			5-14.2 1-3	5-14.2 1-3
	Deep	Deep	Deep													Shallow	Deep
Date Sampled	17/04/2015	24/04/2015	01/05/2015	17/04/2015	24/04/2015	01/05/2015	17/04/2015	24/04/2015	01/05/2015	17/04/2015	24/04/2015	01/05/2015	31/03/2015	16/04/2015	21/04/2015	24/03/2015	24/03/2015
Metals																	
Arsenic Dissolved	<1	<1	1.6	<1	<1	1.3	1	<1	3.4	<1	<1	1.2	1.9	<1	25	2	<1
Beryllium Dissolved																	
Boron Dissolved	<20	40	47	<20	70	42	<20	43	160	<20	23	26	800	1000	140	820	760
Chromium Dissolved	6.1	<1	<1	4.1	<1	<1	11	<1	2.5	9	<1	<1	26	2.3	14	3.3	6.6
Copper Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	1.6	<1	<1	<1	9.9	<1	8.1	<1	1.9
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	2.1	1.4	1.8	2.9	2.5	1.7	<1	<1	7	<1	<1	<1	1.4	<1	2.6	7	6.2
Selenium Dissolved	1.3	<1	2.1	<!	<1	1.4	1.6	2.2	3.6	<1	<1	1.3	1.3	1.4	3.9	1.5	4
Cadmium Dissolved	<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	<0.08	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	1.9	1.5	<1	1.4	<1	<1	3.1	4.7	9.4	1.3	1.5	6.1	3.3	<1	2.9	1.4	1.1
Mercury Dissolved	0.51	<0.5	<0.5	0.77	<0.5	<0.5	0.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.65	1.3
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	480	310	500				460	240	440	370	250	360	210	240	800	510	460
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	190	250	290				220	250	210	210	190	180	13	14	620	32	70
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	0.028	0.046	0.056				0.023	0.047	0.032	0.012	<0.01	0.011	<0.01	0.054	1.4	0.45	0.23
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	7.5	8.3	7.9	7.7	8.4	7.9	7.5	8.3	8	7.7	8.4	8	8.1	8.6	8.3	7.7	7.8
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Methylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Nitrophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2,4-Dichlorophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2,4-Dimethylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2,4,5-Trichlorophenol	<0.5	<0.5	0.64				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2,4,6-Trichlorophenol	<0.5	<0.5	0.68				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Chloro-3-methylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Methylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Cresols																	
Phenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03				<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Methylnaphthalene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Butylbenzyl phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Di-n-butyl phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Di-n-Octyl phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Diethyl phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Dimethyl phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			

Monitoring Round	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	
Location	BH549	BH549	BH549	BH546	BH546	BH546	BH545	BH545	BH545	BH544	BH544	BH544	BH541	BH541	BH541	BH539	BH539
Depth	9.37	11.51	10.18	5.14	6.77	6.72	6.75	7.16	7.34	8.35	8.37	8.48	6.67	6.73	6.72	1.97	3.57
Response Zone Details (RZ)	BR (TSF or MMG)			BR (TSF?)			BR (TSF?) + Superfcials			BR (TSF?)			BR (TSF?)			Weathered TSF?	BR (TSF?)
Drainage Area	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East
Installation Details	2-4 8-12	2-4 8-12	2-4 8-12	3-10			3-13			1-18.4			2-11.5			5-14.2 1-3	5-14.2 1-3
	Deep	Deep	Deep													Shallow	Deep
Date Sampled	17/04/2015	24/04/2015	01/05/2015	17/04/2015	24/04/2015	01/05/2015	17/04/2015	24/04/2015	01/05/2015	17/04/2015	24/04/2015	01/05/2015	31/03/2015	16/04/2015	21/04/2015	24/03/2015	24/03/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2	<2				<2		<2	<2	<2	<2	<2	<2			
1,1,1-Trichloroethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10	<10				<10		<10	<10	<10	<10	<10	<10			
1,1-Dichloroethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,1-Dichloroethene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,1-Dichloropropene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,2,3-Trichlorobenzene	<2	<2	<2				<2		<2	<2	<2	<2	<2	<2			
1,2,3-Trichloropropane	<50	<50	<50				<50		<50	<50	<50	<50	<50	<50			
1,2,4-Trichlorobenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,2,4-Trimethylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,2-Dibromo-3-Chloropropane	<50	<50	<50				<50		<50	<50	<50	<50	<50	<50			
1,2-Dibromoethane	<5	<5	<5				<5		<5	<5	<5	<5	<5	<5			
1,2-Dichlorobenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,2-Dichloroethane	<2	<2	<2				<2		<2	<2	<2	<2	<2	<2			
1,2-Dichloropropane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,3,5-Trimethylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2	<2				<2		<2	<2	<2	<2	<2	<2			
1,4-Dichlorobenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
4-Chlorotoluene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
4-Isopropyltoluene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Bromochloromethane	<5	<5	<5				<5		<5	<5	<5	<5	<5	<5			
Bromodichloromethane	<5	<5	<5				<5		<5	<5	<5	<5	<5	<5			
Bromoform																	
Bromomethane	<5	<5	<5				<5		<5	<5	<5	<5	<5	<5			
Carbon Disulphide																	
Chlorobenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Chloroethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Chloroethene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Chloroform	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Chloromethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
cis-1,2-Dichloroethene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
cis-1,3-Dichloropropene	<10	<10	<10				<10		<10	<10	<10	<10	<10	<10			
Dibromochloromethane	<10	<10	<10				<10		<10	<10	<10	<10	<10	<10			
Dibromomethane	<10	<10	<10				<10		<10	<10	<10	<10	<10	<10			
Dichlorodifluoromethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Isopropylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
n-Butylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
n-propylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Styrene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Tert-Butylbenzene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Tetrachloroethene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
trans-1,3-Dichloropropene	<10	<10	<10				<10		<10	<10	<10	<10	<10	<10			
Tribromomethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Trichloroethene	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Trichlorofluoromethane	<1	<1	<1				<1		<1	<1	<1	<1	<1	<1			
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2,4-Dinitrotoluene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2,6-Dinitrotoluene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Chloronaphthalene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Chlorophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Methylnaphthalene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Methylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Nitroaniline	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
2-Nitrophenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
3-Nitroaniline	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Bromophenyl Phenyl Ether	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Chloro-3-Methylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Chloroaniline	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Chlorophenyl Phenyl Ether	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Methylphenol	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
4-Nitroaniline	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Azobenzene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Bis(2-chloroethoxy)methane	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Bis(2-chloroethyl)ether	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Bis(2-chloroisopropyl)ether	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Butylbenzylphthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Carbazole	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Dibenzofuran	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Diethylphthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Dimethylphthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Di-N-Butyl Phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Di-N-Octyl Phthalate	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Hexachlorobenzene (HCB)	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Hexachlorocyclopentadiene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Hexachloroethane	<0.5	<0.5	<0.5				<0.5		0.98	<0.5	<0.5	<0.5	<0.5	<0.5			
Isophorone	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Nitrobenzene	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
n-nitrosodimethylamine	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
N-Nitroso-Di-N-Propylamine	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Pentachlorophenol (PCP)	<0.5	<0.5	<0.5				<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher							<0.01	<0.01	<0.01				<0.01	<0.01			
Pcb-118 2,3',4,4',5 - Pentachlorobipher							<0.01	<0.01	<0.01				<0.01	<0.01			
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe							<0.01	<0.01	<0.01				<0.01	<0.01			
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe							<0.01	<0.01	<0.01				<0.01	<0.01			
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi							<0.01	<0.01	<0.01				<0.01	<0.01			
Pcb-28 2,4,4' - Trichlororbiphenyl							<0.01	<0.01	<0.01				<0.01	<0.01			
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl							<0.01	<0.01	<0.01				<0.01	<0.01			

Monitoring Round	2		3		1		2		3		1		2		3		
Location	**BH539**	**BH539**	**BH539**	**BH539**	**BH537**	**BH537**	**BH537**	**BH537**	**BH537**	**BH537**	**BH536A**	**BH536A**	**BH536A**	**BH536A**	**BH536A**	**BH536A**	**BH534**
Depth	2.1	2.84	1.49	3.04	0.46	2.62	0.18	1.16	0.69	0.89	0	0	1.02	1.98	1.05	1.96	0.76
Response Zone Details (RZ)	BR (TSF?) or Weatherd BR (shallow)				TFD / PEAT	BR (weathered MMG?)	TFD / PEAT (Shallow) or BR (Weathered MMG?)				BR (TSF)	MG (0.05 m) TFD / PEAT	BR (TSF)	MG (0.05 m) TFD / PEAT	MG (0.05 m) TFD / PEAT (Shallow) or BR (TSF) (Deep)		
Drainage Area	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	5-14.2 1-3	5-14.2 1-3	5-14.2 1-3	5-14.2 1-3	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	1-7 9.5-11
	?	?	?	?	Shallow	Deep	?	?	?	?	Deep	Shallow	Deep	Shallow	?	?	?
Date Sampled	31/03/2015	31/03/2015	16/04/2015	16/04/2015	24/03/2015	24/03/2015	31/03/2015	31/03/2015	16/04/2015	16/04/2015	03/03/2015	03/03/2015	20/03/2015	20/03/2015	13/04/2015	13/04/2015	03/03/2015
Metals																	
Arsenic Dissolved	3.2	3.4	1.9	<1	1.8	2.1	13	5.8	2.8	5	1.5	8.5	<1	2.1	3.5	4.8	9.6
Beryllium Dissolved																	
Boron Dissolved	160	78	1000	960	730	820	150	79	900	1200	980	1200	630	570	740	750	1700
Chromium Dissolved	25	33	1.8	2.4	4.5	3.2	84	36	2	3	8.4	51	2.1	2.1	46	56	37
Copper Dissolved	16	21	<1	<1	1.1	1.6	33	22	<1	<1	7.3	13	<1	<1	<1	3	88
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	6.3	2.3	3.3	1.3	2.8	1.6	4.3	<1	1.5	<1	2.7	1.8	<1	<1	1.2	1.7	10
Selenium Dissolved	2.9	3.1	1	2.7	2.1	1.8	2.1	<1	<1	<1	8.4	8	2.1	2.7	<1	2.4	8.1
Cadmium Dissolved	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.78	0.83	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	5.9	7.6	2.5	3.4	1.7	<1	27	7.7	3.5	9.4	34	4.4	2.1	2.2	14	8.6	7.8
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	1.2	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	2.4	1.2	0.6	0.57	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	230	280	330	250							270	310	270	320	330	240	
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	31	73	25	70							38	60	39	38	38	38	
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	0.78	0.17	0.41	0.041							0.23	0.25	0.19	0.76	0.19	0.23	
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	7.8	7.9	8.4	8.6	7.6	8	7.7	8.1	8.6	8.8	8.8	8	8.2	8.1	8.6	8.7	7.9
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5													
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5													
2-Methylphenol	<0.5	<0.5	<0.5	<0.5													
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5													
2,4-Dichlorophenol	<0.5	<0.5	<0.5	<0.5													
2,4-Dimethylphenol	<0.5	<0.5	<0.5	<0.5													
2,4,5-Trichlorophenol	<0.5	<0.5	<0.5	<0.5													
2,4,6-Trichlorophenol	<0.5	<0.5	<0.5	<0.5													
4-Chloro-3-methylphenol	<0.5	<0.5	<0.5	<0.5													
4-Methylphenol	<0.5	<0.5	<0.5	<0.5													
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5	<0.5	<0.5													
Cresols																	
Phenol	<0.5	<0.5	<0.5	<0.5													
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	<0.03							<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1	<1	<1													
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5													
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5													
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5	<0.5	<0.5													
Butylbenzyl phthalate	<0.5	<0.5	<0.5	<0.5													
Di-n-butyl phthalate	<0.5	<0.5	<0.5	<0.5													
Di-n-Octyl phthalate	<0.5	<0.5	<0.5	<0.5													
Diethyl phthalate	<0.5	<0.5	<0.5	<0.5													
Dimethyl phthalate	<0.5	<0.5	<0.5	<0.5													

Monitoring Round	2		3		1		2		3		1		2		3		
Location	BH539	BH539	BH539	BH539	BH537	BH537	BH537	BH537	BH537	BH537	BH536A	BH536A	BH536A	BH536A	BH536A	BH536A	BH534
Depth	2.1	2.84	1.49	3.04	0.46	2.62	0.18	1.16	0.69	0.89	0	0	1.02	1.98	1.05	1.96	0.76
Response Zone Details (RZ)	BR (TSF?) or Weatherd BR (shallow)				TFD / PEAT	BR (weathered MMG?)	TFD / PEAT (Shallow) or BR (Weathered MMG?)				BR (TSF)	MG (0.05 m) TFD / PEAT	BR (TSF)	MG (0.05 m) TFD / PEAT	MG (0.05 m) TFD / PEAT (Shallow) or BR (TSF) (Deep)		
Drainage Area	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Magor Area 5 East	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	5-14.2 1-3	5-14.2 1-3	5-14.2 1-3	5-14.2 1-3	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	1-3 6-11.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	0.8-4.2 7.8-10.2	1-7 9.5-11
	?	?	?	?	Shallow	Deep	?	?	?	?	Deep	Shallow	Deep	Shallow	?	?	?
Date Sampled	31/03/2015	31/03/2015	16/04/2015	16/04/2015	24/03/2015	24/03/2015	31/03/2015	31/03/2015	16/04/2015	16/04/2015	03/03/2015	03/03/2015	20/03/2015	20/03/2015	13/04/2015	13/04/2015	03/03/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2	<2	<2													
1,1,1-Trichloroethane	<1	<1	<1	<1													
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10	<10	<10													
1,1-Dichloroethane	<1	<1	<1	<1													
1,1-Dichloroethene	<1	<1	<1	<1													
1,1-Dichloropropene	<1	<1	<1	<1													
1,2,3-Trichlorobenzene	<2	<2	<2	<2													
1,2,3-Trichloropropane	<50	<50	<50	<50													
1,2,4-Trichlorobenzene	<1	<1	<1	<1													
1,2,4-Trimethylbenzene	<1	<1	<1	<1													
1,2-Dibromo-3-Chloropropane	<50	<50	<50	<50													
1,2-Dibromoethane	<5	<5	<5	<5													
1,2-Dichlorobenzene	<1	<1	<1	<1													
1,2-Dichloroethane	<2	<2	<2	<2													
1,2-Dichloropropane	<1	<1	<1	<1													
1,3,5-Trimethylbenzene	<1	<1	<1	<1													
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2	<2	<2													
1,4-Dichlorobenzene	<1	<1	<1	<1													
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1	<1	<1													
4-Chlorotoluene	<1	<1	<1	<1													
4-Isopropyltoluene	<1	<1	<1	<1													
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1													
Bromochloromethane	<5	<5	<5	<5													
Bromodichloromethane	<5	<5	<5	<5													
Bromoform																	
Bromomethane	<5	<5	<5	<5													
Carbon Disulphide																	
Chlorobenzene	<1	<1	<1	<1													
Chloroethane	<1	<1	<1	<1													
Chloroethene	<1	<1	<1	<1													
Chloroform	<1	<1	<1	<1													
Chloromethane	<1	<1	<1	<1													
cis-1,2-Dichloroethene	<1	<1	<1	<1													
cis-1,3-Dichloropropene	<10	<10	<10	<10													
Dibromochloromethane	<10	<10	<10	<10													
Dibromomethane	<10	<10	<10	<10													
Dichlorodifluoromethane	<1	<1	<1	<1													
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1	<1													
Isopropylbenzene	<1	<1	<1	<1													
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1	<1													
n-Butylbenzene	<1	<1	<1	<1													
n-propylbenzene	<1	<1	<1	<1													
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1	<1	<1													
Styrene	<1	<1	<1	<1													
Tert-Butylbenzene	<1	<1	<1	<1													
Tetrachloroethene	<1	<1	<1	<1													
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1	<1													
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1	<1	<1													
trans-1,3-Dichloropropene	<10	<10	<10	<10													
Tribromomethane	<1	<1	<1	<1													
Trichloroethene	<1	<1	<1	<1													
Trichlorofluoromethane	<1	<1	<1	<1													
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5	<0.5	<0.5													
2,4-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5													
2,6-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5													
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5													
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5													
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5													
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5													
2-Methylphenol	<0.5	<0.5	<0.5	<0.5													
2-Nitroaniline	<0.5	<0.5	<0.5	<0.5													
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5													
3-Nitroaniline	<0.5	<0.5	<0.5	<0.5													
4-Bromophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5													
4-Chloro-3-Methylphenol	<0.5	<0.5	<0.5	<0.5													
4-Chloroaniline	<0.5	<0.5	<0.5	<0.5													
4-Chlorophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5													
4-Methylphenol	<0.5	<0.5	<0.5	<0.5													
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5													
Azobenzene	<0.5	<0.5	<0.5	<0.5													
Bis(2-chloroethoxy)methane	<0.5	<0.5	<0.5	<0.5													
Bis(2-chloroethyl)ether	<0.5	<0.5	<0.5	<0.5													
Bis(2-chloroisopropyl)ether	<0.5	<0.5	<0.5	<0.5													
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	<0.5	<0.5													
Butylbenzylphthalate	<0.5	<0.5	<0.5	<0.5													
Carbazole	<0.5	<0.5	<0.5	<0.5													
Dibenzofuran	<0.5	<0.5	<0.5	<0.5													
Diethylphthalate	<0.5	<0.5	<0.5	<0.5													
Dimethylphthalate	<0.5	<0.5	<0.5	<0.5													
Di-N-Butyl Phthalate	<0.5	<0.5	<0.5	<0.5													
Di-N-Octyl Phthalate	<0.5	<0.5	<0.5	<0.5													
Hexachlorobenzene (HCB)	<0.5	<0.5	<0.5	<0.5													
Hexachlorocyclopentadiene	<0.5	<0.5	<0.5	<0.5													
Hexachloroethane	<0.5	<0.5	<0.5	<0.5													
Isophorone	<0.5	<0.5	<0.5	<0.5													
Nitrobenzene	<0.5	<0.5	<0.5	<0.5													
n-nitrosodimethylamine	<0.5	<0.5	<0.5	<0.5													
N-Nitroso-Di-N-Propylamine	<0.5	<0.5	<0.5	<0.5													
Pentachlorophenol (PCP)	<0.5	<0.5	<0.5	<0.5													
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher			<0.01	<0.01													
Pcb-118 2,3',4,4',5 - Pentachlorobipher			<0.01	<0.01													
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe			<0.01	<0.01													
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe			<0.01	<0.01													
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi			<0.01	<0.01													
Pcb-28 2,4,4' - Trichlororbiphenyl			<0.01	<0.01													
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl			<0.01	<0.01													

Monitoring Round	1	2		3		1		2		3		1		2		3	
Location	BH534	BH534	BH534	BH534	BH534	BH533	BH533	BH533	BH533	BH533	BH533	BH530	BH530	BH530	BH530	BH530	BH530
Depth	0.9	1.85	5.48	1.92	6.63	1.02	1.12	3.85	5.87	3.36	6.88	2.53	5.45	2.47	4.57	2.97	5.07
Response Zone Details (RZ)	TDF (silty Clay) or weathered BR (MMG)					TFD / PEAT						BR (MMG)	TFD / PEAT	BR (MMG)	TFD / PEAT	BR (MMG) ?	TFD / PEAT ?
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	1-7 9.5-12	1-7 9.5-13	1-7 9.5-14	1-7 9.5-15	1-7 9.5-16	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	5-8 12-21	5-8 12-21	5-8 12-21	5-8 12-21	5-8 12-21	5-8 12-21
	?	?	?	?	?	?	?	?	?	?	?	Deep	Shallow	Deep	Shallow	?	?
Date Sampled	03/03/2015	10/03/2015	10/03/2015	17/03/2015	17/03/2015	03/03/2015	03/03/2015	10/03/2015	10/03/2015	17/03/2015	17/03/2015	30/03/2015	30/03/2015	14/04/2015	14/04/2015	21/04/2015	21/04/2015
Metals																	
Arsenic Dissolved	18	4.3	46	9	55	8	8.8	13	13	15	16	110	18	120	18	21	22
Beryllium Dissolved																	
Boron Dissolved	300	1800	1000	1100	750	3600	4100	3100	4500	2600	3800	860	1900	460	700	390	860
Chromium Dissolved	53	26	120	68	130	27	26	78	63	86	91	110	84	27	18	22	15
Copper Dissolved	77	4.8	26	18	47	7.6	17	16	17	54	82	39	29	13	4.7	56	12
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	6.3	6.1	11	11	8.6	10	7.3	10	18	14	19	4.6	5.8	1.8	3.2	<1	1.6
Selenium Dissolved	15	10	60	29	66	13	9.9	36	36	39	51	68	34	11	6.3	7.8	6.5
Cadmium Dissolved	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.23	0.12	<0.08	<0.08	0.092
Vanadium Dissolved																	
Zinc Dissolved	3.1	2.7	4.7	8	5.6	12	23	6.1	14	6.9	21	4.7	8.5	24	50	4.1	5.6
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.74	0.9	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3												1800	1300	2200	1900	2300	1900
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride												1500	630	1700	850	2000	800
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N												6.3	3.6	6.9	7.6	4	4.7
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.3	7.6	7.8	7.6	8	7.2	7.2	7.4	7.3	7.6	7.2	7.4	7.3	8.2	7.7	8.3	7.9
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol																<0.5	<0.5
2 - Methyl-4,6-Dinitrophenol																<0.5	<0.5
2-Methylphenol																<0.5	<0.5
2-Nitrophenol																<0.5	<0.5
2,4-Dichlorophenol																<0.5	<0.5
2,4-Dimethylphenol																<0.5	<0.5
2,4,5-Trichlorophenol																<0.5	<0.5
2,4,6-Trichlorophenol																<0.5	<0.5
4-Chloro-3-methylphenol																<0.5	<0.5
4-Methylphenol																<0.5	<0.5
4-Nitrophenol																	
Pentachlorophenol																<0.5	<0.5
Cresols																	
Phenol																<0.5	<0.5
Phenols Monohydric																	
Phenol Index																	
Phenols												<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE																<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	29	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	53	18	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.75	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.8	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	14	5.6	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	83	18	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	18	5.6	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	100	23	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene																<0.5	<0.5
2-Methylnaphthalene																<0.5	<0.5
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates						Phthalates											
Bis(2-ethylhexyl) phthalate																<0.5	<0.5
Butylbenzyl phthalate																<0.5	<0.5
Di-n-butyl phthalate																<0.5	<0.5
Di-n-Octyl phthalate																<0.5	<0.5
Diethyl phthalate																<0.5	<0.5
Dimethyl phthalate																<0.5	<0.5

Monitoring Round	1	2		3		1		2		3		1		2		3	
Location	**BH534**	**BH534**	**BH534**	**BH534**	**BH534**	**BH533**	**BH533**	**BH533**	**BH533**	**BH533**	**BH533**	**BH530**	**BH530**	**BH530**	**BH530**	**BH530**	**BH530**
Depth	0.9	1.85	5.48	1.92	6.63	1.02	1.12	3.85	5.87	3.36	6.88	2.53	5.45	2.47	4.57	2.97	5.07
Response Zone Details (RZ)	TDF (silty Clay) or weathered BR (MMG)					TFD / PEAT						BR (MMG)	TFD / PEAT	BR (MMG)	TFD / PEAT	BR (MMG) ?	TFD / PEAT ?
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	1-7 9.5-12	1-7 9.5-13	1-7 9.5-14	1-7 9.5-15	1-7 9.5-16	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	4-5.5 7-9	5-8 12-21	5-8 12-21	5-8 12-21	5-8 12-21	5-8 12-21	5-8 12-21
	?	?	?	?	?	?	?	?	?	?	?	Deep	Shallow	Deep	Shallow	?	?
Date Sampled	03/03/2015	10/03/2015	10/03/2015	17/03/2015	17/03/2015	03/03/2015	03/03/2015	10/03/2015	10/03/2015	17/03/2015	17/03/2015	30/03/2015	30/03/2015	14/04/2015	14/04/2015	21/04/2015	21/04/2015
VOCs																	
1,1,1,2-Tetrachloroethane																**<2**	**<2**
1,1,1-Trichloroethane																**<1**	**<1**
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane																**<10**	**<10**
1,1-Dichloroethane																**<1**	**<1**
1,1-Dichloroethene																**<1**	**<1**
1,1-Dichloropropene																**<1**	**<1**
1,2,3-Trichlorobenzene																**<2**	**<2**
1,2,3-Trichloropropane																**<50**	**<50**
1,2,4-Trichlorobenzene																**<1**	**<1**
1,2,4-Trimethylbenzene																**<1**	**<1**
1,2-Dibromo-3-Chloropropane																**<50**	**<50**
1,2-Dibromoethane																**<5**	**<5**
1,2-Dichlorobenzene																**<1**	**<1**
1,2-Dichloroethane																**<2**	**<2**
1,2-Dichloropropane																**<1**	**<1**
1,3,5-Trimethylbenzene																**<1**	**<1**
1,3-Dichlorobenzene																	
1,3-Dichloropropane																**<2**	**<2**
1,4-Dichlorobenzene																**<1**	**<1**
2,2-Dichloropropane																	
2-Chlorotoluene																**<1**	**<1**
4-Chlorotoluene																**<1**	**<1**
4-Isopropyltoluene																**<1**	**<1**
Benzene	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Bromobenzene																**<1**	**<1**
Bromochloromethane																**<5**	**<5**
Bromodichloromethane																**<5**	**<5**
Bromoform																	
Bromomethane																**<5**	**<5**
Carbon Disulphide																	
Chlorobenzene																**<1**	**<1**
Chloroethane																**<1**	**<1**
Chloroethene																**<1**	**<1**
Chloroform																**<1**	**<1**
Chloromethane																**<1**	**<1**
cis-1,2-Dichloroethene																**<1**	**<1**
cis-1,3-Dichloropropene																**<10**	**<10**
Dibromochloromethane																**<10**	**<10**
Dibromomethane																**<10**	**<10**
Dichlorodifluoromethane																**<1**	**<1**
Ethylbenzene	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Hexachlorobutadiene (HCBD)																**<1**	**<1**
Isopropylbenzene																**<1**	**<1**
m,p xylenes	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Methyl tert-butyl ether (MTBE)																**<1**	**<1**
n-Butylbenzene																**<1**	**<1**
n-propylbenzene																**<1**	**<1**
O-Xylene	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
p-Isopropyltoluene																	
Sec-Butylbenzene																**<1**	**<1**
Styrene																**<1**	**<1**
Tert-Butylbenzene																**<1**	**<1**
Tetrachloroethene																**<1**	**<1**
Tetrachloromethane (Carbon Tetra Chl																**<1**	**<1**
Toluene	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
trans-1,2-Dichloroethene																**<1**	**<1**
trans-1,3-Dichloropropene																**<10**	**<10**
Tribromomethane																**<1**	**<1**
Trichloroethene																**<1**	**<1**
Trichlorofluoromethane																**<1**	**<1**
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene																**<0.5**	**<0.5**
2,4-Dinitrotoluene																**<0.5**	**<0.5**
2,6-Dinitrotoluene																**<0.5**	**<0.5**
2-Chloronaphthalene																**<0.5**	**<0.5**
2-Chlorophenol																**<0.5**	**<0.5**
2-Methyl-4,6-Dinitrophenol																**<0.5**	**<0.5**
2-Methylnaphthalene																**<0.5**	**<0.5**
2-Methylphenol																**<0.5**	**<0.5**
2-Nitroaniline																**<0.5**	**<0.5**
2-Nitrophenol																**<0.5**	**<0.5**
3-Nitroaniline																**<0.5**	**<0.5**
4-Bromophenyl Phenyl Ether																**<0.5**	**<0.5**
4-Chloro-3-Methylphenol																**<0.5**	**<0.5**
4-Chloroaniline																**<0.5**	**<0.5**
4-Chlorophenyl Phenyl Ether																**<0.5**	**<0.5**
4-Methylphenol																**<0.5**	**<0.5**
4-Nitroaniline																**<0.5**	**<0.5**
Azobenzene																**<0.5**	**<0.5**
Bis(2-chloroethoxy)methane																**<0.5**	**<0.5**
Bis(2-chloroethyl)ether																**<0.5**	**<0.5**
Bis(2-chloroisopropyl)ether																**<0.5**	**<0.5**
Bis(2-ethylhexyl)phthalate																**<0.5**	**<0.5**
Butylbenzylphthalate																**<0.5**	**<0.5**
Carbazole																**<0.5**	**<0.5**
Dibenzofuran																**<0.5**	**<0.5**
Diethylphthalate																**<0.5**	**<0.5**
Dimethylphthalate																**<0.5**	**<0.5**
Di-N-Butyl Phthalate																**<0.5**	**<0.5**
Di-N-Octyl Phthalate																**<0.5**	**<0.5**
Hexachlorobenzene (HCB)																**<0.5**	**<0.5**
Hexachlorocyclopentadiene																**<0.5**	**<0.5**
Hexachloroethane																**<0.5**	**<0.5**
Isophorone																**<0.5**	**<0.5**
Nitrobenzene																**<0.5**	**<0.5**
n-nitrosodimethylamine																**<0.5**	**<0.5**
N-Nitroso-Di-N-Propylamine																**<0.5**	**<0.5**
Pentachlorophenol (PCP)																**<0.5**	**<0.5**
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher																	
Pcb-118 2,3',4,4',5 - Pentachlorobipher																	
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe																	
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe																	
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi																	
Pcb-28 2,4,4' - Trichlororbiphenyl																	
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl																	

Monitoring Round	1		2		3		1		2		3		1		2		
Location	BH528	BH528	BH528	BH528	BH528	BH528	BH527	BH527	BH527	BH527	BH527	BH527	BH525	BH525	BH525	BH525	BH525
Depth	1.76	6.44	1.53	6.8	1.64	6.29	2.92	7.66	1.93	7.29	1.99	4.71	2.55	3.92	2.49	3.47	1.98
Response Zone Details (RZ)	BR (MMG)	TFD / PEAT	BR (MMG)?	TFD / PEAT?	BR (MMG)?	TFD / PEAT?	BR (MMG)	TFD / PEAT	TFD / PEAT or BR (MMG)				MG / TFD	GFD (Gravelly Clay)	MG / TFD	GFD (Gravelly Clay)	MG / TFD
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8
	Deep	Shallow	Deep?	Shallow?	Deep?	Shallow?	Deep	Shallow	?	?	?	?	Shallow	Deep	Shallow?	Deep?	Deep
Date Sampled	20/03/2015	20/03/2015	27/03/2015	27/03/2015	13/04/2015	13/04/2015	20/03/2015	20/03/2015	27/03/2015	27/03/2015	13/04/2015	13/04/2015	19/03/2015	19/03/2015	26/03/2015	26/03/2015	01/04/2015
Metals																	
Arsenic Dissolved	38	29	58	<1	24	17	15	5	23	40	15	15	3.6	25	7.6	21	10
Beryllium Dissolved																	
Boron Dissolved	970	1300	1500	<20	1300	1800	600	780	1100	1500	1500	1400	86	290	540	1100	440
Chromium Dissolved	120	110	240	<1	83	63	41	12	130	77	35	18	16	100	15	130	32
Copper Dissolved	110	41	56	<1	53	32	81	2	40	13	9.9	2.2	31	110	4.8	25	11
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	5.3	5.9	5.9	<1	5.1	8	2.8	2.8	4	5.6	3.5	3.9	2.7	3.6	4.6	6.1	5.7
Selenium Dissolved	61	60	180	<1	29	23	47	11	76	38	9	4.8	6.4	38	15	75	20
Cadmium Dissolved	<0.08	<0.08	0.13	<0.08	<0.08	<0.08	<0.08	0.78	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	10	5.3	12	<1	22	29	6.9	4.8	6.1	3.8	16	18	2.9	6	<1	4.9	5.6
Mercury Dissolved	<0.5	<0.5	1.3	<0.5	0.63	0.6	<0.5	1.2	1.1	0.94	<0.5	0.62	<0.5	<0.5	<0.5	<0.5	0.56
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	680	1100	1000	0	1200	2000	940	380	1200	1200	1500	1500	110	750	230	990	1300
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	2700	2300	4300	<1	4800	3500	1900	330	1900	790	1500	810	200	2200	240	3000	3200
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	7.6	16	11	<0.01	12	31	2.6	2.3	3.4	6.6	3.6	7.5	1.3	17	2.2	23	25
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.1	7.9	7.3	0	8.2	7.8	8.1	7.9	7.5	7.6	9.1	9	8.6	7.7	9.3	7.7	8.6
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5			<0.5	<0.5											
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5			<0.5	<0.5											
2-Methylphenol	<0.5	<0.5			<0.5	<0.5											
2-Nitrophenol	<0.5	<0.5			<0.5	<0.5											
2,4-Dichlorophenol	<0.5	<0.5			<0.5	<0.5											
2,4-Dimethylphenol	<0.5	<0.5			<0.5	<0.5											
2,4,5-Trichlorophenol	<0.5	<0.5			<0.5	<0.5											
2,4,6-Trichlorophenol	<0.5	<0.5			<0.5	<0.5											
4-Chloro-3-methylphenol	<0.5	<0.5			<0.5	<0.5											
4-Methylphenol	<0.5	<0.5			<0.5	<0.5											
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5			<0.5	<0.5											
Cresols																	
Phenol	<0.5	<0.5			<0.5	<0.5											
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.08	<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1			<1	<1											
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	110	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1600	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	46	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	16	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	170	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	1700	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	190	<5	<5	<5	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	1900	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5			<0.5	<0.5											
2-Methylnaphthalene	<0.5	<0.5			<0.5	<0.5											
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5			<0.5	<0.5											
Butylbenzyl phthalate	<0.5	<0.5			<0.5	<0.5											
Di-n-butyl phthalate	<0.5	<0.5			<0.5	<0.5											
Di-n-Octyl phthalate	<0.5	<0.5			<0.5	<0.5											
Diethyl phthalate	<0.5	<0.5			<0.5	<0.5											
Dimethyl phthalate	<0.5	<0.5			<0.5	<0.5											

Monitoring Round	1		2		3		1		2		3		1		2		3
Location	BH528	BH528	BH528	BH528	BH528	BH528	BH527	BH527	BH527	BH527	BH527	BH527	BH525	BH525	BH525	BH525	BH525
Depth	1.76	6.44	1.53	6.8	1.64	6.29	2.92	7.66	1.93	7.29	1.99	4.71	2.55	3.92	2.49	3.47	1.98
Response Zone Details (RZ)	BR (MMG)	TFD / PEAT	BR (MMG)?	TFD / PEAT?	BR (MMG)?	TFD / PEAT?	BR (MMG)	TFD / PEAT	TFD / PEAT or BR (MMG)				MG / TFD	GFD (Gravelly Clay)	MG / TFD	GFD (Gravelly Clay)	MG / TFD
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	6-7 11.8-17	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	4.9-9 12.9-19	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8	0.5-2.8 9.8-11.8
	Deep	Shallow	Deep?	Shallow?	Deep?	Shallow?	Deep	Shallow	?	?	?	?	Shallow	Deep	Shallow?	Deep?	Deep
Date Sampled	20/03/2015	20/03/2015	27/03/2015	27/03/2015	13/04/2015	13/04/2015	20/03/2015	20/03/2015	27/03/2015	27/03/2015	13/04/2015	13/04/2015	19/03/2015	19/03/2015	26/03/2015	26/03/2015	01/04/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2			<2	<2											
1,1,1-Trichloroethane	<1	<1			<1	<1											
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10			<10	<10											
1,1-Dichloroethane	<1	<1			<1	<1											
1,1-Dichloroethene	<1	<1			<1	<1											
1,1-Dichloropropene	<1	<1			<1	<1											
1,2,3-Trichlorobenzene	<2	<2			<2	<2											
1,2,3-Trichloropropane	<50	<50			<50	<50											
1,2,4-Trichlorobenzene	<1	<1			<1	<1											
1,2,4-Trimethylbenzene	<1	<1			<1	<1											
1,2-Dibromo-3-Chloropropane	<50	<50			<50	<50											
1,2-Dibromoethane	<5	<5			<5	<5											
1,2-Dichlorobenzene	<1	<1			<1	<1											
1,2-Dichloroethane	<2	<2			<2	<2											
1,2-Dichloropropane	<1	<1			<1	<1											
1,3,5-Trimethylbenzene	<1	<1			<1	<1											
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2			<2	<2											
1,4-Dichlorobenzene	<1	<1			<1	<1											
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1			<1	<1											
4-Chlorotoluene	<1	<1			<1	<1											
4-Isopropyltoluene	<1	<1			<1	<1											
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1			<1	<1											
Bromochloromethane	<5	<5			<5	<5											
Bromodichloromethane	<5	<5			<5	<5											
Bromoform																	
Bromomethane	<5	<5			<5	<5											
Carbon Disulphide																	
Chlorobenzene	<1	<1			<1	<1											
Chloroethane	<1	<1			<1	<1											
Chloroethene	<1	<1			<1	<1											
Chloroform	<1	<1			<1	<1											
Chloromethane	<1	<1			<1	<1											
cis-1,2-Dichloroethene	<1	<1			<1	<1											
cis-1,3-Dichloropropene	<10	<10			<10	<10											
Dibromochloromethane	<10	<10			<10	<10											
Dibromomethane	<10	<10			<10	<10											
Dichlorodifluoromethane	<1	<1			<1	<1											
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1			<1	<1											
Isopropylbenzene	<1	<1			<1	<1											
m,p xylenes	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1			<1	<1											
n-Butylbenzene	<1	<1			<1	<1											
n-propylbenzene	<1	<1			<1	<1											
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1			<1	<1											
Styrene	<1	<1			<1	<1											
Tert-Butylbenzene	<1	<1			<1	<1											
Tetrachloroethene	<1	<1			<1	<1											
Tetrachloromethane (Carbon Tetra Chl	<1	<1			<1	<1											
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1			<1	<1											
trans-1,3-Dichloropropene	<10	<10			<10	<10											
Tribromomethane	<1	<1			<1	<1											
Trichloroethene	<1	<1			<1	<1											
Trichlorofluoromethane	<1	<1			<1	<1											
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5			<0.5	<0.5											
2,4-Dinitrotoluene	<0.5	<0.5			<0.5	<0.5											
2,6-Dinitrotoluene	<0.5	<0.5			<0.5	<0.5											
2-Chloronaphthalene	<0.5	<0.5			<0.5	<0.5											
2-Chlorophenol	<0.5	<0.5			<0.5	<0.5											
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5			<0.5	<0.5											
2-Methylnaphthalene	<0.5	<0.5			<0.5	<0.5											
2-Methylphenol	<0.5	<0.5			<0.5	<0.5											
2-Nitroaniline	<0.5	<0.5			<0.5	<0.5											
2-Nitrophenol	<0.5	<0.5			<0.5	<0.5											
3-Nitroaniline	<0.5	<0.5			<0.5	<0.5											
4-Bromophenyl Phenyl Ether	<0.5	<0.5			<0.5	<0.5											
4-Chloro-3-Methylphenol	<0.5	<0.5			<0.5	<0.5											
4-Chloroaniline	<0.5	<0.5			<0.5	<0.5											
4-Chlorophenyl Phenyl Ether	<0.5	<0.5			<0.5	<0.5											
4-Methylphenol	<0.5	<0.5			<0.5	<0.5											
4-Nitroaniline	<0.5	<0.5			<0.5	<0.5											
Azobenzene	<0.5	<0.5			<0.5	<0.5											
Bis(2-chloroethoxy)methane	<0.5	<0.5			<0.5	<0.5											
Bis(2-chloroethyl)ether	<0.5	<0.5			<0.5	<0.5											
Bis(2-chloroisopropyl)ether	<0.5	<0.5			<0.5	<0.5											
Bis(2-ethylhexyl)phthalate	<0.5	<0.5			<0.5	<0.5											
Butylbenzylphthalate	<0.5	<0.5			<0.5	<0.5											
Carbazole	<0.5	<0.5			<0.5	<0.5											
Dibenzofuran	<0.5	<0.5			<0.5	<0.5											
Diethylphthalate	<0.5	<0.5			<0.5	<0.5											
Dimethylphthalate	<0.5	<0.5			<0.5	<0.5											
Di-N-Butyl Phthalate	<0.5	<0.5			<0.5	<0.5											
Di-N-Octyl Phthalate	<0.5	<0.5			<0.5	<0.5											
Hexachlorobenzene (HCB)	<0.5	<0.5			<0.5	<0.5											
Hexachlorocyclopentadiene	<0.5	<0.5			<0.5	<0.5											
Hexachloroethane	<0.5	<0.5			<0.5	<0.5											
Isophorone	<0.5	<0.5			<0.5	<0.5											
Nitrobenzene	<0.5	<0.5			<0.5	<0.5											
n-nitrosodimethylamine	<0.5	<0.5			<0.5	<0.5											
N-Nitroso-Di-N-Propylamine	<0.5	<0.5			<0.5	<0.5											
Pentachlorophenol (PCP)	<0.5	<0.5			<0.5	<0.5											
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
Pcb-118 2,3',4,4',5 - Pentachlorobipher	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
Pcb-28 2,4,4' - Trichlororbiphenyl	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					

Monitoring Round	3	1		2		3		1		2		3		1	2	3	1
Location	BH525	BH521	BH521	BH521	BH521	BH521	BH521	BH519	BH519	BH519	BH519	BH519	BH519	BH515	BH515	BH515	BH512
Depth	2.28	5.25	8.64	5.13	8.48	5.46	7.81	3.49	8.67	3.52	7.97	3.71	7.03	10.62	10.64	8.4	6.59
Response Zone Details (RZ)	GFD (Gravelly Clay)	TFD / PEAT	TFD	TFD / PEAT	TFD	TFD / PEAT	TFD	MG (0.05 m) TFD / PEAT	TFD / PEAT	MG (0.05 m) TFD / PEAT	TFD / PEAT	MG (0.05 m) TFD / PEAT	TFD / PEAT	TFD / PEAT	TFD / PEAT	TFD / PEAT	TFD (Clay) / PEAT
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	0.5-2.8 9.8-11.8	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-5.2 9.8-13.2	0.85-5.2 9.8-13.2	0.85-5.2 9.8-13.2	0.85-2.1 6.8-11.2
	Shallow	Shallow	Deep	Shallow?	Deep?	Shallow	Deep	Shallow	Deep	Shallow?	Deep	Shallow	Deep	Deep	Deep	Deep	Deep?
Date Sampled	01/04/2015	19/03/2015	19/03/2015	26/03/2015	26/03/2015	01/04/2015	01/04/2015	19/03/2015	19/03/2015	26/03/2015	26/03/2015	01/04/2015	01/04/2015	06/03/2015	13/03/2015	18/03/2015	21/04/2015
Metals																	
Arsenic Dissolved	8.4	9.4	10	13	9.5	10	14	5.8	23	6.3	38	4.5	38	11		10	4.2
Beryllium Dissolved																	
Boron Dissolved	250	500	390	1600	1400	930	550	300	320	1200	1000	690	570	960		1500	160
Chromium Dissolved	19	29	39	39	52	25	21	29	68	35	87	13	25	21		35	13
Copper Dissolved	5.4	26	26	6.9	12	2.7	8.5	36	74	8.1	25	2.8	9.1	6.4		8.4	5.8
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	3.7	2.9	5.8	3.7	13	3.8	10	3.4	7.1	4.6	7.3	2.8	11	5.9		9.7	2.7
Selenium Dissolved	7.3	9.6	14	18	27	2.9	6.7	9.8	27	19	62	3.6	12	12		16	5.3
Cadmium Dissolved	<0.08	<0.08	<0.08	<0.08	<0.08	0.094	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	3.9	2.3	3.3	2.9	3.8	3.5	12	2.3	3.5	4.4	3.8	4.6	5.2	6.5		14	3.5
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	93			950	1300	1400	2700	730	1700	960	2400	1400	3000	1900		1400	720
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	200			290	500	190	670	320	1100	360	1500	440	1400	450		510	370
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	1.4			7.2	7.8	6.7	14	6.7	10	7.8	15	8.6	15	12		14	2.9
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.8	8.2	7.7	8.2	7.6	9	9.1	7.9	7.6	7.5	7.4	8.8	9.2	7.4		8	8.2
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2 - Methyl-4,6-Dinitrophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Methylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Nitrophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2,4-Dichlorophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2,4-Dimethylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2,4,5-Trichlorophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2,4,6-Trichlorophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Chloro-3-methylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Methylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Nitrophenol																	
Pentachlorophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Cresols																	
Phenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Phenols Monohydric																	
Phenol Index																	
Phenols	0.05	0.03	<0.03	0.05	0.04	<0.03	<0.03	0.09	0.03	0.3	0.05	0.23	<0.03	0.04		<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.4	0.5	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	150	<0.1	<0.1	<0.1	<0.1	420	220	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	16	<0.1	<0.1	<0.1	<0.1	37	18	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	5.7	0.5	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	60	<0.1	<0.1	<0.1	<0.1	79	74	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	9.8	<0.1	<0.1	<0.1	<0.1	14	11	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Total Aliphatic TPH	<5	<5	170	<5	<5	<5	<5	460	240	<5	<5	<5	<5	<5		<5	<5
Total Aromatic TPH	<5	<5	70	<5	<5	<5	<5	99	86	<5	<5	<5	<5	<5		<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	240	<10	<10	<10	<10	560	320	<10	<10	<10	<10	<10		<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Methylnaphthalene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Butylbenzyl phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Di-n-butyl phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Di-n-Octyl phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Diethyl phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Dimethyl phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5

Monitoring Round	3	1		2		3		1		2		3		1	2	3	1
Location	BH525	BH521	BH521	BH521	BH521	BH521	BH521	BH519	BH519	BH519	BH519	BH519	BH519	BH515	BH515	BH515	BH512
Depth	2.28	5.25	8.64	5.13	8.48	5.46	7.81	3.49	8.67	3.52	7.97	3.71	7.03	10.62	10.64	8.4	6.59
Response Zone Details (RZ)	GFD (Gravelly Clay)	TFD / PEAT	TFD	TFD / PEAT	TFD	TFD / PEAT	TFD	MG (0.05 m) TFD / PEAT	TFD / PEAT	MG (0.05 m) TFD / PEAT	TFD / PEAT	MG (0.05 m) TFD / PEAT	TFD / PEAT	TFD / PEAT	TFD / PEAT	TFD / PEAT	TFD (Clay) / PEAT
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	0.5-2.8 9.8-11.8	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	4.3-6.2 8.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-4.2 6.8-11.2	0.85-5.2 9.8-13.2	0.85-5.2 9.8-13.2	0.85-5.2 9.8-13.2	0.85-2.1 6.8-11.2
	Shallow	Shallow	Deep	Shallow?	Deep?	Shallow	Deep	Shallow	Deep	Shallow?	Deep	Shallow	Deep	Deep	Deep	Deep	Deep?
Date Sampled	01/04/2015	19/03/2015	19/03/2015	26/03/2015	26/03/2015	01/04/2015	01/04/2015	19/03/2015	19/03/2015	26/03/2015	26/03/2015	01/04/2015	01/04/2015	06/03/2015	13/03/2015	18/03/2015	21/04/2015
VOCs																	
1,1,1,2-Tetrachloroethane						<2	<2	<2	<2	<2	<2	<2	<2		<2		<2
1,1,1-Trichloroethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane						<10	<10	<10	<10	<10	<10	<10	<10		<10		<10
1,1-Dichloroethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,1-Dichloroethene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,1-Dichloropropene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,2,3-Trichlorobenzene						<2	<2	<2	<2	<2	<2	<2	<2		<2		<2
1,2,3-Trichloropropane						<50	<50	<50	<50	<50	<50	<50	<50		<50		<50
1,2,4-Trichlorobenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,2,4-Trimethylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,2-Dibromo-3-Chloropropane						<50	<50	<50	<50	<50	<50	<50	<50		<50		<50
1,2-Dibromoethane						<5	<5	<5	<5	<5	<5	<5	<5		<5		<5
1,2-Dichlorobenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,2-Dichloroethane						<2	<2	<2	<2	<2	<2	<2	<2		<2		<2
1,2-Dichloropropane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,3,5-Trimethylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
1,3-Dichlorobenzene																	
1,3-Dichloropropane						<2	<2	<2	<2	<2	<2	<2	<2		<2		<2
1,4-Dichlorobenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
2,2-Dichloropropane																	
2-Chlorotoluene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
4-Chlorotoluene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
4-Isopropyltoluene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Bromochloromethane						<5	<5	<5	<5	<5	<5	<5	<5		<5		<5
Bromodichloromethane						<5	<5	<5	<5	<5	<5	<5	<5		<5		<5
Bromoform																	
Bromomethane						<5	<5	<5	<5	<5	<5	<5	<5		<5		<5
Carbon Disulphide																	
Chlorobenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Chloroethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Chloroethene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Chloroform						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Chloromethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
cis-1,2-Dichloroethene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
cis-1,3-Dichloropropene						<10	<10	<10	<10	<10	<10	<10	<10		<10		<10
Dibromochloromethane						<10	<10	<10	<10	<10	<10	<10	<10		<10		<10
Dibromomethane						<10	<10	<10	<10	<10	<10	<10	<10		<10		<10
Dichlorodifluoromethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Isopropylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
n-Butylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
n-propylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Styrene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Tert-Butylbenzene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Tetrachloroethene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Tetrachloromethane (Carbon Tetra Chl						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
trans-1,3-Dichloropropene						<10	<10	<10	<10	<10	<10	<10	<10		<10		<10
Tribromomethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Trichloroethene						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Trichlorofluoromethane						<1	<1	<1	<1	<1	<1	<1	<1		<1		<1
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2,4-Dinitrotoluene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2,6-Dinitrotoluene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Chloronaphthalene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Chlorophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Methyl-4,6-Dinitrophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Methylnaphthalene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Methylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Nitroaniline						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
2-Nitrophenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
3-Nitroaniline						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Bromophenyl Phenyl Ether						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Chloro-3-Methylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Chloroaniline						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Chlorophenyl Phenyl Ether						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Methylphenol						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
4-Nitroaniline						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Azobenzene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Bis(2-chloroethoxy)methane						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Bis(2-chloroethyl)ether						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Bis(2-chloroisopropyl)ether						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Bis(2-ethylhexyl)phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Butylbenzylphthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Carbazole						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Dibenzofuran						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Diethylphthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Dimethylphthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Di-N-Butyl Phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Di-N-Octyl Phthalate						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Hexachlorobenzene (HCB)						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Hexachlorocyclopentadiene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Hexachloroethane						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Isophorone						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Nitrobenzene						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
n-nitrosodimethylamine						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
N-Nitroso-Di-N-Propylamine						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
Pentachlorophenol (PCP)						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Pcb-118 2,3',4,4',5 - Pentachlorobipher								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Pcb-28 2,4,4' - Trichlororbiphenyl								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl								<0.01	<0.01	<0.01	<0.01				<0.01	<0.01	<0.01

Monitoring Round	2	3	1		2		3		1		2		3		1		2
Location	BH512	BH512	BH510	BH510	BH510	BH510	BH510	BH510	BH509	BH509	BH509	BH509	BH509	BH509	BH506	BH506	BH506
Depth	7.12	8.48	0.68	0.87	2.52	7.34	2.82	5.84	0.74	1.95	4.47	5.09	4.2	4.52	4.87	11.62	5.83
Response Zone Details (RZ)	TFD (Clay) / PEAT	TFD (Clay) / PEAT	TFD / PEAT (Shallow) or BR (MMG) (Deep)			TFD / PEAT /	TFD / PEAT	TFD / PEAT / BR (MMG)	TFD / PEAT (Shallow) or TFD / BR (MMG) (Deep)				TFD / BR (MMG)	TFD / PEAT	TFD	BR weathered MMG	TFD
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	0.85-2.1 6.8 11.2	0.85-2.1 6.8 11.2	3-6 9-12	3-6 9-12	3-6 9-12	3-6 9-12	3-6 9-12	3-6 9-12	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	6-9 12 - 15.5	6-9 12 - 15.5	6-9 12 - 15.5
	Deep	Deep?	?	?	?	?	Shallow	Deep	?	?	?	?	Deep	Shallow	Shallow?	Deep?	Shallow?
Date Sampled	28/04/2015	06/05/2015	04/03/2015	04/03/2015	12/03/2015	12/03/2015	18/03/2015	18/03/2015	04/03/2015	04/03/2015	11/03/2015	11/03/2015	18/03/2015	18/03/2015	21/04/2015	21/04/2015	28/04/2015
Metals																	
Arsenic Dissolved	5.6	9.8	6.7	17	22	43	18	27	18	37	15	53	77	14	10	18	5.2
Beryllium Dissolved																	
Boron Dissolved	160	1300	760	340	2300	600	1400	940	610	350	950	710	830	1300	850	610	640
Chromium Dissolved	16	10	20	56	36	62	57	120	72	150	65	190	310	73	18	27	24
Copper Dissolved	2.5	7.3	5	52	23	24	39	150	110	330	16	57	80	14	9.4	37	7.3
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	3.3	8	2.2	12	<1	4.5	13	13	5.9	13	5.8	11	12	8.6	5.3	5.8	5.4
Selenium Dissolved	4.9	6.4	8.4	29	24	36	23	56	25	52	28	100	120	32	9.1	18	2.1
Cadmium Dissolved	<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	<0.08	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	1.7	4.1	1.4	4	7.5	3.8	6	12	5.1	15	6.2	17	22	4.6	4	5.5	3.6
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	1300	1400							860	2000	900	2000	2300	1200	1700	1700	2300
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	610	700							220	3800	1500	6200	6200	1300	860	3000	1300
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	7.8	10							3.9	20	11	29	33	12	5.8	10	16
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.5	7.6	7.6	8	7.8	7.8	7.6	8.4	8	7.4	8	7.6	7.8	7.9	8.8	8.8	8.2
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2-Methylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
2-Nitrophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2,4-Dichlorophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2,4-Dimethylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	<0.5	<0.5													<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
4-Methylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5													<0.5	<0.5	<0.5
Cresols																	
Phenol	<0.5	<0.5													<0.5	<0.5	<0.5
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03							0.12	<0.03	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1													<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.2	<0.1	<0.1	5.3	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	140	<0.1	<0.1	250	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.6	<0.1	<0.1	20	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.93	<0.1	<0.1	3.7	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	18	<0.1	<0.1	46	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.3	<0.1	<0.1	13	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	140	<5	<5	270	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	21	<5	<5	63	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	160	<10	<10	340	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5													<0.5	<0.5	<0.5
2-Methylnaphthalene	<0.5	<0.5													<0.5	<0.5	<0.5
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Butylbenzyl phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Di-n-butyl phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Di-n-Octyl phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Diethyl phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Dimethyl phthalate	<0.5	<0.5													<0.5	<0.5	<0.5

Monitoring Round	2	3	1		2		3		1		2		3		1		2
Location	BH512	BH512	BH510	BH510	BH510	BH510	BH510	BH510	BH509	BH509	BH509	BH509	BH509	BH509	BH506	BH506	BH506
Depth	7.12	8.48	0.68	0.87	2.52	7.34	2.82	5.84	0.74	1.95	4.47	5.09	4.2	4.52	4.87	11.62	5.83
Response Zone Details (RZ)	TFD (Clay) / PEAT	TFD (Clay) / PEAT	TFD / PEAT (Shallow) or BR (MMG) (Deep)			TFD / PEAT /	TFD / PEAT	TFD / PEAT / BR (MMG)	TFD / PEAT (Shallow) or TFD / BR (MMG) (Deep)				TFD / BR (MMG)	TFD / PEAT	TFD	BR weathered MMG	TFD
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4
Installation Details	0.85-2.1 6.8 11.2	0.85-2.1 6.8 11.2	3-6 9-12	3-6 9-12	3-6 9-12	3-6 9-12	3-6 9-12	3-6 9-12	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	4.3-7.7 10-8-13.2	6-9 12 - 15.5	6-9 12 - 15.5	6-9 12 - 15.5
	Deep	Deep?	?	?	?	?	Shallow	Deep	?	?	?	?	Deep	Shallow	Shallow?	Deep?	Shallow?
Date Sampled	28/04/2015	06/05/2015	04/03/2015	04/03/2015	12/03/2015	12/03/2015	18/03/2015	18/03/2015	04/03/2015	04/03/2015	11/03/2015	11/03/2015	18/03/2015	18/03/2015	21/04/2015	21/04/2015	28/04/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2													<2	<2	<2
1,1,1-Trichloroethane	<1	<1													<1	<1	<1
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10													<10	<10	<10
1,1-Dichloroethane	<1	<1													<1	<1	<1
1,1-Dichloroethene	<1	<1													<1	<1	<1
1,1-Dichloropropene	<1	<1													<1	<1	<1
1,2,3-Trichlorobenzene	<2	<2													<2	<2	<2
1,2,3-Trichloropropane	<50	<50													<50	<50	<50
1,2,4-Trichlorobenzene	<1	<1													<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1													<1	<1	<1
1,2-Dibromo-3-Chloropropane	<50	<50													<50	<50	<50
1,2-Dibromoethane	<5	<5													<5	<5	<5
1,2-Dichlorobenzene	<1	<1													<1	<1	<1
1,2-Dichloroethane	<2	<2													<2	<2	<2
1,2-Dichloropropane	<1	<1													<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1													<1	<1	<1
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2													<2	<2	<2
1,4-Dichlorobenzene	<1	<1													<1	<1	<1
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1													<1	<1	<1
4-Chlorotoluene	<1	<1													<1	<1	<1
4-Isopropyltoluene	<1	<1													<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1													<1	<1	<1
Bromochloromethane	<5	<5													<5	<5	<5
Bromodichloromethane	<5	<5													<5	<5	<5
Bromoform																	
Bromomethane	<5	<5													<5	<5	<5
Carbon Disulphide																	
Chlorobenzene	<1	<1													<1	<1	<1
Chloroethane	<1	<1													<1	<1	<1
Chloroethene	<1	<1													<1	<1	<1
Chloroform	<1	<1													<1	<1	<1
Chloromethane	<1	<1													<1	<1	<1
cis-1,2-Dichloroethene	<1	<1													<1	<1	<1
cis-1,3-Dichloropropene	<10	<10													<10	<10	<10
Dibromochloromethane	<10	<10													<10	<10	<10
Dibromomethane	<10	<10													<10	<10	<10
Dichlorodifluoromethane	<1	<1													<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1													<1	<1	<1
Isopropylbenzene	<1	<1													<1	<1	<1
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1													<1	<1	<1
n-Butylbenzene	<1	<1													<1	<1	<1
n-propylbenzene	<1	<1													<1	<1	<1
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1													<1	<1	<1
Styrene	<1	<1													<1	<1	<1
Tert-Butylbenzene	<1	<1													<1	<1	<1
Tetrachloroethene	<1	<1													<1	<1	<1
Tetrachloromethane (Carbon Tetra Chl	<1	<1													<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1													<1	<1	<1
trans-1,3-Dichloropropene	<10	<10													<10	<10	<10
Tribromomethane	<1	<1													<1	<1	<1
Trichloroethene	<1	<1													<1	<1	<1
Trichlorofluoromethane	<1	<1													<1	<1	<1
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5													<0.5	<0.5	<0.5
2,4-Dinitrotoluene	<0.5	<0.5													<0.5	<0.5	<0.5
2,6-Dinitrotoluene	<0.5	<0.5													<0.5	<0.5	<0.5
2-Chloronaphthalene	<0.5	<0.5													<0.5	<0.5	<0.5
2-Chlorophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5													<0.5	<0.5	<0.5
2-Methylnaphthalene	<0.5	<0.5													<0.5	<0.5	<0.5
2-Methylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
2-Nitroaniline	<0.5	<0.5													<0.5	<0.5	<0.5
2-Nitrophenol	<0.5	<0.5													<0.5	<0.5	<0.5
3-Nitroaniline	<0.5	<0.5													<0.5	<0.5	<0.5
4-Bromophenyl Phenyl Ether	<0.5	<0.5													<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
4-Chloroaniline	<0.5	<0.5													<0.5	<0.5	<0.5
4-Chlorophenyl Phenyl Ether	<0.5	<0.5													<0.5	<0.5	<0.5
4-Methylphenol	<0.5	<0.5													<0.5	<0.5	<0.5
4-Nitroaniline	<0.5	<0.5													<0.5	<0.5	<0.5
Azobenzene	<0.5	<0.5													<0.5	<0.5	<0.5
Bis(2-chloroethoxy)methane	<0.5	<0.5													<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	<0.5	<0.5													<0.5	<0.5	<0.5
Bis(2-chloroisopropyl)ether	<0.5	<0.5													<0.5	<0.5	<0.5
Bis(2-ethylhexyl)phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Butylbenzylphthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Carbazole	<0.5	<0.5													<0.5	<0.5	<0.5
Dibenzofuran	<0.5	<0.5													<0.5	<0.5	<0.5
Diethylphthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Dimethylphthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Di-N-Butyl Phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Di-N-Octyl Phthalate	<0.5	<0.5													<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	<0.5	<0.5													<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	<0.5	<0.5													<0.5	<0.5	<0.5
Hexachloroethane	<0.5	<0.5													<0.5	<0.5	<0.5
Isophorone	<0.5	<0.5													<0.5	<0.5	<0.5
Nitrobenzene	<0.5	<0.5													<0.5	<0.5	<0.5
n-nitrosodimethylamine	<0.5	<0.5													<0.5	<0.5	<0.5
N-Nitroso-Di-N-Propylamine	<0.5	<0.5													<0.5	<0.5	<0.5
Pentachlorophenol (PCP)	<0.5	<0.5													<0.5	<0.5	<0.5
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
Pcb-118 2,3',4,4',5 - Pentachlorobipher	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
Pcb-28 2,4,4' - Trichlororbiphenyl	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	<0.01	<0.01							<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			

Monitoring Round	2	3		1		2		3		1		2		3		1	2
Location	BH506	BH506	BH506	BH505	BH505	BH505	BH505	BH505	BH505	BH503A	BH503A	BH503A	BH503A	BH503A	BH503A	BH426	BH426
Depth	10.17	6.73	8.02	6.1	7.8	6.15	8.4	6.56	8.62	3.53	5.23	3.5	5.31	3.58	5.27	5.7	8.54
Response Zone Details (RZ)	BR weathered MMG	TFD	BR weathered MMG	TFD / GFD or BR (MMG)				BR (MMG)	TFD / GFD	TFD (Shallow) or BR deep (MMG)				BR (MMG)	TFD (CLAY)	TFD (Silt & Clay)	TFD (Silt & Clay)
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Area 3	Area 3
Installation Details	6-9 12 - 15.5	6-9 12 - 15.5	6-9 12 - 15.5	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	1-2 4-13	1-2 4-13
	Deep?	Shallow?	Deep?	?	?	?	?	Deep	Shallow	?	?	?	?	Deep	Shallow	Deep	Deep
Date Sampled	28/04/2015	06/05/2015	06/05/2015	23/03/2015	23/03/2015	30/03/2015	30/03/2015	14/04/2015	14/04/2015	23/03/2015	23/03/2015	30/03/2015	30/03/2015	14/04/2015	14/04/2015	28/04/2015	06/05/2015
Metals																	
Arsenic Dissolved	25	22	43	9.8	22	48	32	29	15	32	6.4	69	12	19	9.1	7.2	11
Beryllium Dissolved																	
Boron Dissolved	510	1200	1500	270	530	1200	1100	960	510	810	540	1700	1800	820	610	1800	3000
Chromium Dissolved	28	14	17	59	120	210	150	99	44	150	27	320	41	36	20	38	16
Copper Dissolved	7.8	11	16	23	47	50	45	86	62	120	4.5	73	7.4	48	2.7	7	13
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	3.1	4.6	2.7	2.8	5.1	8.8	6	8.6	12	3.5	1.8	4.8	2.5	3.3	2.4	7.6	20
Selenium Dissolved	16	14	17	14	41	200	97	27	23	60	28	230	11	25	1.6	16	17
Cadmium Dissolved	<0.08	<0.08	<0.08	<0.08	<0.08	0.13	<0.08	0.088	0.082	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	4.7	10	12	2.7	5.1	11	5.1	32	13	6.6	2.7	12	3.6	17	7.9	22	8.2
Mercury Dissolved	<0.5	<0.5	<0.5	1.1	<0.5	2.2	1.4	<0.5	<0.5	2.3	1.9	0.97	0.92	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	2100	2200	2000	600	820	1800	1300	2100	2000							1900	1100
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	2000	1800	2200	730	1400	4600	1900	5100	3100							1800	2300
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	13	19	13	6.6	10	19	14	20	21							3.9	10
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.2	7.2	7.4	7.7	7.6	7.3	7.5	7.7	7.6	7.4	7.4	7.3	7.8	8.1	8.4	8.2	7.4
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2,4-Dichlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2,4-Dimethylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2,4,5-Trichlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2,4,6-Trichlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Chloro-3-methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Cresols																	
Phenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	0.74	0.06	0.09	0.5	<0.03	0.08							<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1	<1	<1	<1											<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	49
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	250	20	<0.1	440	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	23
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	10000	1000	<0.1	17000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	260
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	720	48	<0.1	1900	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	17
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	230	48	<0.1	31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	3300	220	<0.1	220	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	36
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	73	<0.1	<0.1	23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.97
Total Aliphatic TPH	<5	<5	<5	11000	<5	<5	20000	<5	<5	<5	<5	<5	<5	<5	<5	<5	330
Total Aromatic TPH	<5	<5	<5	3600	<5	<5	270	<5	<5	<5	<5	<5	<5	<5	<5	<5	65
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	15000	<10	<10	20000	<10	<10	<10	<10	<10	<10	<10	<10	<10	400
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Butylbenzyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Di-n-butyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Di-n-Octyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Diethyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Dimethyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5

Monitoring Round	2	3		1		2		3		1		2		3		1	2
Location	BH506	BH506	BH506	BH505	BH505	BH505	BH505	BH505	BH505	BH503A	BH503A	BH503A	BH503A	BH503A	BH503A	BH426	BH426
Depth	10.17	6.73	8.02	6.1	7.8	6.15	8.4	6.56	8.62	3.53	5.23	3.5	5.31	3.58	5.27	5.7	8.54
Response Zone Details (RZ)	BR weathered MMG	TFD	BR weathered MMG	TFD / GFD or BR (MMG)				BR (MMG)	TFD / GFD	TFD (Shallow) or BR deep (MMG)				BR (MMG)	TFD (CLAY)	TFD (Silt & Clay)	TFD (Silt & Clay)
Drainage Area	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Caldicot Levels Area 4	Area 3	Area 3
Installation Details	6-9 12 - 15.5	6-9 12 - 15.5	6-9 12 - 15.5	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	12.5-14 15 - 19	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	7.5-10 19-22.5	1-2 4-13	1-2 4-13
	Deep?	Shallow?	Deep?	?	?	?	?	Deep	Shallow	?	?	?	?	Deep	Shallow	Deep	Deep
Date Sampled	28/04/2015	06/05/2015	06/05/2015	23/03/2015	23/03/2015	30/03/2015	30/03/2015	14/04/2015	14/04/2015	23/03/2015	23/03/2015	30/03/2015	30/03/2015	14/04/2015	14/04/2015	28/04/2015	06/05/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2	<2	<2	<2											<2	<2
1,1,1-Trichloroethane	<1	<1	<1	<1	<1											<1	<1
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10	<10	<10	<10											<10	<10
1,1-Dichloroethane	<1	<1	<1	<1	<1											<1	<1
1,1-Dichloroethene	<1	<1	<1	<1	<1											<1	<1
1,1-Dichloropropene	<1	<1	<1	<1	<1											<1	<1
1,2,3-Trichlorobenzene	<2	<2	<2	<2	<2											<2	<2
1,2,3-Trichloropropane	<50	<50	<50	<50	<50											<50	<50
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1											<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1											<1	<1
1,2-Dibromo-3-Chloropropane	<50	<50	<50	<50	<50											<50	<50
1,2-Dibromoethane	<5	<5	<5	<5	<5											<5	<5
1,2-Dichlorobenzene	<1	<1	<1	<1	<1											<1	<1
1,2-Dichloroethane	<2	<2	<2	<2	<2											<2	<2
1,2-Dichloropropane	<1	<1	<1	<1	<1											<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1											<1	<1
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2	<2	<2	<2											<2	<2
1,4-Dichlorobenzene	<1	<1	<1	<1	<1											<1	<1
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1	<1	<1	<1											<1	<1
4-Chlorotoluene	<1	<1	<1	<1	<1											<1	<1
4-Isopropyltoluene	<1	<1	<1	<1	<1											<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<1											<1	<1
Bromochloromethane	<5	<5	<5	<5	<5											<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5											<5	<5
Bromoform																	
Bromomethane	<5	<5	<5	<5	<5											<5	<5
Carbon Disulphide																	
Chlorobenzene	<1	<1	<1	<1	<1											<1	<1
Chloroethane	<1	<1	<1	<1	<1											<1	<1
Chloroethene	<1	<1	<1	<1	<1											<1	<1
Chloroform	<1	<1	<1	2.2	<1											<1	<1
Chloromethane	<1	<1	<1	<1	<1											<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1											<1	<1
cis-1,3-Dichloropropene	<10	<10	<10	<10	<10											<10	<10
Dibromochloromethane	<10	<10	<10	<10	<10											<10	<10
Dibromomethane	<10	<10	<10	<10	<10											<10	<10
Dichlorodifluoromethane	<1	<1	<1	<1	<1											<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1	<1	<1											<1	<1
Isopropylbenzene	<1	<1	<1	<1	<1											<1	<1
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1	<1	<1											<1	<1
n-Butylbenzene	<1	<1	<1	<1	<1											<1	<1
n-propylbenzene	<1	<1	<1	<1	<1											<1	<1
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1	<1	<1	<1											<1	<1
Styrene	<1	<1	<1	<1	<1											<1	<1
Tert-Butylbenzene	<1	<1	<1	<1	<1											<1	<1
Tetrachloroethene	<1	<1	<1	<1	<1											<1	<1
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1	<1	<1											<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1											<1	<1
trans-1,3-Dichloropropene	<10	<10	<10	<10	<10											<10	<10
Tribromomethane	<1	<1	<1	<1	<1											<1	<1
Trichloroethene	<1	<1	<1	<1	<1											<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1											<1	<1
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2,4-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2,6-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
3-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Bromophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Chloro-3-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Chloroaniline	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Chlorophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Azobenzene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Bis(2-chloroethoxy)methane	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Bis(2-chloroethyl)ether	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Bis(2-chloroisopropyl)ether	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Butylbenzylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Carbazole	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Dibenzofuran	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Diethylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Dimethylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Di-N-Butyl Phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Di-N-Octyl Phthalate	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Hexachlorobenzene (HCB)	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Hexachlorocyclopentadiene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Hexachloroethane	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Isophorone	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Nitrobenzene	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
n-nitrosodimethylamine	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
N-Nitroso-Di-N-Propylamine	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
Pentachlorophenol (PCP)	<0.5	<0.5	<0.5	<0.5	<0.5											<0.5	<0.5
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01
Pcb-118 2,3',4,4',5 - Pentachlorobipher				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01
Pcb-28 2,4,4' - Trichlororbiphenyl				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01								<0.01

Monitoring Round	3	1		2		3		1		2		3		1		2	
Location	BH426	BH425	BH425	BH425	BH425	BH425	BH425	BH423	BH423	BH423	BH423	BH423	BH423	BH422A	BH422A	BH422A	BH422A
Depth	7.79	10.14	15.66	11.42	16.53	11.83	16.34	6.71	7.73	5.74	9.45	6.62	9.76	2.92	7.85	2.22	8.17
Response Zone Details (RZ)	TFD (Silt & Clay)	GFD (Gravel)	BR (MMG)	GFD ?(Gravel)	BR (MMG)	GFD (Gravel)	BR (MMG)	BR (MMG)	TFD (Sand & Gravel)	TFD (Shallow)	or BR (MMG) (Deep)	TFD (Sand & Gravel)	BR (MMG)	TFD (Clay)	GFD (Gravel)	TFD ? (Clay)	GFD (Gravel)
Drainage Area	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3
Installation Details	1-2 4-13	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	15-18 25-40	15-18 25-40	15-18 25-40	15-18 25-40	15-18 25-40	15-18 25-40	1-4 14-20	1-4 14-20	1-4 14-20	1-4 14-20
	Deep	Shallow	Deep	?	?	Shallow	Deep	Deep	Shallow	?	?	Shallow	Deep	Shallow	Deep	?	Deep
Date Sampled	12/05/2015	28/04/2015	28/04/2015	06/05/2015	06/05/2015	12/05/2015	12/05/2015	28/04/2015	28/04/2015	06/05/2015	06/05/2015	11/05/2015	11/05/2015	23/04/2015	23/04/2015		
Metals																	
Arsenic Dissolved	19	4.8	12	8.9	12	13	24	10	24	24	12	19	31	10	25	11	24
Beryllium Dissolved																	
Boron Dissolved	1800	3300	3800	3300	3900	4200	3300	490	1500	2900	1100	1800	480	230	1000	620	1700
Chromium Dissolved	<1	39	53	15	15	<1	7.2	36	55	27	16	17	24	13	68	7.1	65
Copper Dissolved	2.2	5.2	11	13	17	4.7	21	4.8	20	29	16	7.8	3.5	3.1	37	11	69
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	5.7	3.1	4.8	6.3	8.2	5.5	9.9	2.5	6.1	5.7	4.4	3.1	<1	2.6	2.4	6.9	5
Selenium Dissolved	7.3	6.1	23	13	18	7.1	15	15	34	19	18	23	14	3.1	<1	2.9	2.9
Cadmium Dissolved	<0.08	<0.08	<0.08	0.33	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.33	0.13
Vanadium Dissolved																	
Zinc Dissolved	7.1	75	64	33	32	46	36	31	6.4	9	38	14	34	2	17	12	16
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	1200	620	750	1300	1100	1700	1600			1500	120	840	63				
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	1100	280	1600	3000	2900	1300	3400			6800	3200	5600	3700				
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	5.3	0.65	1.2	5	4.3	7.1	5.9			45	2.5	34	1.6				
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	7.6	8.5	8.2	7.6	7.5	7.1	7.3	8.2	8.2	7.4	7.7	8	8	7.6	7.2	7.9	7.7
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2 - Methyl-4,6-Dinitrophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Methylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Nitrophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2,4-Dichlorophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2,4-Dimethylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2,4,5-Trichlorophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2,4,6-Trichlorophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Chloro-3-methylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Methylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Nitrophenol																	
Pentachlorophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Cresols																	
Phenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	<0.03	<0.03	<0.03				
BTEX																	
GRO (C4-C12)																	
MTBE	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	87	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	77	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	240	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	23	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	180	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	30	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	3400	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	260	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	3700	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Methylnaphthalene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Butylbenzyl phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Di-n-butyl phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Di-n-Octyl phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Diethyl phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Dimethyl phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				

Monitoring Round	3	1		2		3		1		2		3		1		2	
Location	BH426	BH425	BH425	BH425	BH425	BH425	BH425	BH423	BH423	BH423	BH423	BH423	BH423	BH422A	BH422A	BH422A	BH422A
Depth	7.79	10.14	15.66	11.42	16.53	11.83	16.34	6.71	7.73	5.74	9.45	6.62	9.76	2.92	7.85	2.22	8.17
Response Zone Details (RZ)	TFD (Silt & Clay)	GFD (Gravel)	BR (MMG)	GFD ?(Gravel)	BR (MMG)	GFD (Gravel)	BR (MMG)	BR (MMG)	TFD (Sand & Gravel)	TFD (Shallow)	or BR (MMG) (Deep)	TFD (Sand & Gravel)	BR (MMG)	TFD (Clay)	GFD (Gravel)	TFD ? (Clay)	GFD (Gravel)
Drainage Area	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3
Installation Details	1-2 4-13	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	11.8-12.3 20-30	15-18 25-40	15-18 25-40	15-18 25-40	15-18 25-40	15-18 25-40	15-18 25-40	1-4 14-20	1-4 14-20	1-4 14-20	1-4 14-20
	Deep	Shallow	Deep	?	?	Shallow	Deep	Deep	Shallow	?	?	Shallow	Deep	Shallow	Deep	?	Deep
Date Sampled	12/05/2015	28/04/2015	28/04/2015	06/05/2015	06/05/2015	12/05/2015	12/05/2015	28/04/2015	28/04/2015	06/05/2015	06/05/2015	11/05/2015	11/05/2015	23/04/2015	23/04/2015		
VOCs																	
1,1,1,2-Tetrachloroethane	<2			<2	<2	<2	<2			<2	<2	<2	<2				
1,1,1-Trichloroethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10			<10	<10	<10	<10			<10	<10	<10	<10				
1,1-Dichloroethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,1-Dichloroethene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,1-Dichloropropene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,2,3-Trichlorobenzene	<2			<2	<2	<2	<2			<2	<2	<2	<2				
1,2,3-Trichloropropane	<50			<50	<50	<50	<50			<50	<50	<50	<50				
1,2,4-Trichlorobenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,2,4-Trimethylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,2-Dibromo-3-Chloropropane	<50			<50	<50	<50	<50			<50	<50	<50	<50				
1,2-Dibromoethane	<5			<5	<5	<5	<5			<5	<5	<5	<5				
1,2-Dichlorobenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,2-Dichloroethane	<2			<2	<2	<2	<2			<2	<2	<2	<2				
1,2-Dichloropropane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,3,5-Trimethylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2			<2	<2	<2	<2			<2	<2	<2	<2				
1,4-Dichlorobenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
2,2-Dichloropropane																	
2-Chlorotoluene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
4-Chlorotoluene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
4-Isopropyltoluene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Bromochloromethane	<5			<5	<5	<5	<5			<5	<5	<5	<5				
Bromodichloromethane	<5			<5	<5	<5	<5			<5	<5	<5	<5				
Bromoform																	
Bromomethane	<5			<5	<5	<5	<5			<5	<5	<5	<5				
Carbon Disulphide																	
Chlorobenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Chloroethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Chloroethene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Chloroform	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Chloromethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
cis-1,2-Dichloroethene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
cis-1,3-Dichloropropene	<10			<10	<10	<10	<10			<10	<10	<10	<10				
Dibromochloromethane	<10			<10	<10	<10	<10			<10	<10	<10	<10				
Dibromomethane	<10			<10	<10	<10	<10			<10	<10	<10	<10				
Dichlorodifluoromethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Isopropylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1			<1	<1	<1	<1			<1	<1	<1	<1				
n-Butylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
n-propylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Styrene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Tert-Butylbenzene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Tetrachloroethene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Tetrachloromethane (Carbon Tetra Chl	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
trans-1,3-Dichloropropene	<10			<10	<10	<10	<10			<10	<10	<10	<10				
Tribromomethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Trichloroethene	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Trichlorofluoromethane	<1			<1	<1	<1	<1			<1	<1	<1	<1				
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2,4-Dinitrotoluene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2,6-Dinitrotoluene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Chloronaphthalene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Chlorophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Methyl-4,6-Dinitrophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Methylnaphthalene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Methylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Nitroaniline	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
2-Nitrophenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
3-Nitroaniline	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Bromophenyl Phenyl Ether	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Chloro-3-Methylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Chloroaniline	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Chlorophenyl Phenyl Ether	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Methylphenol	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
4-Nitroaniline	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Azobenzene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Bis(2-chloroethoxy)methane	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Bis(2-chloroethyl)ether	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Bis(2-chloroisopropyl)ether	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Bis(2-ethylhexyl)phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Butylbenzylphthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Carbazole	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Dibenzofuran	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Diethylphthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Dimethylphthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Di-N-Butyl Phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Di-N-Octyl Phthalate	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Hexachlorobenzene (HCB)	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Hexachlorocyclopentadiene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Hexachloroethane	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Isophorone	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Nitrobenzene	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
n-nitrosodimethylamine	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
N-Nitroso-Di-N-Propylamine	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
Pentachlorophenol (PCP)	<0.5			<0.5	<0.5	<0.5	<0.5			<0.5	<0.5	<0.5	<0.5				
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher																	
Pcb-118 2,3',4,4',5 - Pentachlorobipher																	
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe																	
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe																	
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi																	
Pcb-28 2,4,4' - Trichlororbiphenyl																	
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl																	

Monitoring Round	3		1		2		3		1		2		3		1		2
Location	BH422A	BH422A	BH420	BH420	BH420	BH420	BH420	BH420	BH417	BH417	BH417	BH417	BH417	BH417	BH415	BH415	BH415
Depth	2.75	8.27	2.15	7.8	2.15	8.02	2.02	7.87	2.3	6.69	2.39	6.67	0.81	6.52	6.53	6.72	6.74
Response Zone Details (RZ)	TFD (Clay)	GFD (Gravel)	MG / TFD (Shallow) or GFD (Deep)						MG (Shallow) or GFD (Deep)						GFD (Shallow) or		
Drainage Area	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3
Installation Details	1-4 14-20	1-4 14-20	1-7 17-21	1-7 17-21	1-7 17-21	1-7 17-21	1-7 17-21	1-7 17-21	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	13-17 20-40	13-17 20-40	13-17 20-40
	Shallow	Deep	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Date Sampled	08/05/2015	08/05/2015	20/04/2015	20/04/2015	27/04/2015	27/04/2015	05/05/2015	05/05/2015	20/04/2015	20/04/2015	27/04/2015	27/04/2015	05/05/2015	05/05/2015	20/04/2015	20/04/2015	27/04/2015
Metals																	
Arsenic Dissolved	4.8	18	36	12	19	30	17	10	4.2	14	4.1	17	2.2	22	13	6.2	24
Beryllium Dissolved																	
Boron Dissolved	240	1000	250	1300	1100	2400	1200	2100	1100	1400	610	1700	1100	2100	220	530	1600
Chromium Dissolved	<1	<1	<1	23	41	97	12	17	8.7	14	24	37	<1	<1	28	14	74
Copper Dissolved	2.7	22	1.7	34	2	12	3.6	12	<1	5.3	<1	3.1	<1	3.1	24	6.9	8
Iron Dissolved																	
Lead Dissolved	2.5	2.2	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	3.8	2.2	1.8	1.8	2.8	3.1	1.8	2.5	4	1	3.4	2.2	6.7	1.3	1.6	3.6	5.3
Selenium Dissolved	<1	<1	3.8	21	6.4	55	3.2	16	<1	5.1	<1	11	<1	4.4	24	9.4	48
Cadmium Dissolved	0.17	0.15	0.73	<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	<0.08
Vanadium Dissolved																	
Zinc Dissolved	<1	12	<1	4.4	6.9	12	5.2	5.7	5.9	2.2	6	7	2.4	2.2	12	3.7	12
Mercury Dissolved	<0.5	<0.5	0.69	0.72	<0.5	0.54	<0.5	<0.5	<0.5	<0.5	0.6	0.55	<0.5	<0.5	0.75	<0.5	0.56
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	420	480	550	730	600	490	740	400	1300	62	890	440	1200	170	540	470	210
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	450	7100	190	2500	240	2700	270	3100	19	510	21	490	15	520	4100	1500	2900
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	0.75	5.7	2.8	12	15	2.2	16	0.18	7.8	0.061	7.2	0.19	7.4	0.93	4.4	9.3	1.3
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	7.7	7.5	7.7	7.4	8.4	8.4	7.8	7.7	7.7	7.6	7.6	8.1	7.5	7.8	7.2	7.5	7.9
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dimethylphenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,5-Trichlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cresols																	
Phenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	<0.03	<0.03	0.11	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	73	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	130	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1500	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	51	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	89	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	1700	<5	<5	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	170	<5	<5	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	1900	<10	<10	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Butylbenzyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-butyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-n-Octyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Monitoring Round	3		1		2		3		1		2		3		1		2
Location	BH422A	BH422A	BH420	BH420	BH420	BH420	BH420	BH420	BH417	BH417	BH417	BH417	BH417	BH417	BH415	BH415	BH415
Depth	2.75	8.27	2.15	7.8	2.15	8.02	2.02	7.87	2.3	6.69	2.39	6.67	0.81	6.52	6.53	6.72	6.74
Response Zone Details (RZ)	TFD (Clay)	GFD (Gravel)	MG / TFD (Shallow) or GFD (Deep)						MG (Shallow) or GFD (Deep)						GFD (Shallow) or		
Drainage Area	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3	Area 3
Installation Details	1-4 14-20	1-4 14-20	1-7 17-21	1-7 17-21	1-7 17-21	1-7 17-21	1-7 17-21	1-7 17-21	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	0.9-2.5 11.9-15	13-17 20-40	13-17 20-40	13-17 20-40
	Shallow	Deep	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Date Sampled	08/05/2015	08/05/2015	20/04/2015	20/04/2015	27/04/2015	27/04/2015	05/05/2015	05/05/2015	20/04/2015	20/04/2015	27/04/2015	27/04/2015	05/05/2015	05/05/2015	20/04/2015	20/04/2015	27/04/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,1-Trichloroethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10	<10	<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2,3-Trichloropropane	<50	<50	<50	<50		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2,4-Trichlorobenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane	<50	<50	<50	<50		<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
1,2-Dibromoethane	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2-Dichloropropane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,4-Dichlorobenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform																	
Bromomethane	<5	<5	<5	<5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Disulphide																	
Chlorobenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	<10	<10	<10	<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibromochloromethane	<10	<10	<10	<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibromomethane	<10	<10	<10	<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dichlorodifluoromethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m,p xylenes	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-propylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
O-Xylene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tert-Butylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<10	<10	<10	<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Tribromomethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,6-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Methylphenol	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitroaniline	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3-Nitroaniline	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Bromophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloro-3-Methylphenol	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chloroaniline	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Chlorophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methylphenol	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Azobenzene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethoxy)methane	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroethyl)ether	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-chloroisopropyl)ether	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Butylbenzylphthalate	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbazole	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenzofuran	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethylphthalate	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-N-Butyl Phthalate	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Di-N-Octyl Phthalate	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobenzene (HCB)	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorocyclopentadiene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isophorone	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrobenzene	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
n-nitrosodimethylamine	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-Nitroso-Di-N-Propylamine	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Pentachlorophenol (PCP)	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Pcb-118 2,3',4,4',5 - Pentachlorobipher								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Pcb-28 2,4,4' - Trichlororbiphenyl								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl								<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				

Monitoring Round	2	3		1	2	1	2		3	1		2		3		1	2
Location	BH415	BH415	BH415	BH413	BH413	BH412	BH412	BH412	BH412	BH411	BH411	BH411	BH411	BH411	BH411	BH408	BH408
Depth	6.89	6.42	6.75	15.62	15.5	16.7	6.17	9.29	9.47	5.80		6.17		5.26	6.53	2.4	2.42
Response Zone Details (RZ)	BR (MMG) (Deep)			MG (Shallow) or GFD (Gravel) (Deep)		GFD (Gravel)		GFD? (Gravel)	GFD (Gravel)	TFD? (silty peaty clay)	GFD (gravel)	GFD? (gravel)	TFD (silty peaty clay)	GFD (gravel)	TFD (silty peaty clay)	TFD (Sl	
Drainage Area	Area 3	Area 3	Area 3	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2
Installation Details	13-17 20-40	13-17 20-40	13-17 20-40	1-4.5 15-18	1-4.5 15-18	1-3 15-20	1-3 15-20	1-3 15-20	1-3 15-20	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	0.5-5 8-12	0.5-5 8-12
	?	?	?	?	?	DEEP	DEEP	?	DEEP	Shallow?	DEEP	Deep?	SHALLOW	DEEP	SHALLOW	?	?
Date Sampled	27/04/2015	05/05/2015	05/05/2015	27/04/2015	05/05/2015	20/04/2015	23/04/2015	23/04/2015	08/05/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015	08/05/2015	08/05/2015	02/03/2015	09/03/2015
Metals																	
Arsenic Dissolved	41	9.9	12	26	11	7.1	9.3	13	6	8.4	15	5.5	1<1	9	9.4	3.7	5.1
Beryllium Dissolved																	
Boron Dissolved	1000	1600	1100	3800	2600	2300	410	1100	490	1300	680	1400	780	680	840	580	740
Chromium Dissolved	100	17	23	82	20	14	22	29	<1	5.3	7.5	1.9	7.8	<1	<1	<1	12
Copper Dissolved	9.3	13	14	8.8	15	31	8.5	15	23	6.6	4.1	6.5	3.9	3.3	2.6	<1	<1
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	3.3	<1	<1	<1	<1	2.2	1.2	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	3.5	5.2	2.6	6.8	2	7.8	1.9	8.8	1.8	2.2	1.4	8.4	6.1	1.7	5.7	1.4	2.1
Selenium Dissolved	64	20	18	47	25	14	22	19	9.4	7.2	8.6	8.3	10	3.2	3.8	6.3	4.5
Cadmium Dissolved	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.23	0.11	0.086	<0.08	0.14	0.086	0.12	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	18	11	14	14	9	3.7	14	16	13	4	2.9	5.9	2.7	<1	<1	<1	<1
Mercury Dissolved	0.63	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	630	230	1200	1100	1700	180	210	150	930	990	1200	950				840	710
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	3700	3400	4000	2800	4200	2000	2900	2900	2600	840	840	1200	800				150
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	10	1.5	6.5	10	5.1	4	8.6	3.2	4.3	4.6	7.8	6.5				5.6	1.3
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.1	7.7	7.5	8	7.4	7.1	7.3	7.8	7.6	8.2	7.6	7.9	7.5	7.7	7.5	8.4	8.6
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2 - Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2-Methylphenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2,4-Dichlorophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2,4-Dimethylphenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2,4,5-Trichlorophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2,4,6-Trichlorophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
4-Chloro-3-methylphenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
4-Methylphenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
4-Nitrophenol																	
Pentachlorophenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Cresols																	
Phenol	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				<0.03	<0.03
BTEX																	
GRO (C4-C12)																	
MTBE	<1	<1	<1	<1	<1				<1	<1		<1					
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1		<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1		<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1		<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1		<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<1		<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	4.3	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	240	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	83	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	380	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	21	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	1100	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	810	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	1.4	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	31	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	4.2	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	280	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	35	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	440	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	16	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	910	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	67	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	11	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	1700	<5	<5	<5	<5		<5		<5	<5	950	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	1600	<5	<5	<5	<5		<5		<5	<5	130	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	3300	<10	<10	<10	<10		<10		<10	<10	1100	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		<2		<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Butylbenzyl phthalate	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Di-n-butyl phthalate	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Di-n-Octyl phthalate	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Diethyl phthalate	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					
Dimethyl phthalate	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5					

Monitoring Round	2	3		1	2	1	2		3	1		2		3		1	2
Location	BH415	BH415	BH415	BH413	BH413	BH412	BH412	BH412	BH412	BH411	BH411	BH411	BH411	BH411	BH411	BH408	BH408
Depth	6.89	6.42	6.75	15.62	15.5	16.7	6.17	9.29	9.47	5.80		6.17		5.26	6.53	2.4	2.42
Response Zone Details (RZ)	BR (MMG) (Deep)			MG (Shallow) or GFD (Gravel) (Deep)		GFD (Gravel)		GFD? (Gravel)	GFD (Gravel)	TFD? (silty peaty clay)	GFD (gravel)	GFD? (gravel)	TFD (silty peaty clay)	GFD (gravel)	TFD (silty peaty clay)	TFD (Sl	
Drainage Area	Area 3	Area 3	Area 3	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2
Installation Details	13-17 20-40	13-17 20-40	13-17 20-40	1-4.5 15-18	1-4.5 15-18	1-3 15-20	1-3 15-20	1-3 15-20	1-3 15-20	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	3-8 9.5-14	0.5-5 8-12	0.5-5 8-12
	?	?	?	?	?	DEEP	DEEP	?	DEEP	Shallow?	DEEP	Deep?	SHALLOW	DEEP	SHALLOW	?	?
Date Sampled	27/04/2015	05/05/2015	05/05/2015	27/04/2015	05/05/2015	20/04/2015	23/04/2015	23/04/2015	08/05/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015	08/05/2015	08/05/2015	02/03/2015	09/03/2015
VOCs																	
1,1,1,2-Tetrachloroethane	<2	<2	<2	<2	<2				<2	<2	<2	<2	<2				
1,1,1-Trichloroethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane	<10	<10	<10	<10	<10				<10	<10	<10	<10	<10				
1,1-Dichloroethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,1-Dichloroethene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,1-Dichloropropene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,2,3-Trichlorobenzene	<2	<2	<2	<2	<2				<2	<2	<2	<2	<2				
1,2,3-Trichloropropane	<50	<50	<50	<50	<50				<50	<50	<50	<50	<50				
1,2,4-Trichlorobenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,2,4-Trimethylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,2-Dibromo-3-Chloropropane	<50	<50	<50	<50	<50				<50	<50	<50	<50	<50				
1,2-Dibromoethane	<5	<5	<5	<5	<5				<5	<5	<5	<5	<5				
1,2-Dichlorobenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,2-Dichloroethane	<2	<2	<2	<2	<2				<2	<2	<2	<2	<2				
1,2-Dichloropropane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,3,5-Trimethylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
1,3-Dichlorobenzene																	
1,3-Dichloropropane	<2	<2	<2	<2	<2				<2	<2	<2	<2	<2				
1,4-Dichlorobenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
2,2-Dichloropropane																	
2-Chlorotoluene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
4-Chlorotoluene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
4-Isopropyltoluene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Bromochloromethane	<5	<5	<5	<5	<5				<5	<5	<5	<5	<5				
Bromodichloromethane	<5	<5	<5	<5	<5				<5	<5	<5	<5	<5				
Bromoform																	
Bromomethane	<5	<5	<5	<5	<5				<5	<5	<5	<5	<5				
Carbon Disulphide																	
Chlorobenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Chloroethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Chloroethene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Chloroform	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Chloromethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
cis-1,2-Dichloroethene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
cis-1,3-Dichloropropene	<10	<10	<10	<10	<10				<10	<10	<10	<10	<10				
Dibromochloromethane	<10	<10	<10	<10	<10				<10	<10	<10	<10	<10				
Dibromomethane	<10	<10	<10	<10	<10				<10	<10	<10	<10	<10				
Dichlorodifluoromethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Isopropylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
n-Butylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
n-propylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Styrene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Tert-Butylbenzene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Tetrachloroethene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Tetrachloromethane (Carbon Tetra Chl	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
trans-1,3-Dichloropropene	<10	<10	<10	<10	<10				<10	<10	<10	<10	<10				
Tribromomethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Trichloroethene	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Trichlorofluoromethane	<1	<1	<1	<1	<1				<1	<1	<1	<1	<1				
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2,4-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2,6-Dinitrotoluene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Chloronaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Chlorophenol	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Methyl-4,6-Dinitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Methylnaphthalene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
3-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
4-Bromophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
4-Chloro-3-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
4-Chloroaniline	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
4-Chlorophenyl Phenyl Ether	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
4-Methylphenol	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Azobenzene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Bis(2-chloroethoxy)methane	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Bis(2-chloroethyl)ether	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Bis(2-chloroisopropyl)ether	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Butylbenzylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Carbazole	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Dibenzofuran	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Diethylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Dimethylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Di-N-Butyl Phthalate	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Di-N-Octyl Phthalate	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Hexachlorobenzene (HCB)	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Hexachlorocyclopentadiene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Hexachloroethane	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Isophorone	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Nitrobenzene	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
n-nitrosodimethylamine	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
N-Nitroso-Di-N-Propylamine	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
Pentachlorophenol (PCP)	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	<0.5	<0.5	<0.5	<0.5				
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01
Pcb-118 2,3',4,4',5 - Pentachlorobipher			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01
Pcb-28 2,4,4' - Trichlororbiphenyl			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01				<0.01	<0.01

Monitoring Round	2	3		1		2		3		1	2	3	1	2		3	
Location	BH408	BH408	BH408	BH404	BH404	BH404	BH404	BH404	BH404	BH401	BH401	BH401	BH325C	BH325C	BH325C	BH325C	BH325C
Depth	2.79	2.81	3.11	0.00	0.00	0.00	1.44	0.00	1.39	0.55	1.44	1.30	2.95	3.96	5.28	3.82	5.43
Response Zone Details (RZ)	hallow) or GFD (Deep)			GFD (Gravel)	TFD	TFD (Shallow) or GFD (Deep)				GFD (Gravel)			TFD (Shallow) or BR (MMG) (Deep)				
Drainage Area	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1
Installation Details	0.5-5 8-12	0.5-5 8-12	0.5-5 8-12	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	7.5-13	7.5-13	7.5-13	3.5 - 5.5 12-21	3.5 - 5.5 12-21	3.5 - 5.5 12-21	3.5 - 5.5 12-21	3.5 - 5.5 12-21
	?	?	?	DEEP	SHALLOW	?	?	?	?				?	?	?	?	?
Date Sampled	09/03/2015	16/03/2015	16/03/2015	02/03/2015	02/03/2015	09/03/2015	09/03/2015	16/03/2015	16/03/2015	02/03/2015	09/03/2015	16/03/2015	27/02/2015	06/03/2015	06/03/2015	13/03/2015	13/03/2015
Metals																	
Arsenic Dissolved	3.9	6.4	1.7	<1	6.2	6.7	2.5	7.1	1.8	<1	<1	1.1	2.4	3.3	1.4	17	2.4
Beryllium Dissolved																	
Boron Dissolved	310	1100	870	480	610	300	160	830	210	2400	1200	1600	590	370	110	4100	950
Chromium Dissolved	2.3	23	8.6	<1	<1	<1	1.1	8.8	7.9	<1	<1	5.4	<1	3.8	1.4	110	16
Copper Dissolved	<1	4.7	3.3	<1	<1	<1	<1	3	1.5	<1	<1	1.2	<1	<1	<1	25	1.4
Iron Dissolved																	
Lead Dissolved	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	3.4	2.6	5.8	<1	<1	2.5	1.6	8.2	2	1.6	3.1	4.2	32	12	1.7	20	1.5
Selenium Dissolved	2.1	6.7	4.5	<1	2	2.4	1.5	2.3	2.4	1.9	1.5	2.4	6.5	4.1	1	48	2.2
Cadmium Dissolved	<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	<0.08	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	<1	1.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.8	<1	25	1
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3					760	570	330				500	720	220	530	180		
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride	52					32	49	26	60				19	21	22	20	24
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N					0.03	0.017	0.052				5.4	4.4	0.033	5	0.03		
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8.1	8.6	8.4	8.2	8.2	7.5	8.4	8.4	8.5	7.9	8.1	8	7.9	7.8	8.4	7.9	8.6
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol																	
2 - Methyl-4,6-Dinitrophenol																	
2-Methylphenol																	
2-Nitrophenol																	
2,4-Dichlorophenol																	
2,4-Dimethylphenol																	
2,4,5-Trichlorophenol																	
2,4,6-Trichlorophenol																	
4-Chloro-3-methylphenol																	
4-Methylphenol																	
4-Nitrophenol																	
Pentachlorophenol																	
Cresols																	
Phenol																	
Phenols Monohydric																	
Phenol Index																	
Phenols					0.08	0.03	<0.03				<0.03	0.04	<0.03	<0.03	<0.03		
BTEX																	
GRO (C4-C12)																	
MTBE																	
Benzene	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5			<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene																	
2-Methylnaphthalene																	
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate																	
Butylbenzyl phthalate																	
Di-n-butyl phthalate																	
Di-n-Octyl phthalate																	
Diethyl phthalate																	
Dimethyl phthalate																	

Monitoring Round	2	3		1		2		3		1	2	3	1	2		3	
Location	**BH408**	**BH408**	**BH408**	**BH404**	**BH404**	**BH404**	**BH404**	**BH404**	**BH404**	**BH401**	**BH401**	**BH401**	**BH325C**	**BH325C**	**BH325C**	**BH325C**	**BH325C**
Depth	2.79	2.81	3.11	0.00	0.00	0.00	1.44	0.00	1.39	0.55	1.44	1.30	2.95	3.96	5.28	3.82	5.43
Response Zone Details (RZ)	hallow) or GFD (Deep)			GFD (Gravel)	TFD	TFD (Shallow) or GFD (Deep)				GFD (Gravel)			TFD (Shallow) or BR (MMG) (Deep)				
Drainage Area	Wentloog Levels Area 2	Wentloog Levels Area 2	Wentloog Levels Area 2	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1
Installation Details	0.5-5 8-12	0.5-5 8-12	0.5-5 8-12	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	1-4 8-12.5	7.5-13	7.5-13	7.5-13	3.5 - 5.5 12-21	3.5 - 5.5 12-21	3.5 - 5.5 12-21	3.5 - 5.5 12-21	3.5 - 5.5 12-21
	?	?	?	DEEP	SHALLOW	?	?	?	?				?	?	?	?	?
Date Sampled	09/03/2015	16/03/2015	16/03/2015	02/03/2015	02/03/2015	09/03/2015	09/03/2015	16/03/2015	16/03/2015	02/03/2015	09/03/2015	16/03/2015	27/02/2015	06/03/2015	06/03/2015	13/03/2015	13/03/2015
VOCs																	
1,1,1,2-Tetrachloroethane																	
1,1,1-Trichloroethane																	
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane																	
1,1-Dichloroethane																	
1,1-Dichloroethene																	
1,1-Dichloropropene																	
1,2,3-Trichlorobenzene																	
1,2,3-Trichloropropane																	
1,2,4-Trichlorobenzene																	
1,2,4-Trimethylbenzene																	
1,2-Dibromo-3-Chloropropane																	
1,2-Dibromoethane																	
1,2-Dichlorobenzene																	
1,2-Dichloroethane																	
1,2-Dichloropropane																	
1,3,5-Trimethylbenzene																	
1,3-Dichlorobenzene																	
1,3-Dichloropropane																	
1,4-Dichlorobenzene																	
2,2-Dichloropropane																	
2-Chlorotoluene																	
4-Chlorotoluene																	
4-Isopropyltoluene																	
Benzene	**<1**			**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Bromobenzene																	
Bromochloromethane																	
Bromodichloromethane																	
Bromoform																	
Bromomethane																	
Carbon Disulphide																	
Chlorobenzene																	
Chloroethane																	
Chloroethene																	
Chloroform																	
Chloromethane																	
cis-1,2-Dichloroethene																	
cis-1,3-Dichloropropene																	
Dibromochloromethane																	
Dibromomethane																	
Dichlorodifluoromethane																	
Ethylbenzene	**<1**			**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Hexachlorobutadiene (HCBD)																	
Isopropylbenzene																	
m,p xylenes	**<1**			**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
Methyl tert-butyl ether (MTBE)																	
n-Butylbenzene																	
n-propylbenzene																	
O-Xylene	**<1**			**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
p-Isopropyltoluene																	
Sec-Butylbenzene																	
Styrene																	
Tert-Butylbenzene																	
Tetrachloroethene																	
Tetrachloromethane (Carbon Tetra Chl																	
Toluene	**<1**			**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**	**<1**
trans-1,2-Dichloroethene																	
trans-1,3-Dichloropropene																	
Tribromomethane																	
Trichloroethene																	
Trichlorofluoromethane																	
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene																	
2,4-Dinitrotoluene																	
2,6-Dinitrotoluene																	
2-Chloronaphthalene																	
2-Chlorophenol																	
2-Methyl-4,6-Dinitrophenol																	
2-Methylnaphthalene																	
2-Methylphenol																	
2-Nitroaniline																	
2-Nitrophenol																	
3-Nitroaniline																	
4-Bromophenyl Phenyl Ether																	
4-Chloro-3-Methylphenol																	
4-Chloroaniline																	
4-Chlorophenyl Phenyl Ether																	
4-Methylphenol																	
4-Nitroaniline																	
Azobenzene																	
Bis(2-chloroethoxy)methane																	
Bis(2-chloroethyl)ether																	
Bis(2-chloroisopropyl)ether																	
Bis(2-ethylhexyl)phthalate																	
Butylbenzylphthalate																	
Carbazole																	
Dibenzofuran																	
Diethylphthalate																	
Dimethylphthalate																	
Di-N-Butyl Phthalate																	
Di-N-Octyl Phthalate																	
Hexachlorobenzene (HCB)																	
Hexachlorocyclopentadiene																	
Hexachloroethane																	
Isophorone																	
Nitrobenzene																	
n-nitrosodimethylamine																	
N-Nitroso-Di-N-Propylamine																	
Pentachlorophenol (PCP)																	
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		
Pcb-118 2,3',4,4',5 - Pentachlorobipher					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		
Pcb-28 2,4,4' - Trichlororbiphenyl					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl					**<0.01**	**<0.01**	**<0.01**				**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**		

Monitoring Round	1		2		3		1		2		1	2		3	1	2	1
Location	BH324	BH324	BH324	BH324	BH324	BH324	BH323	BH323	BH323	BH323	BH320	BH320	BH320	BH320	BH315	BH315	BH313
Depth	1.10	3.10	1.24	2.46	1.28	2.49	1.72	2.02	1.67	1.86	0.82	0.00	0.87	2.53	7.98	7.72	10.65
Response Zone Details (RZ)	MG / RTD	BR / StMF	MG / RTD?	BR / StMF?	MG / RTD?	BR / StMF?	RTD?	BR / StMF?	RTD?	BR / StMF?	Till (Shallow) or BR (StMF) (Deep)				weatherd BR? (Shallow) Or BR (StMF) (Deep)		BR (S
Drainage Area	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1
Installation Details	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	0.5-3 4.5-14.7	0.5-3 4.5-14.7	0.5-3 4.5-14.7	0.5-3 4.5-14.7	1-3 5-9	1-3 5-9	1-3 5-9	1-3 5-9	1-3 5-10.8	1-3 5-10.8	1-1
	SHALLOW	DEEP	S?	D?	S?	D?	Shallow	Deep	Shallow	Deep	?	?	?	?	?	?	
Date Sampled	26/02/2015	27/02/2015	05/03/2015	05/03/2015	12/03/2015	12/03/2015	23/04/2015	23/04/2015	08/05/2015	08/05/2015	27/02/2015	06/03/2015	06/03/2015	13/03/2015	05/03/2015	12/03/2015	25/02/2015
Metals																	
Arsenic Dissolved	<1	<1	1.7	1.6	1.5	1.2	2.7	1.1	<1	<1	<1	1.5	1.3	4.1	<1	<1	<1
Beryllium Dissolved																	
Boron Dissolved	92	200	94	40	510	530	730	840	1000	89	2300	650	350	1100	41	610	53
Chromium Dissolved	<1	<1	<1	5.8	4.2	2.4	<1	<1	<1	<1	<1	4.9	<1	7.7	3.1	20	<1
Copper Dissolved	<1	<1	<1	<1	11	9.7	4.7	2.4	<1	1.7	<1	<1	<1	<1	<1	1.4	2.1
Iron Dissolved																	
Lead Dissolved	<1	<1	1.2	<1	2	<1	<1	<1	1.9	2.5	<1	<1	<1	<1	<1	<1	<1
Magnesium Dissolved																	
Manganese Dissolved																	
Nickel Dissolved	1	<1	3.7	<1	3.4	<1	6.5	4.5	6	3.8	8.4	2	2.8	4.2	<1	1.2	<1
Selenium Dissolved	3.2	1.7	1.3	1.1	1.4	1	4.4	<1	1.5	<1	2.7	3.4	1.2	1.2	1.6	3.6	4.2
Cadmium Dissolved	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	1.7	0.34	0.18	0.27	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Vanadium Dissolved																	
Zinc Dissolved	<1	<1	49	2	2.9	<1	6.1	5.1	<1	<1	<1	1.3	<1	<1	10	<1	<1
Mercury Dissolved	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium Total																	
Zinc Total																	
Mercury Total																	
Non-Metal Inorganics																	
Hardness Total																	
Total Alkalinity as CaCO3	210	190	170	140					530	190							
BOD																	
COD																	
Calcium Dissolved																	
Potassium Dissolved																	
Sodium Dissolved																	
Chloride			19	15	33	18			24	36							
Nitrate as NO3																	
Total Diss Sulphur																	
Sulphate																	
Sulphate (soluble)																	
Sulphide																	
Sulphide (free)																	
Ammoniacal Nitrogen as N	0.026	0.018	0.3	0.21					0.026	0.046							
Total Ammonium as NH4																	
Thiocyanate																	
Thiocyanate as SCN																	
Total Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Free Cyanide Low																	
Complex Cyanide																	
Complex Cyanide Low																	
Ferro/Ferricyanide																	
Carbon Dioxide Dissolved																	
pH Value	8	8.2	8.1	8.5	8.2	8.5	8.1	8	7.5	7.4	7.7	8.4	8.1	7.9	8	8.4	8.2
Phenols																	
Dimethylphenols																	
Trimethylphenols																	
2-Chlorophenol									<0.5	<0.5							
2 - Methyl-4,6-Dinitrophenol									<0.5	<0.5							
2-Methylphenol									<0.5	<0.5							
2-Nitrophenol									<0.5	<0.5							
2,4-Dichlorophenol									<0.5	<0.5							
2,4-Dimethylphenol									<0.5	<0.5							
2,4,5-Trichlorophenol									<0.5	<0.5							
2,4,6-Trichlorophenol									<0.5	<0.5							
4-Chloro-3-methylphenol									<0.5	<0.5							
4-Methylphenol									<0.5	<0.5							
4-Nitrophenol																	
Pentachlorophenol									<0.5	<0.5							
Cresols																	
Phenol									<0.5	<0.5							
Phenols Monohydric																	
Phenol Index																	
Phenols	<0.03	<0.03	<0.03	<0.03					<0.03	<0.03							
BTEX																	
GRO (C4-C12)																	
MTBE									<1	<1							
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m & p Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
TPH																	
Aliphatics C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatics C5-C35 Aqueous																	
Aliphatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >C5-C7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics C6-C7																	
Aromatics >C7-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aromatics C6-C35 Aqueous																	
Aromatics >C35-44	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Aromatic TPH	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
TPH (Aliphatics and Aromatics C5-C35)																	
Total petroleum hydrocarbons	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
TPH GC																	
PAHs																	
2-Chloronaphthalene									<0.5	<0.5							
2-Methylnaphthalene									<0.5	<0.5							
Acenaphthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phthalates																	
Bis(2-ethylhexyl) phthalate									<0.5	<0.5							
Butylbenzyl phthalate									<0.5	<0.5							
Di-n-butyl phthalate									<0.5	<0.5							
Di-n-Octyl phthalate									<0.5	<0.5							
Diethyl phthalate									<0.5	<0.5							
Dimethyl phthalate									<0.5	<0.5							

Monitoring Round	1		2		3		1		2		1	2		3	1	2	1
Location	BH324	BH324	BH324	BH324	BH324	BH324	BH323	BH323	BH323	BH323	BH320	BH320	BH320	BH320	BH315	BH315	BH313
Depth	1.10	3.10	1.24	2.46	1.28	2.49	1.72	2.02	1.67	1.86	0.82	0.00	0.87	2.53	7.98	7.72	10.65
Response Zone Details (RZ)	MG / RTD	BR / StMF	MG / RTD?	BR / StMF?	MG / RTD?	BR / StMF?	RTD?	BR / StMF?	RTD?	BR / StMF?	Till (Shallow) or BR (StMF) (Deep)				weatherd BR? (Shallow) Or BR (StMF) (Deep)		BR (S
Drainage Area	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1	Castleton Area 1
Installation Details	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	1-2.1 8.8-15	0.5-3 4.5-14.7	0.5-3 4.5-14.7	0.5-3 4.5-14.7	0.5-3 4.5-14.7	1-3 5-9	1-3 5-9	1-3 5-9	1-3 5-9	1-3 5-10.8	1-3 5-10.8	1-1
	SHALLOW	DEEP	S?	D?	S?	D?	Shallow	Deep	Shallow	Deep	?	?	?	?	?	?	
Date Sampled	26/02/2015	27/02/2015	05/03/2015	05/03/2015	12/03/2015	12/03/2015	23/04/2015	23/04/2015	08/05/2015	08/05/2015	27/02/2015	06/03/2015	06/03/2015	13/03/2015	05/03/2015	12/03/2015	25/02/2015
VOCs																	
1,1,1,2-Tetrachloroethane									<2	<2							
1,1,1-Trichloroethane									<1	<1							
1,1,2,2-Tetrachloroethane																	
1,1,2-Trichloroethane									<10	<10							
1,1-Dichloroethane									<1	<1							
1,1-Dichloroethene									<1	<1							
1,1-Dichloropropene									<1	<1							
1,2,3-Trichlorobenzene									<2	<2							
1,2,3-Trichloropropane									<50	<50							
1,2,4-Trichlorobenzene									<1	<1							
1,2,4-Trimethylbenzene									<1	<1							
1,2-Dibromo-3-Chloropropane									<50	<50							
1,2-Dibromoethane									<5	<5							
1,2-Dichlorobenzene									<1	<1							
1,2-Dichloroethane									<2	<2							
1,2-Dichloropropane									<1	<1							
1,3,5-Trimethylbenzene									<1	<1							
1,3-Dichlorobenzene																	
1,3-Dichloropropane									<2	<2							
1,4-Dichlorobenzene									<1	<1							
2,2-Dichloropropane																	
2-Chlorotoluene									<1	<1							
4-Chlorotoluene									<1	<1							
4-Isopropyltoluene									<1	<1							
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene									<1	<1							
Bromochloromethane									<5	<5							
Bromodichloromethane									<5	<5							
Bromoform																	
Bromomethane									<5	<5							
Carbon Disulphide																	
Chlorobenzene									<1	<1							
Chloroethane									<1	<1							
Chloroethene									<1	<1							
Chloroform									<1	<1							
Chloromethane									<1	<1							
cis-1,2-Dichloroethene									<1	<1							
cis-1,3-Dichloropropene									<10	<10							
Dibromochloromethane									<10	<10							
Dibromomethane									<10	<10							
Dichlorodifluoromethane									<1	<1							
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (HCBD)									<1	<1							
Isopropylbenzene									<1	<1							
m,p xylenes	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether (MTBE)									<1	<1							
n-Butylbenzene									<1	<1							
n-propylbenzene									<1	<1							
O-Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
p-Isopropyltoluene																	
Sec-Butylbenzene									<1	<1							
Styrene									<1	<1							
Tert-Butylbenzene									<1	<1							
Tetrachloroethene									<1	<1							
Tetrachloromethane (Carbon Tetra Chl									<1	<1							
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene									<1	<1							
trans-1,3-Dichloropropene									<10	<10							
Tribromomethane									<1	<1							
Trichloroethene									<1	<1							
Trichlorofluoromethane									<1	<1							
Vinyl Chloride																	
SVOCs																	
1,3-Dichlorobenzene									<0.5	<0.5							
2,4-Dinitrotoluene									<0.5	<0.5							
2,6-Dinitrotoluene									<0.5	<0.5							
2-Chloronaphthalene									<0.5	<0.5							
2-Chlorophenol									<0.5	<0.5							
2-Methyl-4,6-Dinitrophenol									<0.5	<0.5							
2-Methylnaphthalene									<0.5	<0.5							
2-Methylphenol									<0.5	<0.5							
2-Nitroaniline									<0.5	<0.5							
2-Nitrophenol									<0.5	<0.5							
3-Nitroaniline									<0.5	<0.5							
4-Bromophenyl Phenyl Ether									<0.5	<0.5							
4-Chloro-3-Methylphenol									<0.5	<0.5							
4-Chloroaniline									<0.5	<0.5							
4-Chlorophenyl Phenyl Ether									<0.5	<0.5							
4-Methylphenol									<0.5	<0.5							
4-Nitroaniline									<0.5	<0.5							
Azobenzene									<0.5	<0.5							
Bis(2-chloroethoxy)methane									<0.5	<0.5							
Bis(2-chloroethyl)ether									<0.5	<0.5							
Bis(2-chloroisopropyl)ether									<0.5	<0.5							
Bis(2-ethylhexyl)phthalate									<0.5	<0.5							
Butylbenzylphthalate									<0.5	<0.5							
Carbazole									<0.5	<0.5							
Dibenzofuran									<0.5	<0.5							
Diethylphthalate									<0.5	<0.5							
Dimethylphthalate									<0.5	<0.5							
Di-N-Butyl Phthalate									<0.5	<0.5							
Di-N-Octyl Phthalate									<0.5	<0.5							
Hexachlorobenzene (HCB)									<0.5	<0.5							
Hexachlorocyclopentadiene									<0.5	<0.5							
Hexachloroethane									<0.5	<0.5							
Isophorone									<0.5	<0.5							
Nitrobenzene									<0.5	<0.5							
n-nitrosodimethylamine									<0.5	<0.5							
N-Nitroso-Di-N-Propylamine									<0.5	<0.5							
Pentachlorophenol (PCP)									<0.5	<0.5							
PCBs																	
PCB- ARO																	
Pcb-101 2,2',4,5,5' - Pentachlorobipher	<0.01	<0.01															
Pcb-118 2,3',4,4',5 - Pentachlorobipher	<0.01	<0.01															
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe	<0.01	<0.01															
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe	<0.01	<0.01															
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi	<0.01	<0.01															
Pcb-28 2,4,4' - Trichlororbiphenyl	<0.01	<0.01															
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	<0.01	<0.01															

Monitoring Round	2	1	2
Location	BH313	BH312	BH312
Depth	11.75	3.88	8.76
Response Zone Details (RZ)	tMG)	BR (StMG)	
Drainage Area	Castleton Area 1	Castleton Area 1	Castleton Area 1
Installation Details	2.5	1-.5 - 11	
Date Sampled	11/03/2015	25/02/2015	11/03/2015
Metals			
Arsenic Dissolved	<1	1.1	3.4
Beryllium Dissolved			
Boron Dissolved	410	120	400
Chromium Dissolved	3.9	<1	19
Copper Dissolved	8.8	5.3	13
Iron Dissolved			
Lead Dissolved	<1	<1	<1
Magnesium Dissolved			
Manganese Dissolved			
Nickel Dissolved	2	<1	1.5
Selenium Dissolved	<1	3.2	4.4
Cadmium Dissolved	<0.08	<0.08	<0.08
Vanadium Dissolved			
Zinc Dissolved	<1	<1	1.1
Mercury Dissolved	<0.5	<0.5	<0.5
Cadmium Total			
Zinc Total			
Mercury Total			
Non-Metal Inorganics			
Hardness Total			
Total Alkalinity as CaCO3			
BOD			
COD			
Calcium Dissolved			
Potassium Dissolved			
Sodium Dissolved			
Chloride			
Nitrate as NO3			
Total Diss Sulphur			
Sulphate			
Sulphate (soluble)			
Sulphide			
Sulphide (free)			
Ammoniacal Nitrogen as N			
Total Ammonium as NH4			
Thiocyanate			
Thiocyanate as SCN			
Total Cyanide	<0.05	<0.05	<0.05
Free Cyanide	<0.05	<0.05	<0.05
Free Cyanide Low			
Complex Cyanide			
Complex Cyanide Low			
Ferro/Ferricyanide			
Carbon Dioxide Dissolved			
pH Value	8.3	8.1	8.4
Phenols			
Dimethylphenols			
Trimethylphenols			
2-Chlorophenol			
2 - Methyl-4,6-Dinitrophenol			
2-Methylphenol			
2-Nitrophenol			
2,4-Dichlorophenol			
2,4-Dimethylphenol			
2,4,5-Trichlorophenol			
2,4,6-Trichlorophenol			
4-Chloro-3-methylphenol			
4-Methylphenol			
4-Nitrophenol			
Pentachlorophenol			
Cresols			
Phenol			
Phenols Monohydric			
Phenol Index			
Phenols	<0.03		
BTEX			
GRO (C4-C12)			
MTBE			
Benzene	<1	<1	<1
Toluene	<1	<1	<1
Ethyl benzene	<1	<1	<1
m & p Xylene	<1	<1	<1
o Xylene	<1	<1	<1
TPH			
Aliphatics C5-C6	<0.1	<0.1	<0.1
Aliphatics >C6-C8	<0.1	<0.1	<0.1
Aliphatics >C8-C10	<0.1	<0.1	<0.1
Aliphatics >C10-C12	<0.1	<0.1	<0.1
Aliphatics >C12-C16 Aqueous	<0.1	<0.1	61
Aliphatics >C16-C21 Aqueous	<0.1	<0.1	36
Aliphatics >C21-C35 Aqueous	<0.1	<0.1	260
Total Aliphatics C5-C35 Aqueous			
Aliphatics >C35-44	<0.1	<0.1	9.9
Aromatics >C5-C7	<0.1	<0.1	<0.1
Aromatics C6-C7			
Aromatics >C7-C8	<0.1	<0.1	<0.1
Aromatics >EC8-EC10	<0.1	<0.1	<0.1
Aromatics >EC10-EC12	<0.1	<0.1	<0.1
Aromatics >EC12-EC16 Aqueous	<0.1	<0.1	13
Aromatics >EC16-EC21 Aqueous	<0.1	<0.1	49
Aromatics >EC21-EC35 Aqueous	<0.1	<0.1	50
Total Aromatics C6-C35 Aqueous			
Aromatics >C35-44	<0.1	<0.1	<0.1
Total Aliphatic TPH	<5	<5	360
Total Aromatic TPH	<5	<5	110
TPH (Aliphatics and Aromatics C5-C35)			
Total petroleum hydrocarbons	<10	<10	480
TPH GC			
PAHs			
2-Chloronaphthalene			
2-Methylnaphthalene			
Acenaphthene	<0.1	<0.1	<0.1
Acenaphthylene	<0.1	<0.1	<0.1
Anthracene	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1	<0.1	<0.1
Benzo(a)pyrene	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	<0.1	<0.1	<0.1
Chrysene	<0.1	<0.1	<0.1
Dibenzo(a,h)anthracene	<0.1	<0.1	<0.1
Fluoranthene	<0.1	<0.1	<0.1
Fluorene	<0.1	<0.1	<0.1
Benzo(ghi)perylene	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	<0.1	<0.1	<0.1
Naphthalene	<0.1	<0.1	<0.1
Phenanthrene	<0.1	<0.1	<0.1
Pyrene	<0.1	<0.1	<0.1
Total PAHs (USEPA 16)	<2	<2	<2
Phthalates			
Bis(2-ethylhexyl) phthalate			
Butylbenzyl phthalate			
Di-n-butyl phthalate			
Di-n-Octyl phthalate			
Diethyl phthalate			
Dimethyl phthalate			

Monitoring Round	2	1	2
Location	BH313	BH312	BH312
Depth	11.75	3.88	8.76
Response Zone Details (RZ)	tMG)	BR (StMG)	
Drainage Area	Castleton Area 1	Castleton Area 1	Castleton Area 1
Installation Details	2.5	1-.5 - 11	
Date Sampled	11/03/2015	25/02/2015	11/03/2015
VOCs			
1,1,1,2-Tetrachloroethane			
1,1,1-Trichloroethane			
1,1,2,2-Tetrachloroethane			
1,1,2-Trichloroethane			
1,1-Dichloroethane			
1,1-Dichloroethene			
1,1-Dichloropropene			
1,2,3-Trichlorobenzene			
1,2,3-Trichloropropane			
1,2,4-Trichlorobenzene			
1,2,4-Trimethylbenzene			
1,2-Dibromo-3-Chloropropane			
1,2-Dibromoethane			
1,2-Dichlorobenzene			
1,2-Dichloroethane			
1,2-Dichloropropane			
1,3,5-Trimethylbenzene			
1,3-Dichlorobenzene			
1,3-Dichloropropane			
1,4-Dichlorobenzene			
2,2-Dichloropropane			
2-Chlorotoluene			
4-Chlorotoluene			
4-Isopropyltoluene			
Benzene	<1	<1	<1
Bromobenzene			
Bromochloromethane			
Bromodichloromethane			
Bromoform			
Bromomethane			
Carbon Disulphide			
Chlorobenzene			
Chloroethane			
Chloroethene			
Chloroform			
Chloromethane			
cis-1,2-Dichloroethene			
cis-1,3-Dichloropropene			
Dibromochloromethane			
Dibromomethane			
Dichlorodifluoromethane			
Ethylbenzene	<1	<1	<1
Hexachlorobutadiene (HCBD)			
Isopropylbenzene			
m,p xylenes	<1	<1	<1
Methyl tert-butyl ether (MTBE)			
n-Butylbenzene			
n-propylbenzene			
O-Xylene	<1	<1	<1
p-Isopropyltoluene			
Sec-Butylbenzene			
Styrene			
Tert-Butylbenzene			
Tetrachloroethene			
Tetrachloromethane (Carbon Tetra Chl			
Toluene	<1	<1	<1
trans-1,2-Dichloroethene			
trans-1,3-Dichloropropene			
Tribromomethane			
Trichloroethene			
Trichlorofluoromethane			
Vinyl Chloride			
SVOCs			
1,3-Dichlorobenzene			
2,4-Dinitrotoluene			
2,6-Dinitrotoluene			
2-Chloronaphthalene			
2-Chlorophenol			
2-Methyl-4,6-Dinitrophenol			
2-Methylnaphthalene			
2-Methylphenol			
2-Nitroaniline			
2-Nitrophenol			
3-Nitroaniline			
4-Bromophenyl Phenyl Ether			
4-Chloro-3-Methylphenol			
4-Chloroaniline			
4-Chlorophenyl Phenyl Ether			
4-Methylphenol			
4-Nitroaniline			
Azobenzene			
Bis(2-chloroethoxy)methane			
Bis(2-chloroethyl)ether			
Bis(2-chloroisopropyl)ether			
Bis(2-ethylhexyl)phthalate			
Butylbenzylphthalate			
Carbazole			
Dibenzofuran			
Diethylphthalate			
Dimethylphthalate			
Di-N-Butyl Phthalate			
Di-N-Octyl Phthalate			
Hexachlorobenzene (HCB)			
Hexachlorocyclopentadiene			
Hexachloroethane			
Isophorone			
Nitrobenzene			
n-nitrosodimethylamine			
N-Nitroso-Di-N-Propylamine			
Pentachlorophenol (PCP)			
PCBs			
PCB- ARO			
Pcb-101 2,2',4,5,5' - Pentachlorobipher			
Pcb-118 2,3',4,4',5 - Pentachlorobipher			
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe			
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe			
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobi			
Pcb-28 2,4,4' - Trichlororbiphenyl			
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl			

Annex K: Summary Statistics & Screening Assessment for Groundwater Quality Dataset (Completed dataset and for individual geological units)

Parameter	No. Analyses	No. Analyses Above LOD	Maximum	Minimum	Location & Depth of Maximum Concentration	No. Data Exceeding EQS	No. Data Exceeding DWS
Metals							
Arsenic Dissolved	285	252	120	1	BH530 @ 2.47mbGL	7	108
Beryllium Dissolved	50	0	None > LOD	None > LOD			
Boron Dissolved	224	215	4500	23	BH533 @ 5.87mbGL	24	76
Chromium Dissolved	284	235	320	1	BH503A @ 3.5mbGL		51
Copper Dissolved	285	226	330	1.1	BH509 @ 1.95mbGL	95	0
Iron Dissolved	3	2	430	420	SSSJ03A @ 0mbGL	0	2
Lead Dissolved	285	55	1500	0.4	SWSJ21 @ 5.72mbGL	32	8
Magnesium Dissolved	62	42	340000	60	SBHK03 CP @ 0.89mbGL		
Manganese Dissolved	62	55	21000	1	SWSJ08 @ 0.37mbGL	36	36
Nickel Dissolved	285	260	87	1	CH5 @ 2.7mbGL	152	4
Selenium Dissolved	285	250	230	1	BH503A @ 3.5mbGL		109
Cadmium Dissolved	226	28	1.7	0.082	BH323 @ 1.72mbGL	14	0
Vanadium Dissolved	50	36	110	1	SBHJ05 @ 9.07mbGL		
Zinc Dissolved	224	183	75	1	CH5 @ 2.7mbGL	0	
Mercury Dissolved	226	42	22.6	0.01	BHK4 @ 1mbGL	41	14
Cadmium Total	62	36	480	0.5	SWSJ21 @ 5.72mbGL	36	18
Zinc Total	62	61	82000	29	SWSJ34 @ 3.33mbGL	57	0
Mercury Total	62	33	0.1	0.01	SWSJ08 @ 3.3mbGL	1	0
Non-Metal Inorganics							
Hardness Total	62	61	2300	120	SBHK04 CP @ 8.87mbGL		
Total Alkalinity as CaCO3	201	200	20000	0	SWSJ34 @ 3.33mbGL		
BOD	62	53	380	2	SSSJ01A @ 0mbGL	43	
COD	62	60	7400	25	SBHJ10 CP @ 2.24mbGL		
Calcium Dissolved	62	61	810	31	RBBH09 @ 1.25mbGL		
Potassium Dissolved	62	61	580	1.2	SWSJ34 @ 3.33mbGL		
Sodium Dissolved	62	61	4600	4.7	SBHJ10 CP @ 2.24mbGL		31
Chloride	207	205	7100	13	BH422A @ 8.27mbGL	119	119
Nitrate as NO3	62	10	1.9	0.3	RBBH09 @ 1.25mbGL		0
Total Diss Sulphur	13	12	253	4.07	CH17 @ 2.7mbGL		
Sulphate	10	9	570	2	SBHF02A CP @ 8.3mbGL	#N/A	#N/A
Sulphate (soluble)	62	58	1200	5	SWSJ08 @ 0.37mbGL	10	12
Sulphide	62	0	None > LOD	None > LOD			
Sulphide (free)	9	1	0.8	0.8	CH41 @ 1.1mbGL	#N/A	#N/A
Ammoniacal Nitrogen as N	205	198	45	0.011	BH423 @ 5.74mbGL	165	
Total Ammonium as NH4	16	15	39	0.6	SBHJ04 @ 6.67mbGL		15
Thiocyanate	4	1	17.5	17.5	BHK4 @ 1mbGL		
Thiocyanate as SCN	6	3	0.6	0.2	CH35 @ 0.8mbGL		
Total Cyanide	276	4	0.78	0.05	SWSJ08 @ 0.37mbGL	4	3
Free Cyanide	217	1	0.02	0.02	BHK4 @ 1mbGL		
Free Cyanide Low	2	0	None > LOD	None > LOD			
Complex Cyanide	8	2	0.05	0.05	CH40 @ 1.1mbGL		
Complex Cyanide Low	2	0	None > LOD	None > LOD			
Ferro/Ferricyanide	2	0	None > LOD	None > LOD		#N/A	#N/A
Carbon Dioxide Dissolved	16	11	110	14	SBHJ01 CP @ 5.98mbGL		
pH Value	293	292	12.79	0	RBBH09 @ 1.25mbGL	0	0
Phenols							
Dimethylphenols	6	1	18.6	18.6	CH52A @ 0.8mbGL		
Trimethylphenols	6	1	978	978	CH35 @ 0.8mbGL		
2-Chlorophenol	142	0	None > LOD	None > LOD		0	
2 - Methyl-4,6-Dinitrophenol	81	0	None > LOD	None > LOD			
2-Methylphenol	142	9	9	1	SWSJ23 @ 6.62mbGL	0	
2-Nitrophenol	142	2	1900	1900	RBBH07 @ 0.69mbGL		
2,4-Dichlorophenol	142	0	None > LOD	None > LOD		0	
2,4-Dimethylphenol	142	7	7	2	SWSJ23 @ 6.62mbGL		
2,4,5-Trichlorophenol	142	1	0.64	0.64	BH549 @ 10.18mbGL		
2,4,6-Trichlorophenol	142	1	0.68	0.68	BH549 @ 10.18mbGL		
4-Chloro-3-methylphenol	142	0	None > LOD	None > LOD		0	
4-Methylphenol	142	16	1300	2	RBBH07 @ 0.69mbGL	2	
4-Nitrophenol	62	2	3000	3000	RBBH07 @ 0.69mbGL		
Pentachlorophenol	145	1	4275	4275	CH35 @ 0.8mbGL	1	
Cresols	6	3	4140	2.4	CH35 @ 0.8mbGL		
Phenol	147	27	36000	0.6	RBBH07 @ 0.69mbGL	18	
Phenols Monohydric	61	23	0.28	0.01	SBHJ08A CP @ 2.31mbGL		
Phenol Index	13	2	1.06	0.06	CH35 @ 0.8mbGL		
Phenols	144	23	0.74	0.03	BH505 @ 6.1mbGL	23	
BTEX							
GRO (C4-C12)	62	1	14	14	LGBH04 @ 10.5mbGL		
MTBE	141	0	None > LOD	None > LOD			
Benzene	273	3	130	1	CH35 @ 0.8mbGL	1	1
Toluene	273	18	18	1	CH35 @ 0.8mbGL	0	
Ethyl benzene	273	1	255	255	CH35 @ 0.8mbGL	1	
m & p Xylene	273	2	872	1.3	CH35 @ 0.8mbGL	1	
o Xylene	273	1	245	245	CH35 @ 0.8mbGL	1	
TPH							
Aliphatics C5-C6	268	1	0	0	BH412 @ 16.7mbGL		
Aliphatics >C6-C8	268	2	14	0	LGBH04 @ 10.5mbGL		
Aliphatics >C8-C10	268	1	0	0	BH412 @ 16.7mbGL		
Aliphatics >C10-C12	268	1	4.3	4.3	BH408 @ 2.4mbGL		
Aliphatics >C12-C16 Aqueous	268	15	350	11	SBHJ03 CP @ 0.7mbGL		
Aliphatics >C16-C21 Aqueous	268	25	3200	0.5	SSSJ01A @ 0mbGL		
Aliphatics >C21-C35 Aqueous	268	28	41000	0.75	SSSJ01A @ 0mbGL		
Total Aliphatics C5-C35 Aqueous	62	15	44000	14	SSSJ01A @ 0mbGL		
Aliphatics >C35-44	207	14	1900	1	BH505 @ 8.4mbGL		
Aromatics >C5-C7	207	0	None > LOD	None > LOD			
Aromatics C6-C7	62	0	None > LOD	None > LOD			
Aromatics >C7-C8	268	0	None > LOD	None > LOD			
Aromatics >EC8-EC10	268	0	None > LOD	None > LOD			
Aromatics >EC10-EC12	268	1	4.2	4.2	BH408 @ 2.4mbGL		
Aromatics >EC12-EC16 Aqueous	268	17	10000	3.8	SBHD06 RC @ 1.39mbGL		
Aromatics >EC16-EC21 Aqueous	268	25	1400	0.5	SBHD06 RC @ 1.39mbGL		
Aromatics >EC21-EC35 Aqueous	268	25	7500	18	SSSJ01A @ 0mbGL		
Total Aromatics C6-C35 Aqueous	62	11	12000	12	SBHD06 RC @ 1.39mbGL		
Aromatics >C35-44	207	10	73	0.97	BH505 @ 6.1mbGL		
Total Aliphatic TPH	207	16	20000	18	BH505 @ 8.4mbGL		
Total Aromatic TPH	207	16	3600	5.6	BH505 @ 6.1mbGL		
TPH (Aliphatics and Aromatics C5-C35)	62	17	53000	12	SSSJ01A @ 0mbGL		
Total petroleum hydrocarbons	207	16	20000	23	BH505 @ 8.4mbGL		
TPH GC	13	11	14000	120	CH32 @ 0.1mbGL		
PAHs							
2-Chloronaphthalene	142	0	None > LOD	None > LOD			
2-Methylnaphthalene	142	6	2700	2	RBBH07 @ 0.69mbGL		
Acenaphthene	282	8	3500	0.16	RBBH07 @ 0.69mbGL		
Acenaphthylene	282	0	None > LOD	None > LOD			
Anthracene	282	3	0.64	0.06	CH35 @ 0.8mbGL	1	
Benzo(a)anthracene	282	2	0.12	0.1	CH32 @ 0.1mbGL		
Benzo(a)pyrene	282	2	0.16	0.06	CH41 @ 1.1mbGL	2	2
Benzo(b)fluoranthene	282	2	0.16	0.07	CH41 @ 1.1mbGL	2	1
Benzo(k)fluoranthene	282	2	0.16	0.07	CH41 @ 1.1mbGL	2	1
Chrysene	282	2	0.56	0.06	CH41 @ 1.1mbGL		
Dibenzo(a,h)anthracene	282	0	None > LOD	None > LOD			
Fluoranthene	282	8	2	0.08	SBHJ05 @ 9.07mbGL	8	
Fluorene	282	8	1.07	0.07	CH35 @ 0.8mbGL		
Benzo(ghi)perylene	282	1	0.07	0.07	CH41 @ 1.1mbGL	1	0
Indeno(1,2,3-cd)pyrene	282	1	0.07	0.07	CH41 @ 1.1mbGL		0
Naphthalene	282	12	22000	0	RBBH07 @ 0.69mbGL	4	
Phenanthrene	282	11	5	0.15	LGBH04 @ 10.5mbGL		
Pyrene	282	8	1	0.13	SBHJ05 @ 9.07mbGL		
Total PAHs (USEPA 16)	221	0	None > LOD	None > LOD			
Phthalates							

Parameter	No. Analyses	No. Analyses Above LOD	Maximum	Minimum	Location & Depth of Maximum Concentration	No. Data Exceeding EQS	No. Data Exceeding DWS
Bis(2-ethylhexyl) phthalate	143	10	4200	3	RBBH07 @ 0.69mbGL	10	
Butylbenzyl phthalate	143	0	None > LOD	None > LOD		0	
Di-n-butyl phthalate	143	8	2	1	LGBH11 @ 11.2mbGL	0	
Di-n-Octyl phthalate	143	0	None > LOD	None > LOD		0	
Diethyl phthalate	143	1	3	3	SSSJ01A @ 0mbGL	0	
Dimethyl phthalate	143	0	None > LOD	None > LOD		0	
VOCs							
1,1,1,2-Tetrachloroethane	136	0	None > LOD	None > LOD			
1,1,1-Trichloroethane	136	0	None > LOD	None > LOD		0	
1,1,2,2-Tetrachloroethane	56	0	None > LOD	None > LOD			
1,1,2-Trichloroethane	136	0	None > LOD	None > LOD		0	
1,1-Dichloroethane	136	0	None > LOD	None > LOD			
1,1-Dichloroethene	136	0	None > LOD	None > LOD			
1,1-Dichloropropene	136	0	None > LOD	None > LOD			
1,2,3-Trichlorobenzene	136	0	None > LOD	None > LOD		0	
1,2,3-Trichloropropane	136	0	None > LOD	None > LOD			
1,2,4-Trichlorobenzene	146	1	204	204	CH35 @ 0.8mbGL	1	
1,2,4-Trimethylbenzene	136	5	13	3	SWSJ37 @ 0.55mbGL		
1,2-Dibromo-3-Chloropropane	136	0	None > LOD	None > LOD			
1,2-Dibromoethane	136	0	None > LOD	None > LOD			
1,2-Dichlorobenzene	146	1	12	12	CH35 @ 0.8mbGL	0	
1,2-Dichloroethane	136	0	None > LOD	None > LOD		0	0
1,2-Dichloropropane	136	0	None > LOD	None > LOD			
1,3,5-Trimethylbenzene	136	1	6	6	SWSJ23 @ 6.62mbGL		
1,3-Dichlorobenzene	66	1	6	6	CH35 @ 0.8mbGL	0	
1,3-Dichloropropane	136	0	None > LOD	None > LOD			
1,4-Dichlorobenzene	146	1	45	45	CH35 @ 0.8mbGL	1	
2,2-Dichloropropane	56	0	None > LOD	None > LOD		#N/A	#N/A
2-Chlorotoluene	136	0	None > LOD	None > LOD			
4-Chlorotoluene	136	0	None > LOD	None > LOD			
4-Isopropyltoluene	132	0	None > LOD	None > LOD			
Benzene	274	3	130	1	CH35 @ 0.8mbGL	1	1
Bromobenzene	136	0	None > LOD	None > LOD			
Bromochloromethane	136	0	None > LOD	None > LOD			0
Bromodichloromethane	136	0	None > LOD	None > LOD			
Bromoform	52	0	None > LOD	None > LOD			
Bromomethane	136	0	None > LOD	None > LOD			
Carbon Disulphide	52	0	None > LOD	None > LOD			
Chlorobenzene	136	1	6	6	CH35 @ 0.8mbGL		
Chloroethane	136	0	None > LOD	None > LOD			
Chloroethene	81	0	None > LOD	None > LOD			
Chloroform	136	1	2.2	2.2	BH505 @ 6.1mbGL	0	0
Chloromethane	136	0	None > LOD	None > LOD			
cis-1,2-Dichloroethene	136	0	None > LOD	None > LOD			
cis-1,3-Dichloropropene	136	0	None > LOD	None > LOD			
Dibromochloromethane	136	0	None > LOD	None > LOD			0
Dibromomethane	136	0	None > LOD	None > LOD			
Dichlorodifluoromethane	136	0	None > LOD	None > LOD			
Ethylbenzene	274	1	255	255	CH35 @ 0.8mbGL	1	
Hexachlorobutadiene (HCBD)	136	0	None > LOD	None > LOD		0	
Isopropylbenzene	136	1	3	3	SWSJ23 @ 6.62mbGL		
m,p xylenes	264	5	872	1.3	CH35 @ 0.8mbGL	1	
Methyl tert-butyl ether (MTBE)	142	0	None > LOD	None > LOD			
n-Butylbenzene	136	0	None > LOD	None > LOD			
n-propylbenzene	136	1	3	3	SWSJ23 @ 6.62mbGL		
O-Xylene	264	2	245	4	CH35 @ 0.8mbGL	1	
p-Isopropyltoluene	5	0	None > LOD	None > LOD		#N/A	#N/A
Sec-Butylbenzene	136	0	None > LOD	None > LOD			
Styrene	136	0	None > LOD	None > LOD		0	
Tert-Butylbenzene	136	1	6	6	SWSJ23 @ 6.62mbGL		
Tetrachloroethene	136	0	None > LOD	None > LOD		0	0
Tetrachloromethane (Carbon Tetra Chlo	136	0	None > LOD	None > LOD		0	0
Toluene	274	18	18	1	CH35 @ 0.8mbGL	0	
trans-1,2-Dichloroethene	136	0	None > LOD	None > LOD			
trans-1,3-Dichloropropene	136	0	None > LOD	None > LOD			
Tribromomethane	81	0	None > LOD	None > LOD			0
Trichloroethene	136	0	None > LOD	None > LOD		0	0
Trichlorofluoromethane	136	0	None > LOD	None > LOD			
Vinyl Chloride	56	0	None > LOD	None > LOD		0	0
SVOCs							
1,3-Dichlorobenzene	81	0	None > LOD	None > LOD		0	
2,4-Dinitrotoluene	81	0	None > LOD	None > LOD			
2,6-Dinitrotoluene	81	0	None > LOD	None > LOD			
2-Chloronaphthalene	81	0	None > LOD	None > LOD			
2-Chlorophenol	81	0	None > LOD	None > LOD		0	
2-Methyl-4,6-Dinitrophenol	81	0	None > LOD	None > LOD			
2-Methylnaphthalene	81	0	None > LOD	None > LOD			
2-Methylphenol	81	0	None > LOD	None > LOD		0	
2-Nitroaniline	142	0	None > LOD	None > LOD			
2-Nitrophenol	81	0	None > LOD	None > LOD			
3-Nitroaniline	142	0	None > LOD	None > LOD			
4-Bromophenyl Phenyl Ether	142	0	None > LOD	None > LOD			
4-Chloro-3-Methylphenol	142	0	None > LOD	None > LOD		0	
4-Chloroaniline	142	0	None > LOD	None > LOD			
4-Chlorophenyl Phenyl Ether	142	0	None > LOD	None > LOD			
4-Methylphenol	81	0	None > LOD	None > LOD		0	
4-Nitroaniline	142	0	None > LOD	None > LOD			
Azobenzene	142	0	None > LOD	None > LOD			
Bis(2-chloroethoxy)methane	142	0	None > LOD	None > LOD			
Bis(2-chloroethyl)ether	142	0	None > LOD	None > LOD			
Bis(2-chloroisopropyl)ether	140	0	None > LOD	None > LOD			
Bis(2-ethylhexyl)phthalate	140	8	4200	3	RBBH07 @ 0.69mbGL	8	
Butylbenzylphthalate	140	0	None > LOD	None > LOD		0	
Carbazole	142	4	2	1	LGBH04 @ 10.5mbGL		
Dibenzofuran	142	1	1	1	LGBH04 @ 10.5mbGL		
Diethylphthalate	140	7	2	1	LGBH11 @ 11.2mbGL	0	
Dimethylphthalate	140	0	None > LOD	None > LOD		0	
Di-N-Butyl Phthalate	140	0	None > LOD	None > LOD		0	
Di-N-Octyl Phthalate	140	0	None > LOD	None > LOD		0	
Hexachlorobenzene (HCB)	142	0	None > LOD	None > LOD		0	
Hexachlorocyclopentadiene	142	0	None > LOD	None > LOD			
Hexachloroethane	142	1	0.98	0.98	BH545 @ 7.34mbGL		
Isophorone	142	0	None > LOD	None > LOD			
Nitrobenzene	142	0	None > LOD	None > LOD			
n-nitrosodimethylamine	81	0	None > LOD	None > LOD			
N-Nitroso-Di-N-Propylamine	142	0	None > LOD	None > LOD			
Pentachlorophenol (PCP)	145	1	4275	4275	CH35 @ 0.8mbGL	1	
PCBs							
PCB- ARO	6	5	66	0.8	CH35 @ 0.8mbGL		
Pcb-101 2,2',4,5,5' - Pentachlorobiphen	70	0	None > LOD	None > LOD			
Pcb-118 2,3',4,4',5 - Pentachlorobiphen	70	0	None > LOD	None > LOD			
Pcb-138 2,2',3,4,4',5' - Hexachlorobiphe	70	0	None > LOD	None > LOD			
Pcb-153 2,2',4,4',5,5' - Hexachlorobiphe	70	0	None > LOD	None > LOD			
Pcb-180 2,2',3,4,4',5,5' - Heptachlorobip	70	0	None > LOD	None > LOD			
Pcb-28 2,4,4' - Trichlororbiphenyl	70	0	None > LOD	None > LOD			
Pcb-52 2,2',5,5' - Tetrachlorobiphenyl	70	0	None > LOD	None > LOD			

Annex L: Water Monitoring Strategy Report (RPS, 2015)

Welsh Government

M4 Corridor around Newport

Annex L: Water Monitoring Strategy

At Issue

March 2016 |

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Appendices

Appendix 1 CCW Guidance Note Four: Water Quality Monitoring on the Gwent Levels Site of Special Scientific Interest

Appendix 2 Surface Water Sampling Locations and Rationale

Appendix 3 Risk Assessments and Method Statements

1 Introduction

Background

1.1.1 The Welsh Government proposes to build the M4 Corridor around Newport (M4CaN) to address traffic related problems around Newport. This comprises a new three lane motorway to the south of Newport and associated Complementary Measures (the 'Scheme').

1.1.2 A Water Monitoring Strategy has been developed for the Scheme. The Water Monitoring Strategy shall deliver the baseline dataset that will underpin all technical assessments and reporting required for the Scheme in relation to Chapter 16: Road Drainage & Water Environment chapter of the Environmental Statement (ES) (Volume 1).

1.1.3 The new section of motorway and location of associated Water Treatment Areas (WTAs) is shown in Figure 1. The proposed monitoring works are typically contained within a 500 m corridor along the new section of motorway. The Water Monitoring Strategy outlined herein accounts for modifications to the number, location and design of proposed WTAs and changes to the new section of motorway during the period of baseline monitoring. The Water Monitoring Strategy has therefore been an evolving document that has responded to changes in Scheme design and observations on site.

1.2 Objectives

1.2.1 An understanding of baseline conditions across the Gwent Levels will allow the assessment of direct effects on the water environment that may arise from the Scheme during the construction and operational phase. The principal objective of the Water Monitoring Strategy is to provide a surface water dataset that characterises baseline water conditions within the system in sufficient detail to allow:

- The characterisation of general baseline variability within the reen and surface water system;
- An assessment of effects relating to highway construction and highway operation within the ES; and
- The delivery of Design Manual for Roads and Bridges (DMRB) compliant assessments for impacts from routine runoff of surface waters on the water environment (using the Highways Agency Water Risk Assessment Tool (HAWRAT)) and other bespoke approaches should these be required.

1.2.2 The Monitoring Strategy also includes a summary of the expected biological water quality monitoring requirements for the new section of motorway. The biological quality monitoring strategy is considered separately from the water quality monitoring, that underpins the Baseline Water Environment report (Appendix 16.2) required to fulfil the objectives outlined above.

1.2.3 The Monitoring Strategy is not intended to provide all the baseline data that may be required to measure the performance of any construction phase mitigation monitoring, should this be required. It is anticipated that any construction phase monitoring requirements will be outlined in the ES and included in the

Construction Environmental Management Plan (CEMP) (e.g. through the development of a surface water management plan for the Scheme). These monitoring measures will include their own period of agreed baseline monitoring before the commencement of any construction, although this would be taken at that stage.

1.2.4 The results of the Water Monitoring Strategy underpins the technical description of the water environment that shall be presented in the Baseline Water Environment Report, which in turn underpins all technical reporting and assessment supporting the ES.

1.3 General Approach

Monitoring Network

1.3.1 The monitoring network presented herein relates to surface water quality monitoring required in support of baseline characterisation, as reported in the Baseline Water Environment report (Appendix 16.2). The monitoring network does not include potential biological quality monitoring points although the general methodology for such monitoring works is provided.

1.3.2 The original rationale for the selection of the surface water quality monitoring locations included the following:

- Monitoring at appropriate locations within those major reens / NRW watercourses likely to receive discharge from the proposed WTAs;
- Monitoring at points on major reens / NRW water courses crossed by the new section of motorway; and
- Monitoring in the vicinity of principal areas of known / suspected land contamination that have not been discounted on the basis of high level screening; and

1.3.3 The monitoring network has, however, been subject to significant ongoing review and amendment, principally in response to changes in the Scheme design. The monitoring network for the final two monitoring rounds is therefore largely restricted to reens and surface watercourses associated with discharge points from proposed Water Treatment Area discharge.

Monitoring Approach

1.3.4 The Water Monitoring Strategy has been developed to be consistent with regulatory guidance (e.g. NRW/CCW protocols in Appendix 1), historical monitoring methodologies previously agreed with the regulatory authorities and industry best practice. The justification for monitoring approaches and proposed sample frequency is outlined in subsequent sections of this document.

Delivery of Water Monitoring Strategy

1.3.5 The monitoring strategy is designed to incorporate and manage changes throughout the project such as revisions to the design of the new section of motorway or changes to the Water Treatment Areas. The strategy is also flexible to account for changes to the monitoring rationale.

1.4 Environmental Setting

1.4.1 Key aspects of the general environmental setting is shown in Figure 1. The environmental setting of the new section of motorway is described in detail in the Baseline Water Environment Report (Appendix 16.2) and is not repeated here.

1.5 Health and Safety Considerations

1.5.1 All monitoring works have been undertaken under the control of Risk Assessments and Method Statements (RAMS). The H&S protocols and documentation shall conform to all client and legal requirements.

1.5.2 The RAMS approved for this work (RAMS 004 and RAMS 005) are appended to this monitoring strategy.

2 Surface Water Monitoring

2.1 Background Information Review

2.1.1 As shown in Figure 1, the new section of motorway passes through the Gwent Levels, where it crosses multiple reens and NRW watercourses. The new section of motorway also crosses a number of other main rivers, most notably within Newport where it also crosses the Alexandra Docks.

2.1.2 The Gwent Levels comprise designated Sites of Special Scientific Interest notified for the aquatic plant and invertebrate communities associated with the reens and field drains. The monitoring strategy outlined for biological quality shall enable baseline characterisation to inform the assessment of indirect effects on aquatic communities and habitats.

2.1.3 The water quality assessment shall underpin the Baseline Water Environment report developed for the Scheme (Appendix 16.2) and Chapter 16: Drainage and Water Environment (ES Volume 1). Biological quality monitoring shall also be undertaken at some point and will be considered as part of the ecology chapter of the ES.

Water Treatment Area Location and Design

2.1.4 The location of WTAs is the principal driver for the position of surface water monitoring points presented in the Monitoring Strategy. The location of WTAs has been revised on multiple occasions since the initial scoping of potential monitoring locations. Figure 1 uses the most up to date location for the WTA's.

2.1.5 The proposed drainage design states that the discharge from the WTAs will only be to perennially wet channels. Discharges will not be allowed to reens / water courses that are periodically dry.

Historical Water Quality Monitoring

2.1.6 Historical water quality monitoring points are summarised in Figure 1.

2.1.7 Titan Environmental Surveys Ltd was commissioned to undertake a baseline surface water quality monitoring programme in 2007 & 2008. These locations are shown in Figure 1. The monitoring programme comprised twenty two locations, hereinafter referred to as the "Titan" monitoring locations. The Titan monitoring locations were monitored on four occasions over a 12-month period between December 2007 (Winter) and late September 2008 (Autumn). The resulting dataset defined seasonal variability of water quality within the Gwent Levels that was described in their final report (Titan Environmental Surveys, 2008).

2.1.8 As part of Welsh Government Supplementary Investigation (WGSI) works, Geotechnical Engineering Limited collected additional surface water quality data during early 2015 at ten locations (SWS01 to SWS10) around contaminated land site CL-26 (Llanwern Steel Works including Lagoons) (Geotechnical Engineering Limited, 2015). These locations are shown in Figure 1.

2.1.9 All historical monitoring locations have been reviewed and their suitability for inclusion in the RPS water monitoring network assessed.

2.1.10 It should be noted that although some Titan locations are considered inappropriate for continued monitoring, the entire Titan dataset will be used to inform the general baseline quality and quality variability within the Gwent Levels system ultimately presented in the Baseline Water Environment report (Appendix 16.2).

NRW and IDB Surface Water Monitoring

2.1.11 The former Caldicot and Wentlooge Levels Internal Drainage Board (CWLIDB) has not historically undertaken routine water quality monitoring within the Gwent Levels. The functions of the former CWLIDB were transferred to NRW on 1 April 2015. NRW monitoring points are summarised in Figure 1.

2.1.12 Natural Resources Wales (NRW) undertakes routine monitoring on main rivers in Wales, principally to fulfil the following statutory duties under Water Framework Directive (WFD):

- Prevent the deterioration in the status of water bodies;
- Ensure all bodies of surface water and groundwater to achieve good status by 2015; and
- Ensure discharges of priority hazardous substances (the most toxic substances discharged to water) must cease by 2020.

2.1.13 NRW undertake routine water quality monitoring of the main rivers crossed by the new section of motorway, namely the River Ebbw and the River Usk. As there are no proposed direct discharges to the River Ebbw o River Usk, RPS has not undertaken any additional surface water monitoring from these watercourses.

2.1.14 The NRW monitoring data has been provided to RPS and will be reviewed and processed as part of the Baseline Water Environment Report and the appropriate ES chapters.

Contaminated Land Sites

2.1.15 Forty-three sites of potentially contaminated land (CL) were identified along the new section of motorway as part of the works undertaken for the Preliminary Sources Study Report (PSSR) (Arup, 2014). Following initial screening, twenty seven CL sites were considered to represent a potential risk to controlled waters, most notably surface water courses with the Gwent Levels SSSI. Details of this review are provided in the Contaminant Land Assessment Report (Appendix 11.1). The location of CL sites is shown in Figure 1.

2.1.16 A preliminary surface water monitoring round (Q1) included a number of sample locations situated on reens / NRW watercourses in the vicinity of these key CL sites, most notably around the Llanwern / Tata steel site situated to the east of Newport. The preliminary monitoring round also included a site walkover survey of the twenty-one CL sites, where land access permitted. All location monitored as part of the preliminary surface water monitoring round (Q1) are shown in Figure 2.

2.1.17 As part of Welsh Government Supplementary Investigation (WGSI) works, Geotechnical Engineering Limited have acquired additional surface water quality data during early 2015 at ten locations around contaminated land site CL-26 (Llanwern Steel Works including Lagoons). These locations (SWS01 to SWS10)

are shown in Figure 1 (Geotechnical Engineering Limited, 2015). It is not intended to undertake further sampling at the locations although the data collected for these sites will be included in Appendix 16.2: Baseline Water Environment Report and inform the description of baseline conditions of the water environment.

2.2 Water Quality Monitoring Strategy

Monitoring Network

2.2.1 A total of 37 surface water quality monitoring locations have been sampled on least one occasion during the annual monitoring period. A tabulated summary and rationale for each sample location is provided in Appendix 2 with the positon of each monitoring location shown in Figure 2.

2.2.2 Surface water quality monitoring has been undertaken on a quarterly basis. The first quarterly monitoring round was characterised by the most extensive monitoring network, that met the original objectives summarised in paragraph 1.3.2. Following the completion of each monitoring round, the suitability of each monitoring location was reviewed in light of changes in Scheme design (most notably the number and location of WTAs) and site-specific observations. The baseline monitoring frequency of four quarterly monitoring rounds represents NRW's requirement for new development and this accounts for the reduced monitoring network used for the final two rounds (i.e. Q3 and Q4).

Surface Water Monitoring Suite

2.2.3 The following records were taken at each monitoring location:

- Any visual / olfactory evidence of contamination or general water conditions;
- Relative water levels within the local system;
- General flow directions and hydraulic connectivity within the local system;
- A photographic record of each monitoring location

2.2.4 Flow gauging was attempted at various locations within the reen system. However, flows were typically found to be below the minimum flow rate detectable by the hand held flow meter.

2.2.5 The pH and temperature were measured at each monitoring point using a calibrated water quality meter. In addition Dissolved Oxygen (DO), Electrical Conductivity (EC) and Total Suspended Solids (TSS) shall be measured in the laboratory.

2.2.6 Samples taken from each monitoring point are subject to laboratory analysis for the following groups of parameters (if appropriate for that location):

- General parameters associated with defining water quality within surface water bodies;
- Parameters historically monitored by CCW for which historical water quality trigger levels have been defined;
- General contaminants of concern associated with routine highway run-off, that include heavy metals and hydrocarbons;

- Additional parameters required for the determination of reen-specific PNECs using the Metal-Bioavailability Assessment Tool (M-BAT); and
- Site-specific contaminants of concern defined for contaminated land sites that have plausible pollutant linkage with the surrounding watercourses and/or there is evidence of active effects

2.2.7 Specifically the analysis shall include:

- Alkalinity
- Biological Oxygen Demand (BOD);
- Dissolved Oxygen;
- Dissolved Organic Carbon;
- Total Suspended Solids;
- Total Ammoniacal Nitrogen;
- Total Oxidised Nitrogen (TON), Nitrate (NO_3), Nitrite (NO_2);
- Phosphorous;
- Sulphates;
- Chloride;
- Calcium;
- Heavy Metals (including zinc, lead, cadmium , chromium, nickel and copper);
- Total Petroleum Hydrocarbons (including total oils and greases); and
- Polycyclic Aromatic Hydrocarbons (PAHs).

2.2.8 In the vicinity of a number of contaminated land sites, laboratory analyses have included additional site-specific contaminants of concern (COC) that include:

- Volatile and Semi-volatile Hydrocarbons (VOCs and SVOCs);
- Pesticides and herbicides;
- Polychlorinated biphenyls (PCBs);
- Dioxins & Furans; and
- Organotin compounds.

Surface Water Monitoring Programme

2.2.9 In accordance with former-CCW guidance for water quality monitoring associated with new developments on the Gwent Levels (1996), four quarterly monitoring rounds have been undertaken. These quarterly monitoring rounds were undertaken with approximately 3 month intervals to define baseline seasonal water quality variability over a full year. The dates for quarterly rounds include:

- 26th May to 5th June 2015 (Q1: Preliminary Round);
- 28th July to 31st July 2015 (Q2);
- 13th October to 15th October 2015 (Q3); and
- 26th to 29th January 2016 (Q4).

2.2.10 The reens are managed by penning levels that change from summer to winter in October and back to summer levels in March. The frequency of the monitoring rounds was intended to capture data from the reens during both these periods.

2.2.11 A total of up to four water monitoring rounds were undertaken for baseline purposes.

Sampling Methodology

2.2.12 The surface water sampling methodology was designed to meet the requirements of guidance provided by former-CCW (see Appendix 1) and where appropriate shall reflect historical sampling methodologies.

2.2.13 The sampling approach has involved collecting "grab" water samples from the centre of a reen using a clean, extendable sampling pole. A clean sample container, supplied by the laboratory is used for each monitoring location to remove the potential for sample cross contamination. In the event the sampling container comes into contact with the bank or vegetation the sample shall be discarded. Water grab samples shall be transferred to suitable, clean sample bottles (as recommended by the laboratory) and stored in temperature controlled containers. All samples shall be then transported to the laboratory for testing on the day of sampling.

2.3 Biological Water Quality Monitoring

Baseline Assessment

2.3.1 Historical data on invertebrate community assemblage and other biological data (i.e. fish, aquatic macrophytes and diatoms) will be sought from previous reports and other sources (for example the Environment Agency through data requests). It is acknowledged that the availability of this data may be limited due to the small nature of these watercourses and the locations of previous biological monitoring points. Therefore, initial monitoring of each watercourse should be carried out as soon as possible to inform the baseline assessment.

2.3.2 Historical biological data will inform a baseline assessment of trends in biological water quality in relation to the following factors:

- Biological water quality in relation to organic enrichment and oxygen availability, for example through analysis of Biological Monitoring Working Party (BMWP) indices;
- Nutrient enrichment through analysis of macrophyte and diatom community data and related indices;
- Sedimentation through the analysis of invertebrate community data;
- Impacts on hydrological flow through analysis of invertebrate community assemblage; and
- Chemical water quality data will inform the baseline assessment by identifying any potential existing impacts upon biological water quality.

Baseline Monitoring Methodology

2.3.3 The watercourses identified in Appendix 2 will be initially assessed for their suitability for biological sampling, together with the results of the river corridor survey. This will include assessments of site access, flow regime and watercourse condition in order to inform the identification of sampling locations.

2.3.4 Any changes to the new section of motorway and associated features may result in the identification of additional biological monitoring points or changes to the proposed monitoring schedule.

2.3.5 Where possible, the downstream end of each watercourse will be sampled to permit assessment of biological water quality and identification of potential impacts for each individual watercourse.

2.3.6 Biological sampling will involve the collection of invertebrate kick samples using a standard 3-minute kick sample and 1-minute manual search, this being the accepted industry standard (WFD-UKTAG, 2014). Kick sampling will be carried out within areas of substrate types in proportion with their comparative occurrence. This will allow effective comparison with past and future survey results. Where it is not possible to conduct a kick sample, a pond-net will be used from the banks of the watercourse.

2.3.7 During biological sampling, observations will be made of physical characteristics at each monitoring point to inform future interpretation of biological data. This will include photographs taken at each site, completion of a river field survey sheet and observations of sightings, field signs and/or potential for protected species such as otter, water vole and white-clawed crayfish.

2.3.8 Invertebrate kick samples will be packaged and labelled on site. Any macrofauna such as fish species or white-clawed crayfish will be returned to the watercourse immediately and noted.

2.3.9 Invertebrate kick samples will be returned to the laboratory for analysis within four days, or preservation if this is not possible.

2.3.10 Invertebrate samples will subsequently be analysed and invertebrate taxa identified to mixed-taxon level (species level where possible) to allow calculation of biotic indices. Sample analysis will be subject to quality assurance (QA) by repeat analysis by a second invertebrate ecologist at a rate of one sample in ten, or one sample if less than ten samples are collected. Invertebrate samples will be preserved and retained for an unspecified period if required.

2.3.11 Results of invertebrate analysis will be collated and used to calculate biotic water quality indices as follows:

- [Revised] Biological Monitoring Working Party (BMWP) index, including the calculation of Number of Scoring Taxa (NST), total BMWP score and Average Score Per Taxon (ASPT) as indicators of biological water quality;
- Lotic invertebrate Index for Flow Evaluation (LIFE) – score to indicate the susceptibility of invertebrate community to reduced flows;
- Proportion of Sediment-sensitive Invertebrates (PSI) – score to indicate the impact of sedimentation on the watercourse; and

- Whalley, Hawkes, Paisley & Trigg (WHPT) index – an updated version of the BMWP index with more accurate scores that take taxon abundance into account – to allow comparison of data with future results.

2.3.12 Data will be compared with historical water quality data, where available, to assess potential impacts to the watercourse and identify trends in ecological water quality. Results of chemical surface water quality assessment will also be used to inform conclusions drawn from biological data.

Baseline Monitoring Schedule

2.3.13 Biological water quality monitoring through kick sampling may be carried out within the three main sampling seasons used as standard for monitoring in relation to WFD programmes as follows:

- Spring sampling season – March to May;
- Summer sampling season – June to August;
- Autumn sampling season – September to November

2.3.14 Monitoring according to these sampling seasons will allow effective comparisons to past and future data. For WFD classification, two samples are required, collected in spring and autumn (WFD-UKTAG, 2014).

2.3.15 Subsequent biological monitoring should be carried out within the sampling seasons outlined above for the duration of the proposed works.

2.3.16 It is recommended that post-works monitoring be completed to assess potential continuing impacts to biological water quality. The requirement for on-going monitoring will be informed by the results of biological monitoring to date in order to effectively target watercourses and the duration of on-going monitoring. It is considered that a feasible scenario under low impact conditions would be for a single additional round of biological monitoring one year after the completion of works.

3 Data Management, Processing & Reporting

3.1.1 All laboratory analytical data and physical data collected as part of the Monitoring Strategy will be collated in a database using the industry-recognised AGS data standard. This database will be validated to ensure a consistent and complete dataset is maintained throughout the project. This enables seamless integration with historical datasets and the use of automated analysis techniques to quickly interrogate, visualise and report on the results of the laboratory analysis to inform future monitoring works.

3.1.2 The baseline surface water and groundwater quality dataset will be tabulated and screened against relevant water quality assessment criteria agreed with the NRW to define the general water quality and variability therein. Water quality screening criteria will vary along the length of the new section of motorway, depending on the nature, designation and sensitivity of each water feature.

3.1.3 The baseline description of water quality and groundwater levels is presented in the Baseline Water Environment Report (Appendix 16.2) that underpins Chapter 16: Road Drainage and Water Environment (ES Volume 1).

3.1.4 One of principal technical objectives of data collection is to establish a discharge from each WTA outfall that is compliant outfall with a DMRB (HAWRAT) quantitative assessment and that also meets agreed regulatory expectations for the water quality within the system affected. This requires information on water quality and also baseline flow conditions in the reen system receiving WTA discharge.

3.1.5 These technical assessments are summarised in separate technical reports appended to the ES at Appendix 16.3 and 16.2.

3.1.6 In addition, the baseline monitoring dataset will also be used to inform the following:

- WTA catchment areas and storm flow volumes;
- Assessment of requirement and size of reed beds for water polishing;
- WFD assessment reviewing objectives for chemical, biological, ecological and geomorphological status; and
- Correct adoption of Water Compliance Criteria for WTA, i.e. EQS vs. Gwent Levels trigger levels.

4 References

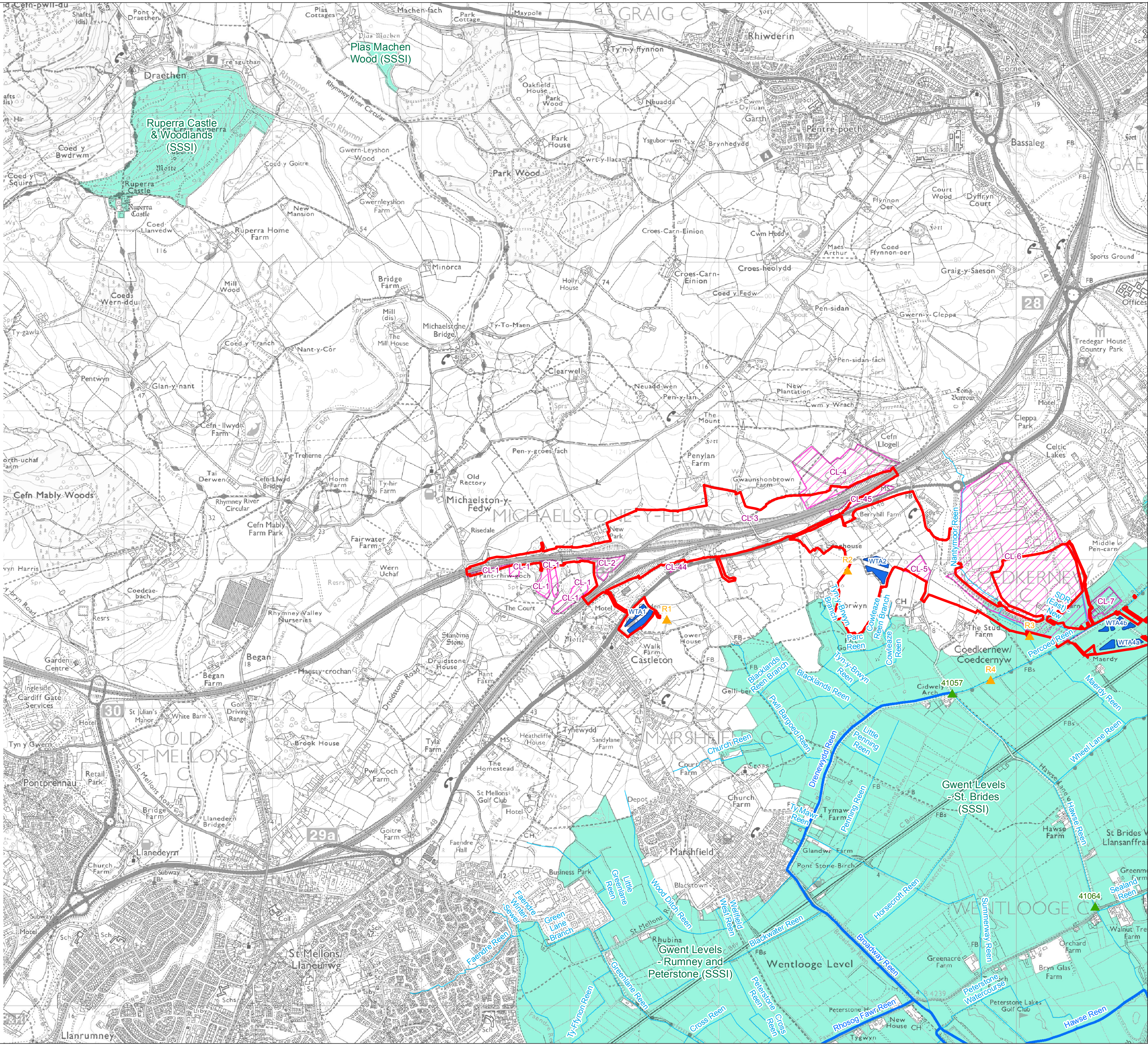
Geotechnical Engineering Limited (2015) M4 Corridor around Newport – Factual Report on Ground Investigation. Report reference 30238, July 2015.

Ove Arup & Partners Ltd (2014) Welsh Government, M4 Corridor around Newport: Preliminary Sources Study Report, Report Ref. 14/9197, July 2014

Titan Environmental Surveys Limited (TESL) (2008) New M4 Magor to Castleton Baseline Surface Water Quality Final Report. Report Number: HS0442/F1/2. November 2008.

Water Framework Directive – United Kingdom Technical Advisory Group (WFD-UKTAG) (2014) UKTAG River Assessment Method Benthic Invertebrate Fauna: Invertebrates (General Degradation): Whalley, Hawkes, Paisley & Trigg (WHPT) metric in River Invertebrate Classification Tool (RICT). July 2014.

Figures



Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Areas of Land Contamination
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen

Surface Water Monitoring Locations

- Titan Surveys (2008)
- NRW (Ongoing)

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Welsh Government

Appendix 16.2 - Appendix 12

Scheme Overview & Historical Monitoring Locations

Figure: 1a	Revision: -
Date: March 2016	Status: At Issue
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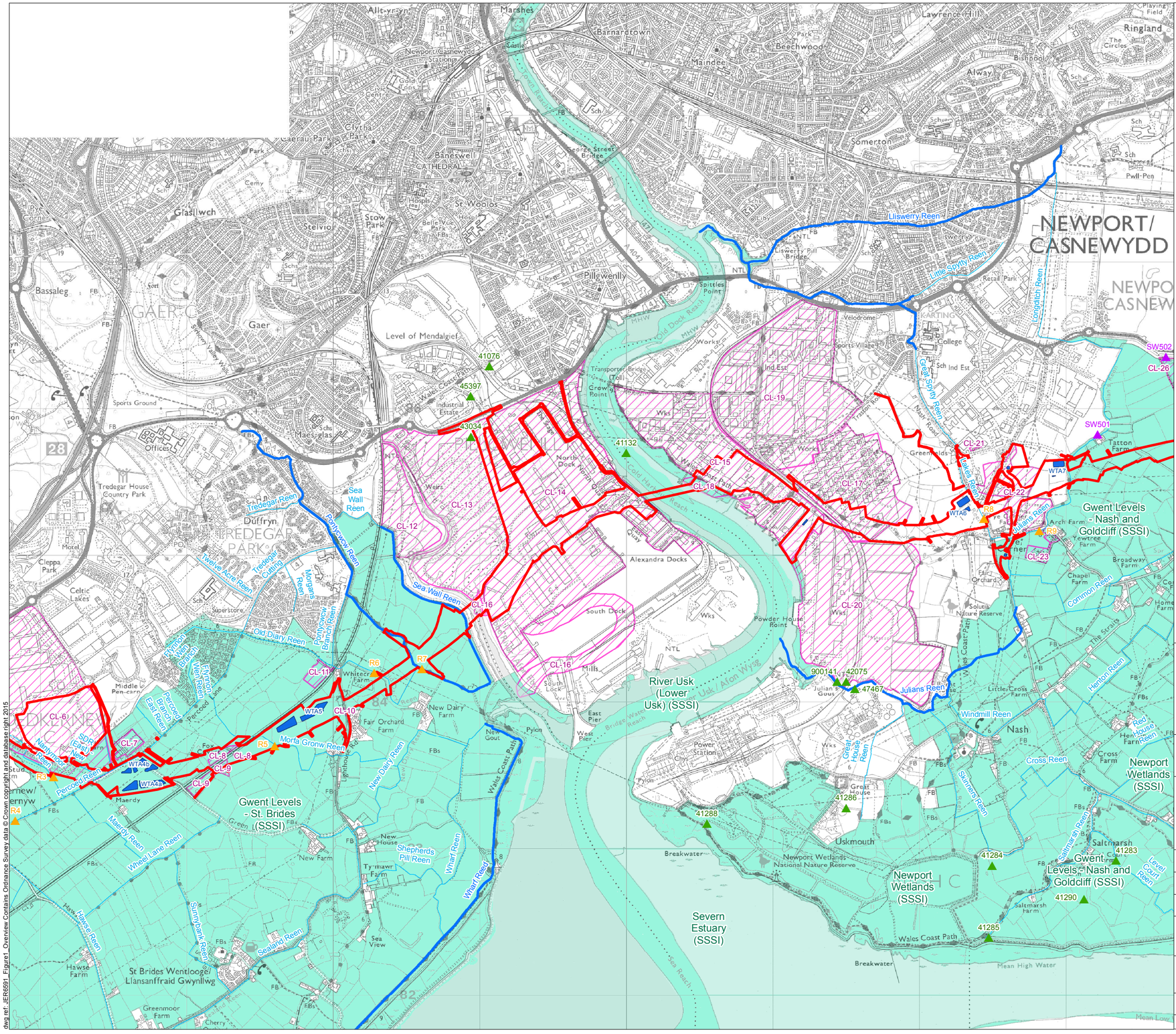

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- NRW (Ongoing)

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Appendix 16.2 - Appendix 12

Scheme Overview & Historical Monitoring Locations

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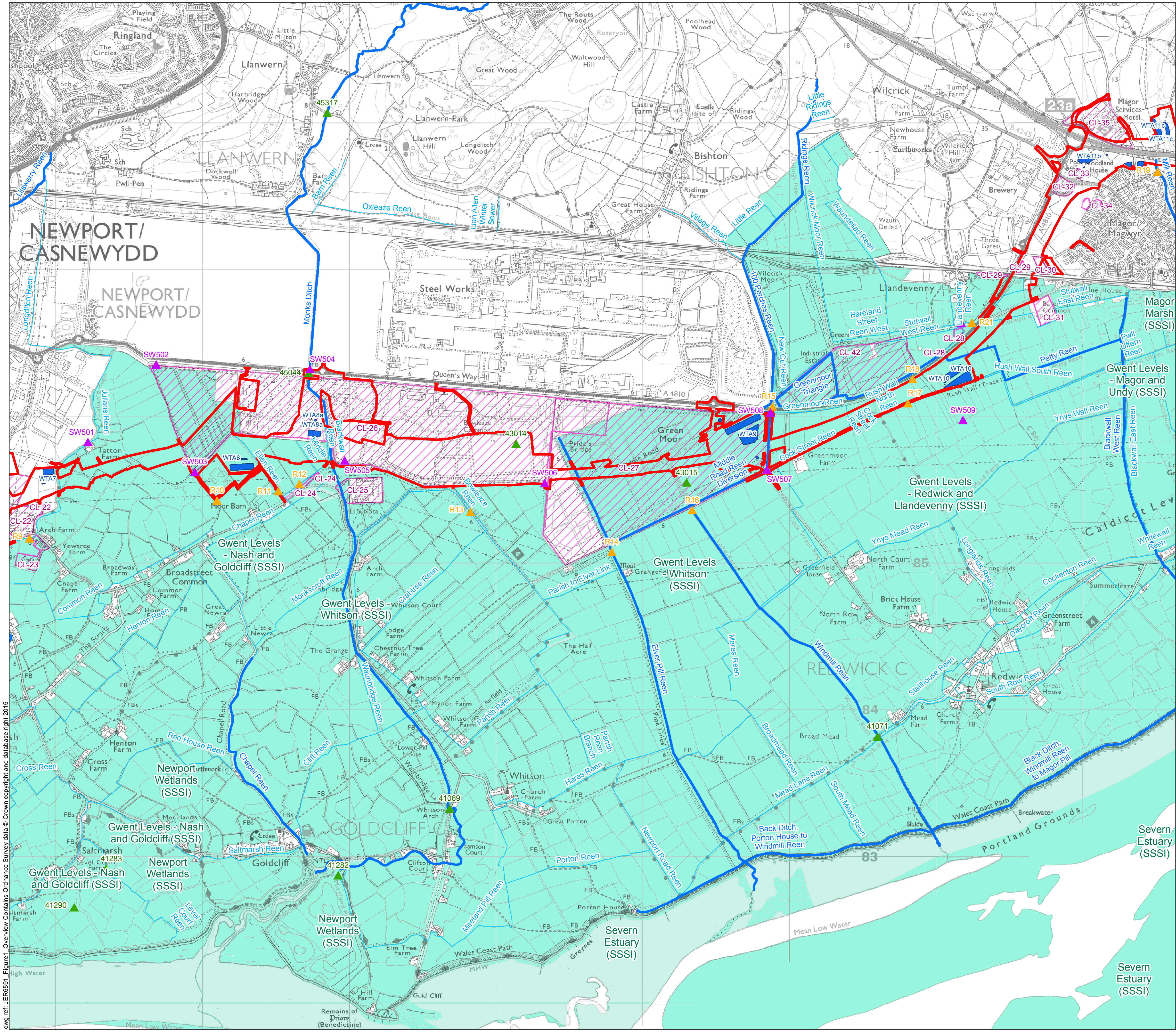

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Surface Water Monitoring Locations

- Welsh Government (2015)
- Titan Surveys (2008)
- NRW (Ongoing)

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Appendix 16.2 - Appendix 12

Scheme Overview & Historical Monitoring Locations

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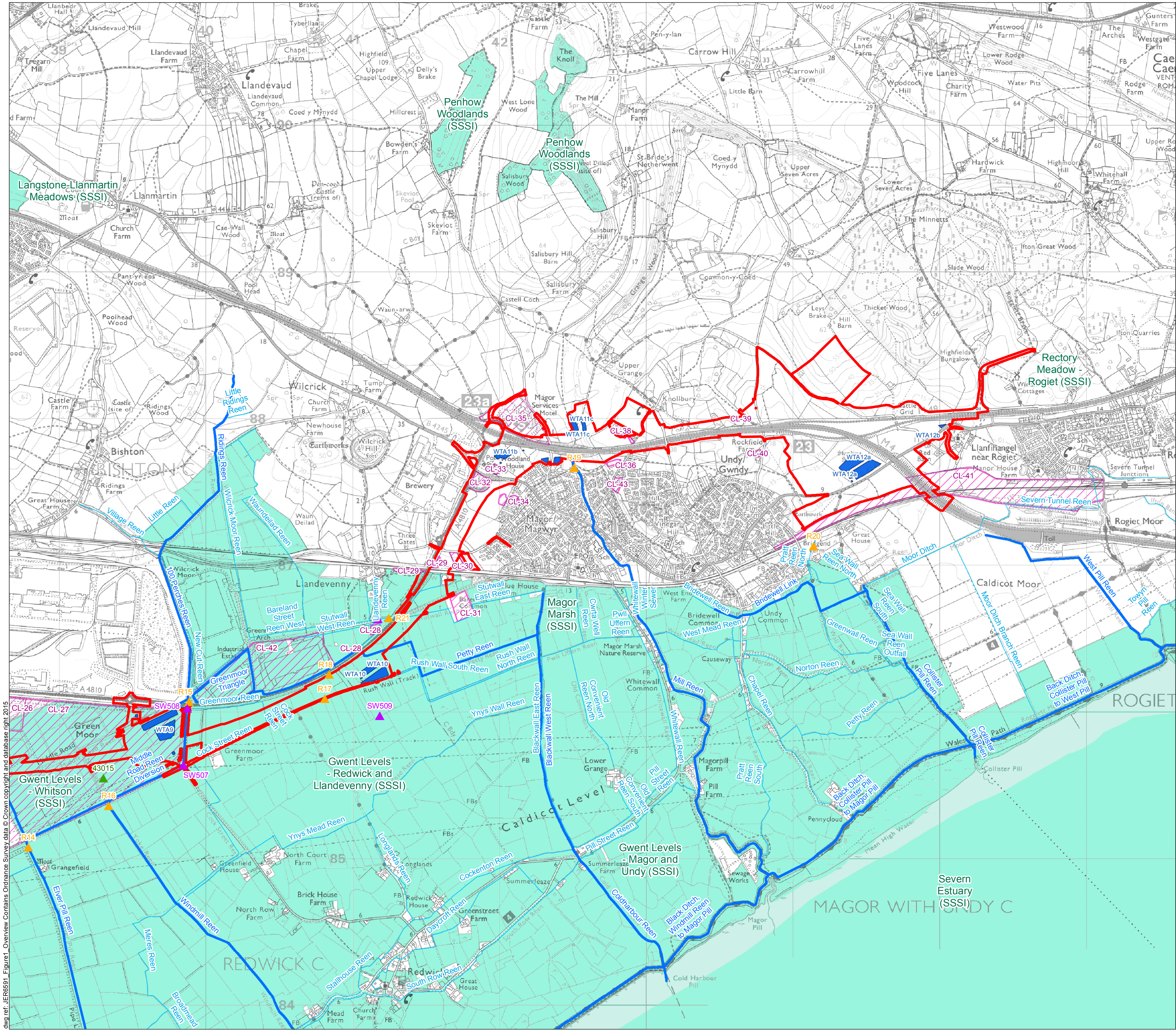

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Surface Water Monitoring Locations

- Welsh Government (2015)
- Titan Surveys (2008)
- NRW (Ongoing)

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Appendix 16.2 - Appendix 12

Scheme Overview & Historical Monitoring Locations

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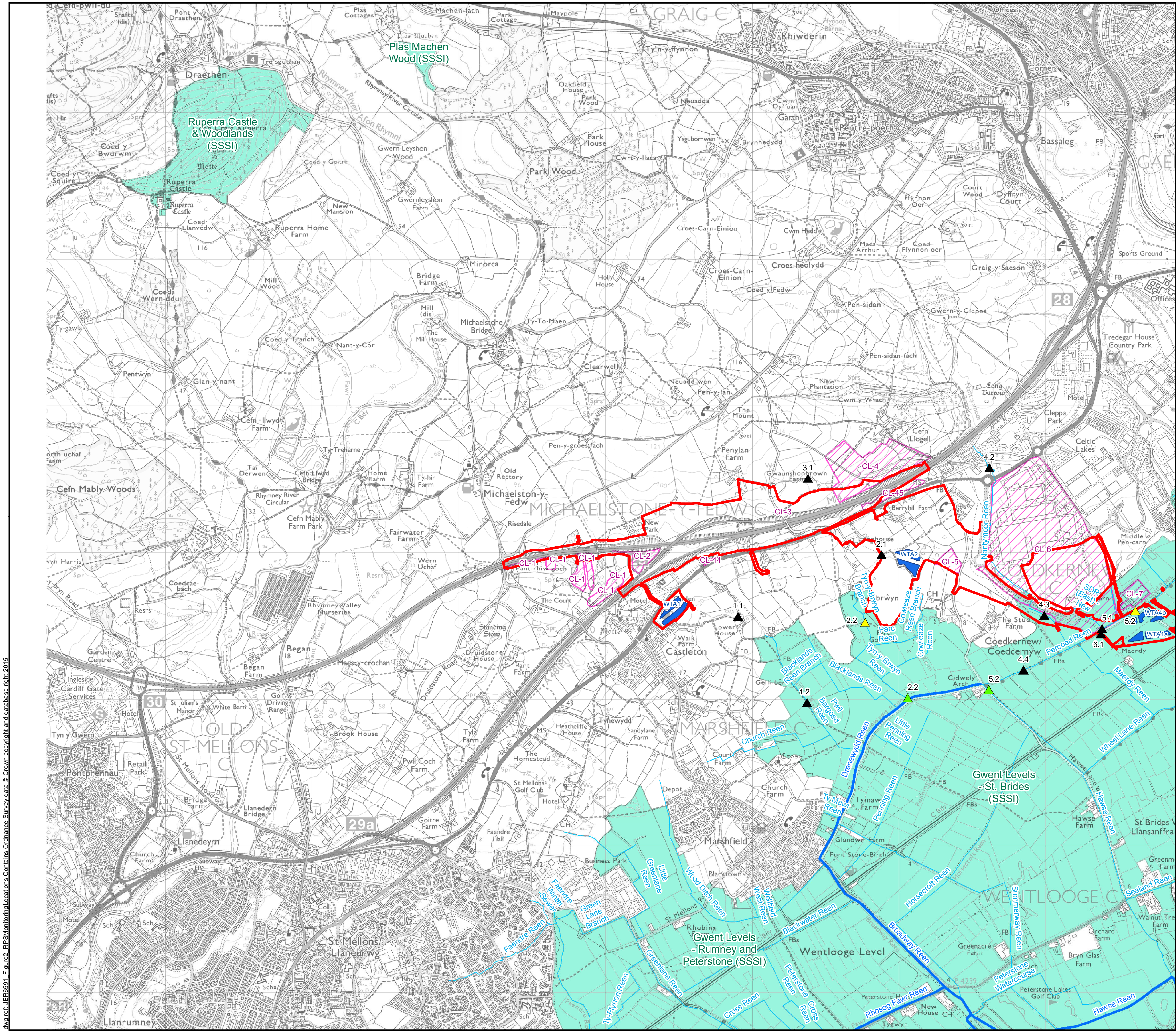

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- Proposed Water Treatment Area (WTA)
- Potential Areas of Land Contamination
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen

Surface Water Monitoring Locations

- ▲ RPS (2015/16)
- △ RPS (2015) - Q1 Only
- △ RPS (2015/16) - Q2-Q4

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Appendix 16.2 - Appendix 12

RPS Surface Water Monitoring Locations (2015 / 2016)

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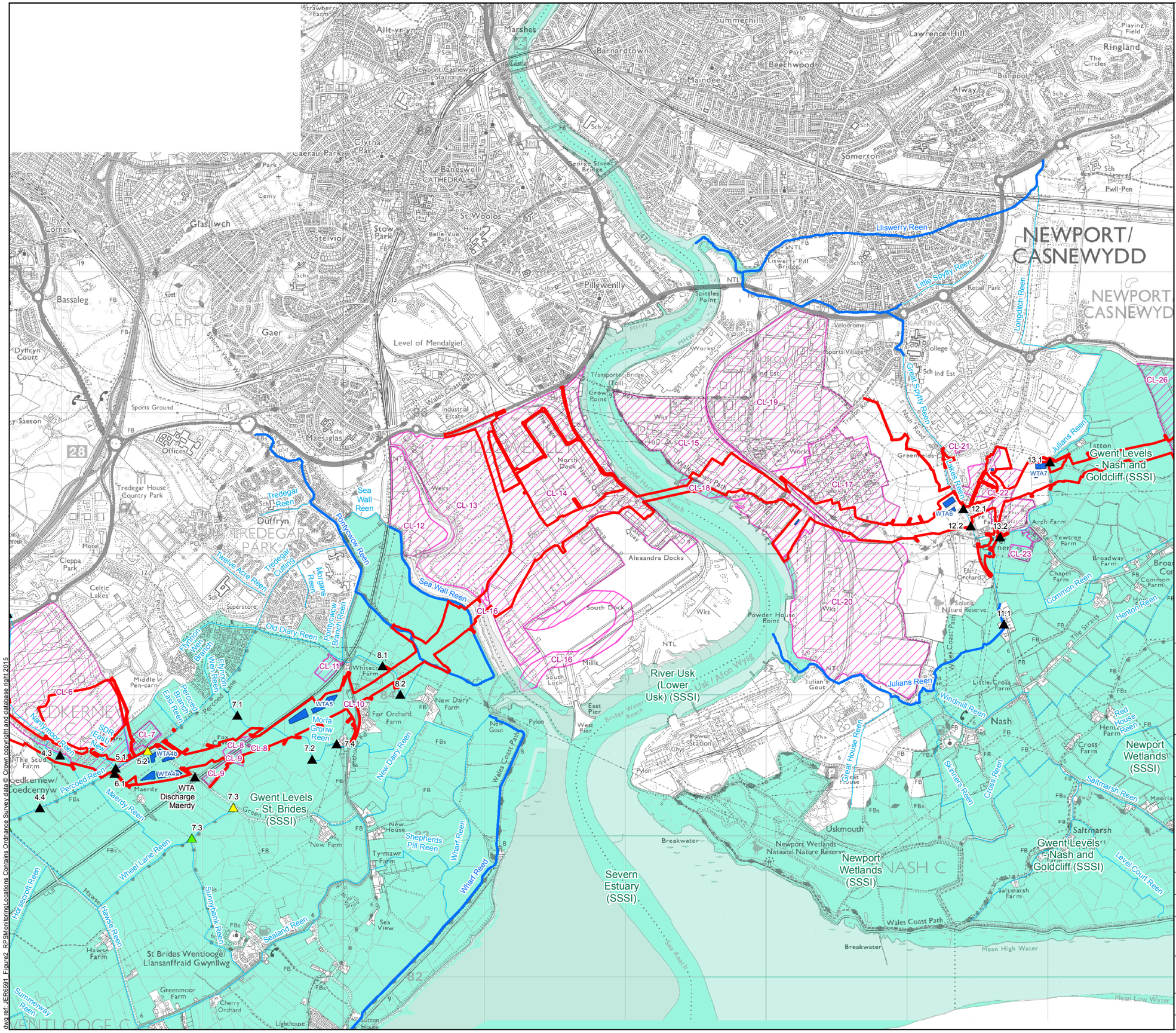

Legend

- Limit of Permanent and Temporary Works for New Section of Motorway
- Proposed Water Treatment Area (WTA)
- Potential Areas of Land Contamination
- Site of Special Scientific Interest (SSSI)
- NRW Watercourse
- Reen

Surface Water Monitoring Locations

- ▲ RPS (2015/16)
- △ RPS (2015) - Q1 Only
- ▲ RPS (2015/16) - Q2-Q4

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Appendix 16.2 - Appendix 12

RPS Surface Water Monitoring Locations (2015 / 2016)

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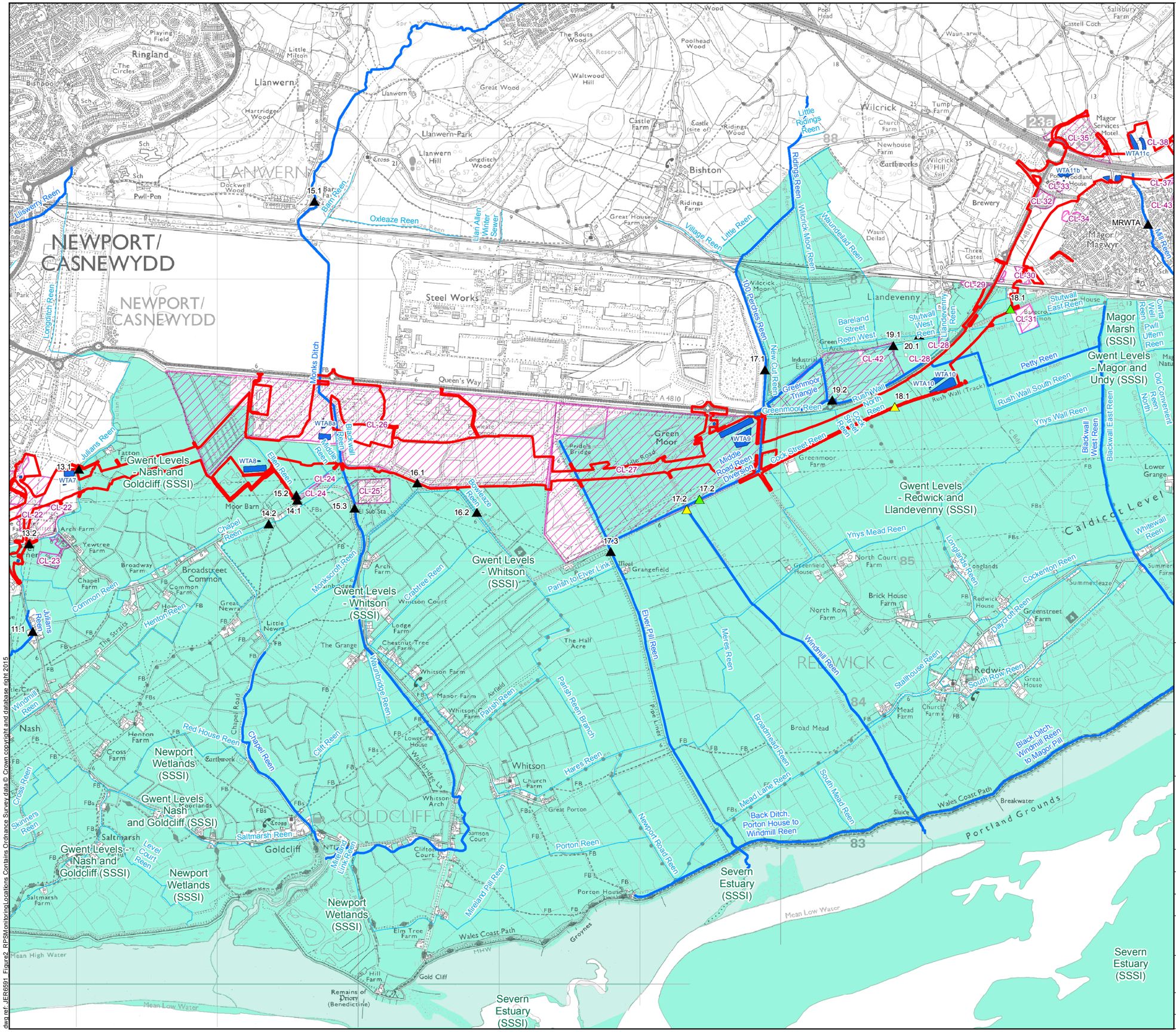

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- Reen

Surface Water Monitoring Locations

- ▲ RPS (2015/16)
- △ RPS (2015) - Q1 Only
- ▲ RPS (2015/16) - Q2-Q4

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Appendix 16.2 - Appendix 12

RPS Surface Water Monitoring Locations (2015 / 2016)

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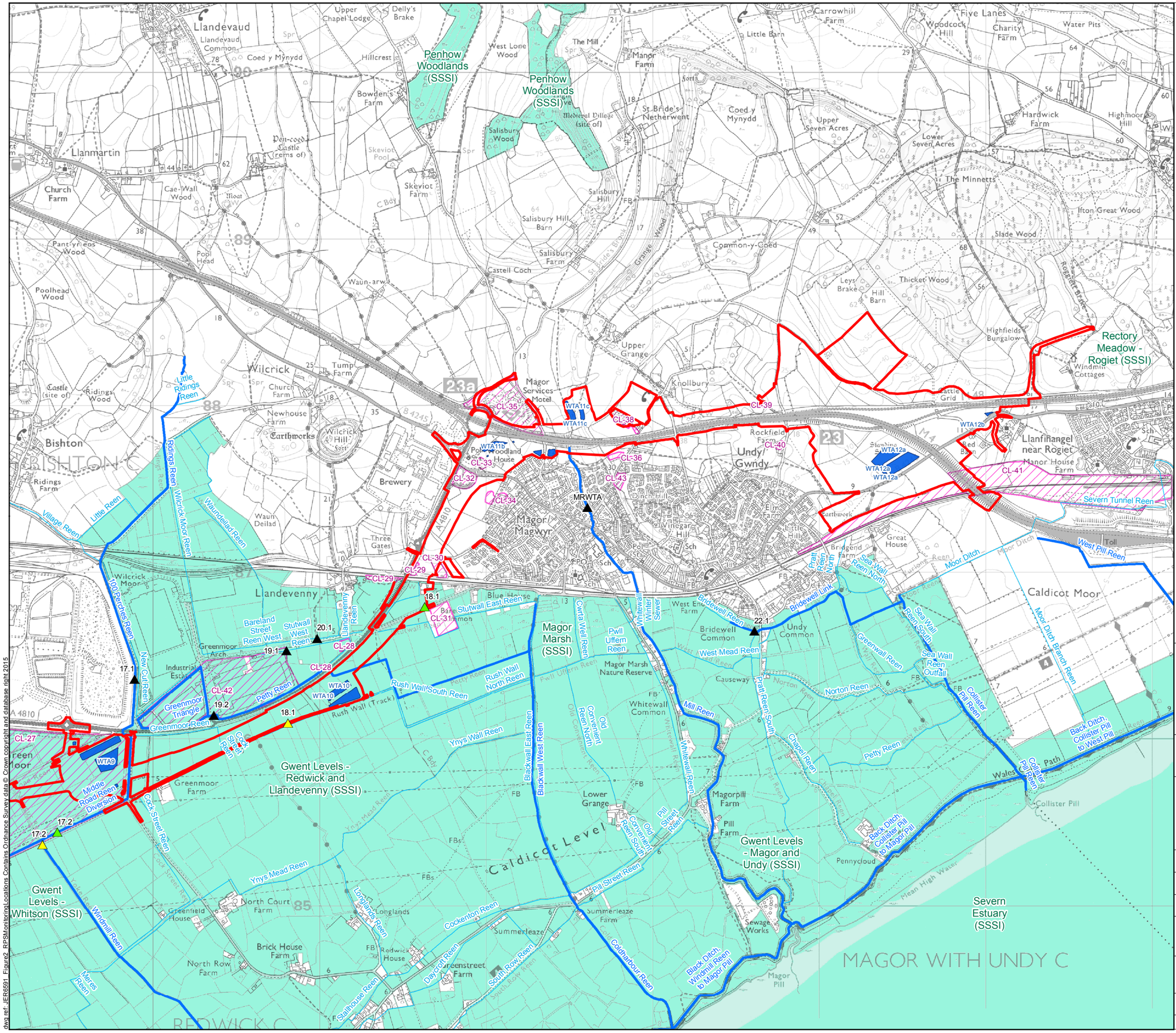

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Surface Water Monitoring Locations

- ▲ RPS (2015/16)
- △ RPS (2015) - Q1 Only
- ▲ RPS (2015/16) - Q2-Q4

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Appendix 16.2 - Appendix 12

RPS Surface Water Monitoring Locations (2015 / 2016)

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Appendices

Appendix 1: CCW Guidance Note Four: Water Quality Monitoring on the Gwent Levels Site of Special Scientific Interest

INTERIM GUIDANCE NOTE ONE
GENERAL GUIDANCE
MONITORING OF PHYSICAL DEVELOPMENTS WITHIN THE GWENT LEVELS SITE
OF SPECIAL SCIENTIFIC INTEREST (SSSI)
COUNTRYSIDE COUNCIL FOR WALES
DRAFT - SEPTEMBER 1996

INTRODUCTION

The Gwent Levels SSSI was notified because of the plant and invertebrate communities associated with the reens and ditches. It is CCWs objective to avoid loss and damage to the special interest of the SSSI. To this end the CCW booklet, 'Nature conservation and physical developments on the Gwent Levels', provides guidelines to minimise the adverse impacts of physical developments on the SSSI. CCW requires detailed monitoring programmes for individual developments to assess these impacts. The large number of development proposals affecting the SSSI has resulted in many requests for advice on survey and monitoring programmes from developers, consultants and local authorities. In response, CCW has collated its information on survey and monitoring on the Gwent Levels into a series of four guidance notes:

1. General guidance note;
2. Flora monitoring;
3. Invertebrate monitoring;
4. Water quality monitoring.

This first guidance note summarises the requirements for an effective programme of monitoring to achieve the following aims:

GENERAL AIMS OF MONITORING

1 To help minimise possible damage to the $SSSI_1$ during construction and operation phases, by triggering pollution control measures, ensuring the effectiveness of on site mitigation measures (e.g. oil interceptors) and identifying where further mitigation measures may be necessary.
2 To ensure new reens and other relevant water bodies develop a value in terms of nature conservation through successful translocation/colonisation of biological communities and adequate water quality.
3 To determine if the scheme causes any significant changes in the nature conservation resource of the SSSI and in particular to identify any detrimental effects of the scheme.

SPECIFIC AIMS OF MONITORING

1 To establish detailed baseline information on water quality, flora and fauna prior to work commencing on the site. Baseline surveying should carried out at points and times agreed with CCW and following CCW methodology. Monitoring points upstream or outside the area of works are required to provide control points during

construction.

2 Baseline monitoring can also identify reens/ditches with interesting species communities for translocation to new reens. Baseline surveying is also undertaken as part of an Environment Assessment for a development.

3 To monitor flora and fauna of the reens at agreed points annually, during construction and up to 2 years post construction, at the agreed time of year.

4 To monitor water quality during construction:

- quarterly at the agreed points (to meet the requirements of 1. above and
- to aid interpretation of any changes in flora and fauna identified);
- on an ad hoc basis (if leaks are suspected and to trace the extent of, and recovery from, a pollution incident);
- at up to 2 years post construction - to ensure a return to the pre-construction situation.

MONITORING PROGRAMME

This section outlines the basic requirements of a monitoring programme for developments on the SSSI. The following issues should be addressed in the production of a monitoring programme:

DURATION

- Baseline - monitoring should commence with a baseline survey a year construction starts;
- Construction - monitoring should continue through the construction phase;
- Operation - monitoring should continue for up to two years into the operational phase of the development.

WATER QUALITY MONITORING - to be conducted quarterly throughout the year, analysing water samples for a number of physical and chemical parameters at predetermined stations. The baseline should commence a year before construction and continue for up to 2 years into the operational phase of the development.

INVERTEBRATE MONITORING - an annual survey of the aquatic/semi-aquatic invertebrate populations at predetermined stations.

FLORA MONITORING - an annual survey of the bankside, emergent, floating and submerged vegetation at predetermined stations.

SAMPLING STATIONS - the number and position of the sample stations should reflect

the variation in ditch management, land use and seral stage. In addition, sample stations should cover the following four categories:

A - sites unaffected by the development;
B - sites within the development area, but to remain as reens/ditches;
C - sites to be infilled or diverted as a result of the development;
D - sites to be created as mitigation reens/ditches.

We recommend that sampling stations for water quality, flora and invertebrate coincide wherever possible. If present on and/or adjacent to the development site, it would be useful if sampling stations used in previous surveys/monitoring programmes were utilised.

PERSONNEL - all monitoring should be undertaken by suitably qualified personnel.

RESULTS - REPORTS AND RECOMMENDATIONS

Water quality monitoring results should be presented in quarterly reports as soon as possible after the samples have been analysed. Supplementary reports may be valuable following ad hoc sampling, e.g. following a pollution incident Water quality reports should present an assessment of the effects of the development on water quality.

Results of flora and invertebrate monitoring, together with a summary of the water quality monitoring results for the year should be submitted in an annual report.

Reports should comprise of the following elements:

- Aims and objectives of the monitoring programme;

- Methodology - to include:
    1. a map indicating position of sample stations and ad hoc sampling when appropriate;
    2. detailed accounts of the methodologies for water quality, invertebrate and flora sampling;

- Results - including:
    1. the full data set recorded at each sampling station;
    2. comparisons of results with relevant previous surveys;
    3. comparisons with previous results of the monitoring programme;
    4. conservation status of the plants/invertebrates recorded;

- Conclusions -
    1. evaluation of the reens invertebrate/floristic diversity;
    2. interpretation of water quality results;
    3. assessment of the efficiency of any reen protection measures

- Recommendations -
    1. for further reen protection measures;
    2. for further monitoring.

- Further guidance

Further guidance on the monitoring of flora, invertebrates and water quality is available from CCW.

INTERIM GUIDANCE NOTE TWO
FLORA MONITORING ON THE GWENT LEVELS SITE OF SPECIAL SCIENTIFIC INTEREST
COUNTRYSIDE COUNCIL FOR WALES
DRAFT - SEPTEMBER 1996

INTRODUCTION

The Gwent Levels SSSI was notified for the plant and invertebrate communities associated with the reens and ditches. This interest is potentially adversely affected by any physical developments and CCW require effective monitoring programmes to assess these impacts. This is the second in a series of guidance notes on survey and monitoring on the Gwent Levels 535 I; it details the requirements for an effective programme of botanical monitoring to achieve the following aims:

1. to identify any impacts of the development on the botanical interest of the SSSI;
2. to establish baseline data for flora prior to work commencing on site. Monitoring points upstream or outside the area of works can provide control points during construction;
3. to identify reens/ditches with interesting species/communities for translocation to new reens;
4. to monitor the flora of the reens at the agreed points annually during construction at the agreed time of year;
5. to monitor recovery of the flora from any adverse impacts;
6. to monitor the development of the botanical interest at sites created as part of any mitigation measures.

SAMPLING STATIONS

Sufficient sampling stations are required to adequately represent the variation in ditch management, land use and seral stage. The baseline survey should be undertaken prior to construction starting. The number of stations and their position would be dependent on the nature and design of the development project that the programme is designed to monitor. The stations should cover all the potential impacts of a development on the special interest of the SSSI. A number of stations either upstream or off the site are recommended to act as control points.

In addition, sample stations should cover the following four categories of reens and ditches:

A unaffected by the development (control sites);
B within the development area, but to remain as reens/ditches and retain the nature conservation interest;
C to be infilled or diverted as a result of the development (for baseline assessment and identification of suitable sources of material for translocation;
D to be created as mitigation reens/ditches

We recommend the use of sampling stations used by previous surveys/monitoring programmes.

To evaluate the range of habitats on site and to decide on suitable locations for sample points, a complete walkover survey of the study area is recommended. A map should be compiled identifying the following features

- Environment Agency waterways, IDB main reens and minor field ditches; reens/ditches with open water;
- reens/ditches dominated *Phragmites* or other emergent vegetation; location of hedgerows and mature trees;
- other field boundaries, e.g. walls, fences;
- land use, e.g. arable, grassland, buildings.

To enable sample stations to be relocated for the duration of the monitoring programme, we recommend that they are clearly identifiable, using marker posts, photographs and physical features unaffected by the development as references. In addition, we recommend plan and cross section sketches at each station are compiled to aid the recording of physical features of the reen and the precise relocation of the site. An example from Gibbs (1991) is attached.

TIMING

Flora sampling can be undertaken between mid May and the end of July, although the optimum period is between late June and early July.

SAMPLING METHODOLOGY

The recommended methodology largely follows that used by Winder et aL (1991).

A 20m section of each sample station should be measured and marked. The following parameters should be recorded at each station:

- water depth;
- turbidity (on a 1-5 scale; 1= clear, 5=turbid); water flow and direction;

- ditch width;
- bank alignment, depth and slope;
- nature of bank vegetation (ie, bare/ short herbs/ monocots and herbs/mixed vegetation including hedges and trees);
- adjacent land use; presence/absence of;
- fencing;
- stock trampling; stock grazing; hedging; hedge height;
- % shade from woody vegetation (trees and hedges$_1$ not due to emergent vegetation
- such as Phragmites;
- ditch and bank management;
- % vegetation cover from submerged , floating, emergent and bank species.

Plant species on the bank and in the reen should be recorded. Aquatic species should be sampled using a drag rake and rope. Numerous dips at each station are required to provide a full assessment of the submerged vegetation.

Bankside/ Emergent I Floating/ Submerged species should be identified separately, with their abundance estimated using the DAFOR scale (Dominant/ Abundant/ Frequent/ Occasional/ Rare).

An example data sheet used by Winder et al (1991) is attached.

IDENTIFICATION

Identification should be to species levels for all plants and should be made on site wherever possible. However, it is recognised that a number of plants are difficult to identify unless they are in flower/ fruit or floating leaves are present, e.g *Callitriche sp.* If plants prove difficult to identify in the field, samples should be taken for later determination. Unidentified/difficult samples should be pressed and identified/confirmed by an independent botanist.

Potamogeton is a critical genus to identify correctly. Relatively small characteristics identify
species of varying rarity. Other important but potentially difficult genera to identify include:

- *Carex*;

- *Callitriche*;
- *Oenanthe*;
- *Ranunculus*;
- *Chara*.

Nomenclature should follow Stace (1991) or Clapham, Tutin and Moore (1989). Nomenclature for Charophytes (stoneworts) should follow Moore (1986).

Useful identification guides are referenced in the bibliography.

SAMPLE STORAGE

Voucher specimens/unidentified material should be pressed for future reference or for identification/confirmation.

REPORTING

Results should be presented in an annual report and include:

- The full data set - species and abundance of plants recorded at each station; comparison of results with relevant previous surveys;
- comparison of results with previous results of the monitoring programme; conservation status of plants recorded.
- evaluation of the success of reen protection measures and mitigation areas;
- recommendations - for alteration of construction/operational methods and for further monitoring.

BIBLIOGRAPHY

Clapham A R, Tutin, T G and Moore D M (1989) Flora of the British Isles. Third edition. Cambridge University Press, Cambridge. ISBN 0521 389747.

Clapham A R, Tutin, T G and Warburg, E F (1981) Excursion flora of the British Isles. Third edition. Cambridge University Press, Cambridge. ISBN 0521 232902. Countryside Council for Wales.

Moore, J A (1986) Charophytes of Great Britain and Ireland. Botanical Society of the British Isles handbooks. BSBI London. ISBN 0901158 16 X.

Stace, C (1991) New flora of the British Isles. Cambridge University Press. ISBN 0521

427932.

Stewart, N F & Church, J M (1992) Red data books of Great Britain and Ireland: Stoneworts: Joint Nature Conservation Committee, Peterborough. ISBN 1 873701 241.

INTERIM GUIDANCE NOTE THREE
INVERTEBRATE MONITORING ON THE GWENT LEVELS SITE OF SPECIAL SCIENTIFIC INTEREST
COUNTRYSIDE COUNCIL FOR WALES
DRAFT - SEPTEMBER 1996

INTRODUCTION

The Gwent Levels SSSI was notified for the plant and invertebrate communities associated with the reens and ditches. This interest is potentially adversely affected by any physical developments and CCW require effective monitoring programmes to assess these impacts. This is the third in a series of guidance notes on survey and monitoring on the Gwent Levels SSSI; it details the requirements for an effective programme of invertebrate monitoring to achieve the following aims:

1. To identify any impacts of the development on the invertebrate interest of the SSSI;
2. to establish baseline data for invertebrates prior to work commencing on site. Monitoring points upstream or outside the area of works can provide control points during construction;
3. to identify reens/ditches with interesting species/communities for translocation to new reens;
4. to monitor the reen invertebrates at the agreed points annually during construction at the agreed time of year;
5. to monitor recovery of the invertebrate interest from any adverse impacts;
6. to monitor the development of the invertebrate interest at sites created as part of any mitigation measures.

SAMPLING STATIONS

Sufficient sampling stations are required to adequately represent the variation in ditch management, land use and seral stage prior to construction starting. The number of stations and their position are dependent on the nature and design of the development project that the programme is designed to monitor. A number of stations either upstream or off the site are recommended to act as control points.

In addition, sample stations should cover the following four categories of reens and ditches:

A unaffected by the development (control sites);

B within the development area, but to remain as reens/ditches and retain the nature conservation interest;

C to be infilled or diverted as a result of the development (for baseline assessment and identification of suitable sources of material for translocation;

D to be created as mitigation reens/ditches.

We recommend the use of sampling stations from previous surveys/monitoring programmes. To evaluate the range of habitats on site and to decide on suitable locations for sample points, a complete walkover survey of the study area is recommended. A map should be compiled identifying the following features:

- Environment Agency waterways/IDB main reens and minor field ditches; reens/ditches with open water;
- reens/ditches dominated Phragmites or other emergent vegetation; location of hedgerows and mature trees;
- other field boundaries, e.g. walls, fences;
- land use, e.g.arable, grassland, buildings.

To enable sample stations to be relocated for the duration of the monitoring programme, we recommend that they are clearly identifiable, using marker posts, photographs and physical features unaffected by the development as references. In addition, we recommend plan and cross section sketches at each station are compiled to aid the recording of physical features of the reen and the precise relocation of the site. An example from Gibbs (1991) is attached.

TIMING

To provide a representative sample of the major groups, invertebrate sampling should be conducted between mid May and mid June and/or late September.

SAMPLING METHODOLOGY

The recommended methodology largely follows that used by Gibbs (1991). Invertebrate samples at each station should be taken along a 50m section of the most accessible bank of the reen. Steep banks, dense vegetation or the presence of stock may force modifications to this method.

If flora monitoring is conducted at a different station, each invertebrate sampling station should be assigned to one of the vegetation categories from Drake (1985: Appendix 9 attached), if flora monitoring is not conducted simultaneously. dominant and abundant plant species should be recorded. The following physical parameters should also be recorded at each station:

- turbidity

- water flow and direction
- adjacent land use
- weather conditions

To sample as wide a range of aquatic and terrestrial invertebrates as possible, it is recommended that the following four collecting techniques are employed:

1 **WATER TRAP SAMPLES.** This technique is designed to collect flying insects attracted to aquatic habitats. Pale grey/white, circular (c.200-3OOmm diameter) pot plant trays. Three at each site to be placed as close to the surface of the water as possible, either direct onto the bank side or supported on canes driven into the reen bank at water level. Each to be filled with 1-2cm of water and a few drops of detergent - to be left in situ for five days in positions undisturbed by grazing stock. Trapped invertebrates are sieved through a fine mesh net and washed out into a container of water for transit.

2 **AQUATIC SAMPLES.** A D-frame dip net (approximate size - 600 cm sq cross sectional area) with a long handle is recommended for this method. At each station, 12 samples to be taken, approximately one every five paces. The net is swept from the bank, through any emergent vegetation$_1$ towards the centre of the reen. The sweep should be as deep as possible, without stirring the sediments. After six sweeps (or less if abundant vegetation fills the net)$_1$ the contents are emptied onto a white plastic sheet tray. All the relevant invertebrates that can be found in 10 minutes are removed to tubes containing killing/fixing solution. All invertebrates from one station can be stored in a single container, however to avoid damage to smaller specimens, Mollusca should be kept in separate containers.

3 **SWEEP NET SURVEY.** This supplementary technique collects species associated with the canopy of emergent and bankside vegetation$_1$ which the water traps are less likely to collect. Quantitative analysis of the sample results is difficult, but this method does add to the site species list for minimal extra time/effort. A triangular sweep net (approximate size 500mm leading edge, 600mm deep bag), with a fine mesh and white bag are recommended. The net is swept through the emergent vegetation along the edge of the reen. The net is swept back and forth at each station for 12 paces. All relevant invertebrates (see 4.2) are then extracted and placed in killing/fixing solution. To prevent damage to the sweep net, dense vegetation (especially brambles) should be avoided. Sweeping wet vegetation results in damaged specimens and should also be avoided.

4 **PITFALL TRAPS.** These traps should be installed in dry ditches instead of taking aquatic samples. These traps should be similar to those used for the water traps. Five traps to be set at each station, one metre apart in a transect along the ditch bottom. Traps should be uncovered and primed with a preservative. They should be in operation for five days.

IDENTIFICATION

Samples to be killed and fixed in an acceptable solution, e.g.

Propyline Phenoxetol 1%
Propylene Glycol 5%
40% Formaldehyde 10%
Made up in distilled water

After a few days the samples may be transferred to a storage solution (see 5).

It is important that the abundance of each taxon should be accurately recorded.

Aquatic samples - Identification to species level and confined to:

Coleoptera
Heteroptera
Ephemoptera
Trichoptera
Odonata (Anisoptera - dragonflies)
Diptera (Stratiomyidae - soldier flies)
Isopoda
Hirudinea
Mollusca
Odonata (Zygoptera - damselflies) Identified to family

Water trap/sweep net samples - Identification to species level and confined to:

Odonata
Coleoptera
Hymenoptera (Symphyta - saw flies)
Diptera Tipulidoidea - crane flies)
(Brachycera - soidier flies, snipe flies, horse flies, etc.)
(Syrphidae - hover flies)
(Sciomyzidae - snail killing flies)

Pit fall traps - Identification to species level and confined to:

Coleoptera
Araneae
Mollusca

SAMPLE STORAGE

The monitoring programme should make clear provision for the storage of voucher

specimens and the deposit of unidentified material.
Samples are recommended for storage in the following solution:

Propyline Phenoxetol 1%
Propylene Glycol 10%
Made up in distilled water

RESULTS

Results should be presented in an annual report and include:

- The full data set should be included - species and abundance of invertebrates recorded;
- Comparison of results with previous surveys (if any);
- Comparisons of results with previous results of the monitoring programme;
- Conservation status of invertebrates recorded.
- Evaluation
- Recommendations for construction/operational methods and for further monitoring.

BIBLIOGRAPHY

Drake C M (1986) A survey of the invertebrates of the Gwent Levels 1985. Nature Conservancy Council.

Gibbs D J (1991) A quantitative base-line survey of the invertebrates of the Gwent Levels 1991. Countryside Council for Wales.

Nature Conservancy Council (1987) British Red Data Books, 2: Insects. Edited by D B Shirt. NCC Peterborough.

CCW Gwent Levels Bibliography

REQUIRED REFERENCES - recommended identification guides and JNCC National Reviews to establish conservation status of sampled inverts.

INTERIM GUIDANCE NOTE FOUR
WATER QUAUTY MONITORING ON THE GWENT LEVELS SITE OF SPECIAL SCIENTIFIC INTEREST
COUNTRYSIDE COUNCIL FOR WALES
DRAFT - SEPTEMBER 1998

INTRODUCTION

The Gwent Levels SSSI was notified for the plant and invertebrate communities associated with the reens and ditches. This interest is dependent on the quality and quantity of water in the reens and ditches and is potentially adversely affected by physical developments; CCW require effective monitoring programmes to assess these impacts. This is the fourth in a series of guidance notes on survey and monitoring on the Gwent Levels SSSI; it details the requirements for an effective programme of water quality monitoring to achieve the following aims:

1 to identify any impacts of the development on the water quality of the SSSI;

2 to establish baseline water quality data prior to work commencing on site and to establish appropriate threshold levels where appropriate. Monitoring points upstream or outside the area of works can provide control points during construction;

3 to monitor the water quality in the reens and ditches during construction, both quarterly at agreed points and on an ad hoc basis;

4 to aid the interpretation of any changes identified by the invertebrate and flora monitoring programme;

5 to act as a trigger to initiate pollution contingency measures;

6 to monitor recovery of the water quality from any adverse impacts;

7 to monitor the water quality at sites created as part of any mitigation measures.

SAMPLING STATIONS

Sufficient sampling stations are required to adequately represent the variation in ditch management, land use and seral stage. The number of stations and their position would be dependent on the nature and design of the development project that the programme is designed to monitor. A number of stations either upstream or off the site are recommended to act as control points.

In addition, sample stations should cover the following four categories:

A sites unaffected by the development;

B sites within the development area, but to remain as ditches/reens;
C sites to be infilled or diverted as a result of the development;
D sites to be created as mitigation reens/ditches.

We recommend the use of sampling stations from previous surveys/monitoring programmes wherever possible.

To evaluate the range of habitats on site and to decide on suitable locations for sample points, a complete walkover survey of the study area is recommended. A map should be compiled identifying the following features:

- Environment Agency waterways, IDB main reens and minor field ditches; reens/ditches with open water;
- reens/ditches dominated Phragmites or other emergent vegetation; location of hedgerows and mature trees;
- other field boundaries, e.g. walls, fences;
- land use e.g. arable, grassland, buildings.

To enable sample stations to be relocated for the duration of the monitoring programme, we recommend that they are clearly identifiable using marker posts, photographs and physical features unaffected by the development as references. In addition, we recommend plan and cross-section sketches at each station are compiled to aid the recording of physical features of the reen and the precise relocation of the site. An example from Gibbs (1991) is attached.

TIMING

Water quality sampling should be undertaken every three months. To be consistent the samples should be taken at a similar time of day and time of year throughout the programme. Water quality may also be required on an ad hoc basis, e.g. following a pollution incident.

SAMPLING METHODOLOGY

At each sampling station it is important to record possible influencing factors, such as weather conditions, recent reen/ditch management as these may have a bearing on the results of the samples.

The following parameters should be recorded on site:

- Temperature (both air and water);

- pH - a quantitative expression for the acidity or alkalinity of a solution;

- Conductivity - a measure of the dissolved salts present in the water;

- Total Suspended Solids (TSS) - high concentrations of suspended solids for prolonged periods may adversely affect the aquatic life. The subsequent settling of the sediment on the bottom substrate and on vegetation may also have an impact;

- Dissolved Oxygen.

Water samples should be taken from the centre of a reen using a long handled dipper. If the dipper comes into contact with the bank or vegetation the sample should be discarded. Samples should be transferred to suitable glassware and stored in chilled containers. The dipper should be thoroughly rinsed with de ionised water between each sample.

Samples should be transported to the laboratory for testing within 6 hours of being taken.

Testing should follow standard laboratory procedures for the following determinands as appropriate:

- Biological Oxygen Demand (BOD) - a measure of the oxygen demand of microbial degradation of organic matter in the water and a measure of organic pollution;

- Ammoniacal Nitrogen (NH and NH) - inorganic nitrogen compounds produced in the decomposition of organic matter. Elevated concentrations are indicative of organic pollution;

- Nitrate (NO_3 - excessive levels of this plant nutrient may lead to excessive vegetation growth, loss of species diversity;

- Nitrite (NO_2- unstable nitrogen compounds, high levels of which may provide evidence of nutrient enrichment;

- Total Oxidised Nitrogen TON) - a total measure of nitrites and nitrites; Phosphorous - an essential plant nutrient, high levels of which can promote excessive plant growth or algal blooms. Orthophosphate is a measure of the inorganic phosphorous which is available for plant growth and naturally present in low concentrations;

- Sulphates - particularly re. PFA/Blast furnace slag.

- Chloride - an indicator of saline influence from, e.g. the estuary, or de-icing salts

from road run-off discharges into a reen;

- Calcium - a naturally occurring metallic element, usually present in ionic form. High concentrations may contribute to a high pH and conductivity.
- Zinc - a potentially toxic metal and is a List II substance under the EC Dangerous Substances Directive;
- Lead - lead is toxic to aquatic plants and animals and tends to be more toxic in soft water;
- Cadmium - Another heavy metal substance and a List I substance;
- Nickel;
- Petrochemicals;
- Total oils and greases.

It may not prove necessary to conduct all of the above tests at all of the stations.

REPORTING

Results should be released quarterly as soon as the data is available. Water quality results should also be summarised in the annual report. Reports should include:

- The full data set of all the parameters tested at each station;
- Comparison of results with previous surveys if applicable;
- An assessment of whether development related effects on the water quality have been detected.
- Evaluation of the success of reen protection measures and mitigation areas.
- Recommendations - for alteration of construction/operational methods and for further monitoring appropriate.

Appendix 2: Surface Water Sampling Locations and Rationale

Sampling Group Name	Group Description	Sample Location	Q1 26th May - 5th June 2015	Q2 28th - 31st July 2015	Q3 13th – 15th October 2015	Q4 26th - 28th January 2016	Monitoring Point Details	Sampling Notes	Other Proximal Monitoring Locations
Pwll Bargoed Reen WTA 1	WTA 1 Possible existing highway run-off (M4/A48/M48)	1.1	✓	✓	✓	✓	Upstream of IDB Main Reen Saturated Channel of Pwyll Bargoed	Representative of potential WTA discharge location	Titan R1
		1.2	✓	×	×	×	IDB Main Reen: Saturated Channel of Pwyll Bargoed	Removed as information is captured within location 1.1.	-
Tyn-Brwyn Reen WTA 2	WTA 2 Possible existing highway runoff Possibly downstream CL-4	2.1	✓	×	×	×	Upstream of IDB Main Reen: Tyn-y-brwyn Reen	Removed as intermittently dry. Not considered to be a representative up gradient sample location.	Titan R2 Arup 1
		2.2	✓	✓	✓	✓	IDB Main Reen: Point of perennial flow within Tyn-y-brwyn Reen	Representative of down gradient location from alignment and WTA 2.	-
Cefn Llogel Farm	Influence of CL-4 (Upstream & Downstream) Possible influence of exiting highway run-off	3.1	✓	×	×	×	Unnamed	Discontinued as an up stream location, situated north of Scheme with unidentifiable connectivity with reens south of alignment.	-
Nantymoor Reen	CL-6 and possible WTA 4a & 4b Upstream / Downstream of Scheme Alignment at IDB main reen crossing Possible effect of existing highway run-off	4.1	×	×	×	×	Originally proposed as upstream of IDB Main Reens and the Scheme	Not sampled as other locations within group provide adequate coverage.	
		4.2	✓	✓	×	✓	IDB Main Reen: Nantymoor Reen (after culverted beneath existing M4)	Provides up gradient location of CL6, alignment and proposed WTA 4b.	-
		4.3	✓	✓	×	×	IDB Main Reen: Nantymoor Reen	Represents outfall from CL6 and also on the proposed alignment.	Titan R3
		4.4	✓	✓	×	✓	IDB Main Reen: Percoed Reen	Provides down gradient comparable location of alignment and CL6, and possibly WTA.	Titan R4
Electricity Substation	CL-7 & WTA 4b & 4a Upstream point on IDB Main Reen	5.1	✓	×	×	×	Field Drains discharging to IDB Main Reen: Percoed Reen	Removed as location 5.2 should capture sufficient data	
		5.2	✓	✓	✓	✓	IDB Main Reen: Percoed Reen	Provides water quality at upstream location of Percoed Reen and in the vicinity of CL 7 and near proposed WTA	-
Maerdy Farm WTA	Newly proposed WTA at Maerdy Farm	6.1	✓	×	×	×	IDB Main Reen: Hawse Reen	WTA that location was capturing has been modified	Titan R5 b/w 6.1 & 6.2
		6.2	×	×	×	×	Proposed to capture new WTA at Maerdy Farm collected downstream.	WTA moved	Titan R5 b/w 6.1 & 6.2
Green Lane Landfill	CL-8 & CL-9 WTA 5 Upstream & Downstream of Scheme at IDB main reen crossing	7.1	✓	✓	✓	×	IDB Main Reen: Morfa Gronw Reen	Representative of WTA and CL7	Titan R5 b/w 6.1 & 6.2
		7.2	✓	×	×	×	IDB Main Reen: Morfa Gronw Reen	**S**ampled in Q1. Information is captured within location 7.4, further downstream.	Titan R5 upstream of 7.2
		7.3	✓	✓	×	✓	IDB Main Reen: Wheel Lane Reen	Downstream of alignment capturing multiple requirements: WTA 5, CL8 and CL9.	N
		7.4	✓	✓	×	×	IDB Main Reen: Morfa Gronw Reen	Other sample location capture information	
Whitecross Farm	CL-11 Upstream & Downstream of Scheme at IDB main reen crossing	8.1	✓	✓	×	×	IDB Main Reen: Old Dairy Reen	Removed as IDB Main Reen crossed by alignment	
		8.2	✓	×	×	×	IDB Main Reen: Old Dairy Reen	Removed as IDB Main Reen crossed by alignment	Downstream of Titan R7, near Arup 3
Afon Ebbw	NRW Watercourse	-	×	×	×	×	Ebbw River	Water quality monitoring undertaken by NRW	
Alexandra Docks	CL13; CL14; CL16	-	×	×	×	×	Alexandra Docks		
Afon Usk	NRW Watercourse	-	×	×	×	×	Usk River		
Mir Steel Works	CL-20; CL22; CL23	11.1	✓	✓	×	×	NRW Watercourse: Julians Reen	Represents quality of NRW main reen (Julians Reen) at point down gradient of alignment.	
Pye Corner WTA 6	WTA 6 Upstream & Downstream of Scheme on main reen	12.1	✓	×	×	×	IDB Main Reen: Lakes Reen	Sampled in Q1. Discontinued as data captured by Location 13.1.	Arup 5
		12.2	✓	✓	✓	✓	IDB Main Reen: Lakes Reen	**P**rovides down gradient location of WTA and alignment.	Downstream of Titan R8
Pye Corner WTA 7 & Llanwern Research Labs	WTA 7 CL-22 & CL-23 Upstream and downstream of alignment on main reen	13.1	✓	✓	✓	✓	IDB Main Reen: Julians Reen	Provides data for WTA, on a main reen.	Hyder
		13.2	✓	✓	×	×	IDB Main Reen: Julians Reen	Removed as data captured by 13.1	Just downstream of Titan R9
Llanwern WTA 8	WTA 8 CL-26	14.1	×	✓	✓	✓	IDB Main Reen: Ellen Reen	**C**L26 and potential WTA discharge point. Location has been moved further downstream on Ellen Reen due to access issues.	Titan R11; Arup sample from field drain within CL-26
		14.2	✓	✓	×	×	IDB Main Reen: Chapel Reen	Uncertain continuity with WTA. Data captured by 14.1	Hyder

Sampling Group Name	Group Description	Sample Location	Q1 26th May - 5th June 2015	Q2 28th - 31st July 2015	Q3 13th – 15th October 2015	Q4 26th - 28th January 2016	Monitoring Point Details	Sampling Notes	Other Proximal Monitoring Locations
Llanwern - Monks Ditch	CL-26 & CL-25 WTA 8	15.1	✓	✓	✗	✗	Monks Ditch U/S of Llanwern	Up stream of CL26 and WTA discharge to main reen.	N
		15.2	No Access	No Access	✓	✓	NRW Watercourse : Black Wall Reen	No access until Q3. Downstream of CL26 and WTA discharge.	Hyder
		15.3	✓	✓	✗	✗	NRW Watercourse: Monks Ditch	Removed as CL site location	
Llanwern - Monkscroft / Bowleaze Reen	CL-26 & CL-25	16.1	✗	✓	✗	✗	Boundary drain of CL26	Removed as CL site location	N
		16.2	✓	✓	✗	✗	IDB Main Reen: Bowleaze Reen	Removed as CL site location	Titan R13
Llanwern WTA 9	CL-27 and WTA 9	17.1	✓	✓	✓	✓	NRW Watercourse: 100 Perches Reen	NRW Main Reen, up gradient of WTA, alignment and CL27. Perennial flow.	Titan R15
		17.2	✓	✓	✗	✗	NRW Watercourse: Middle Road Reen	Became dry. Discontinued	Titan R16
		17.3	✓	✗	✗	✗	NRW Watercourse: Elver Pill Reen	**S**ufficient data in surrounding location collected	Titan R14
Rush Wall North Reen WTA 10	WTA 10	18.1	✓	✓	✓	✓	IDB Main Reen: Rush Wall North Reen	Likely to be receiving watercourse of WTA discharge.	Titan R17 and Arup 9
		18.2	✗	✗	✗	✗	Bareland Street Reen West	Not collected in Q1 or Q2. Location 20.1 representative.	
Tesco Distribution Centre	CL-42 Upstream & Downstream of Scheme on NRW watercourse	19.1	✓	✓	✗	✗	NRW Watercourse: Greenmoor Triangle / Petty Reen	Sampled in Q1 and Q2**.** WTA discharge is to Bareland Street Reen, captured by location 20.1.	Titan R18 near (but dif. System?)
		19.2	✓	✓	✗	✗	NRW Watercourse: Petty Reen	NRW Main Watercourse and confluence of Greenmoor Triangle.	N
Bareland Street Reen WTA 10	WTA 10	20.1	✓	✓	✗	✗	IDB Main Reen: Bareland Street Reen West	Representative of WTA discharge.	Titan R21 / Arup
Mill Reen WTA 11	WTA NRW Main Watercourse crossed by alignment	MR WTA	✗	✓	✓	✓	NRW Watercourse: Mill Reen	Collected in Q2 onwards following update to WTA locations	
Church Road WTA 12	WTA 12 CL-41	22.1	Dry	Dry	✗	✗	IDB Main Reen: Pratt Reen North	Dry	Titan R20 and Arup 11

Appendix 3: Risk Assessments and Method Statements

Contract Name: M4CaN

Contract Number: 2500340

Sub-contractor: RPS

Risk Assessment / Method Statement Number: 005

Method Statement Title: RPS surface water Monitoring – Preliminary Site Evaluation and Sampling

Issue	Date	Author	Checked	Description of the amendment
01	18/05/15	RPS	Kath Sanders	

For Method Statements prepared by a Sub-contractor for his activity. Completion of this form it indicates that CVJV has checked the content, but this does not relieve the contractor / sub-contractor of any of their responsibility for Health & Safety and the Environment. This remains the responsibility of the organisation carrying out the task described. ALL REVIEWS CARRIED OUT MUST BE DATED.

CVJV Limited Approval: _____ **Date:** 20/5/15
(Project Manager or nominated person)

External Approval: _____(If required) **Date:** _____
(e.g. Client, Designer etc.)

Receipt Acknowledgements: _____ **Date:**_____
(Sub-contractor/Supervisor/Manager)

Distribution:

Name	Company	Position
Richard Graham	RPS	
Emily Harris	RPS	

RAMS Review Record:

Date	Reviewer	Comments/Reason for review
Review date	*Reviewer's name*	

Subcontractor Method Statement Evaluation Sheet

When reviewing the SHE Method Statement of a Sub Contractor, the following should be considered to evaluate the information. The list is not exhaustive and supervisors/engineers should use their own experience in completing the form.

Project	**M4Can**
Method Statement Title	RPS surface water Monitoring – Preliminary Site Evaluation and Sampling
RAMS Ref.	**005**

			YES	NO
1.	Has the work activity been identified?		✓	
2.	Check that all foreseeable risks to health, safety and the environment have been assessed via a structured risk assessment procedure:			
	(a)	Process been identified i.e. are all the specific hazards identified?	✓	
	(b)	Are the persons who are at risk identified?	✓	
	(c)	Have the risks been quantified i.e. High/Med/Low or 1, 2, 3 etc?	✓	
	(d)	Have effective control measures been put into place?	✓	
3.	Check that adequate health, safety and environment arrangements have been specified in the Method Statement:			
	(a)	Supervisor in charge of operations named?	✓	
	(b)	Has a person(s) been appointed to take charge of SHE issues?	✓	
	(c)	Has communication with the Principal Contractor been established?	✓	
	(d)	Has information, instruction and training been given due regard?	✓	
	(e)	Are emergency arrangements detailed inc. rescue from height / confined space etc?	✓	
4.	Check that the Method Statement is compatible with the HASEMP and addresses the following:			
	(a)	Are emergency plans (including fire and environmental emergency) compatible?	✓	
	(b)	Are measures for site security, storage and waste management as required?	N/A	
	(c)	Are Site SHE rules being given due consideration?	✓	
	(d)	Has the scope/description of work been adequately identified?	✓	
	(e)	Is the sequence of operations clearly detailed in logical steps?	✓	
	(f)	Do these steps have hold points for key requirements such as the issue of permits?	✓	
	(g)	Do these steps cover all the activity from start to finish?	✓	
	(h)	Is plant and equipment needed for the activity clearly detailed?	✓	
	(i)	If lifting operations are included, is reference made to the Lifting Plan & Permit To Lift?	N/A	
	(f)	Is interface & coordination with other activities / operations covered?	N/A	
5.	Check that the Method Statement is compatible with the work of other contractors:			
	(a)	Are there any specific hazards required e.g. requirements for noise, COSHH, manual handling, welfare etc.	N/A	
	(b)	If there are specific hazards such as COSHH, manual handling, noise, vibration etc. are there separate and suitable assessments?	N/A	
6.	Check that all Permits below have been identified as hold points stating that the permits must be in place before that activity can commence			
	(a)	Permit to Dig	N/A	
	(b)	Confined Space Permit	N/A	
	(c)	Hot work Permit	N/A	
	(d)	Permit to Work Adjacent or Under H/V Overhead Cables	N/A	
	(e)	Permit to work on Electrical Equipment	N/A	
	(f)	Other permits (e.g. access permit from client), licences or consents	✓	

Use the answers to the above questions to determine if further investigation will be required. On completion of the evaluation, the form **MUST** then be appended to the Method Statement. This form **MUST** be signed by both parties: CVJV and the subcontractor.

Signed	**Signed**
Name	**Name**
Position in M4CaN CVJV	**Position in Subcontractor**
Date	**Date**

M4 CaN: Surface Water Monitoring - Preliminary Site Evaluation & Sampling

Site address and location: Area surrounding proposed alignment of M4 Corridor around Newport 'Black Route' (see plans attached)		**Ref /job/project No.** JER6591_MS_SWSampling
Task / Activity: Preliminary evaluation of proposed surface water monitoring locations associated with baseline monitoring of surface water quality within the Gwent Levels and other watercourses on and surrounding the proposed alignment of the M4 CaN. Surface water sampling, flow monitoring and level measurement.		**Complied by:** Emily Harris **Revision:** Rev0
Company working for: Costain	**Date work is taking place:** *TBC*	**Date:** 06/05/2015

Description of task (how the job is to be done)

Scope

As part of RPS' involvement in delivering KS3 of the M4 Corridor around Newport, surface water monitoring and site inspection are to be undertaken on the reens and other watercourses that may be affected by the proposed alignment. This method statement specifically relates to surface water monitoring as described within the Water Monitoring Strategy and should be reviewed in conjunction with the following additional RAMS documents:

- M4 CaN RAM004: Initial Site Visits and Inspections
- Risk Assessments 150506JER6591RA_SW_Sampling

This method statement applies to RPS personnel who have been assigned to carry out the baseline surface water monitoring and associated site walkovers. This method statement does not apply to personnel who require access to ABP, TATA or Solutia land, with this work being addressed under separate, site specific, RAMS in addition to site specific inductions.

The site works for surface water monitoring are intended to gain a baseline dataset at specific reens and other water courses, primarily within the Gwent Levels. The principal objective of these works is to determine the appropriateness / feasibility of proposed monitoring locations and to identify all significant site-specific constraints relevant to the proposed monitoring. This work will also include taking water samples, undertaking flow gauging and water level measurement to determine hydraulic connectivity, flow rates and flow directions within the system at each monitoring location. All work shall be carried out in pairs. No lone working is permitted.

Preparations

RPS personnel will not be permitted to carry out the works until they have received a signed letter from Welsh Government, authorising them access to the land. This letter will only be granted following the completion of a site induction, a record of which shall be kept on the personnel's M4 CaN Induction Record. Where it is necessary to enter private land for the purpose of accessing a proposed surface water monitoring location, Brian Greaves shall be contacted **at least 14 days** before attending site, so to make contact with the landowner. A Point of Work Risk Assessment (POWRA) (as per RAM S004) must be completed prior to attending site.

Day of Sampling
The personnel scheduled to go on site shall undertake a Start of Shift (SoS) briefing that adheres to the outlined requirements within Costains SHE-T-236 and SHE-T-251 and addresses key points from the Point of Work Risk Assessment (POWRA) (as per RAMS004). Any vehicles required to get to site will undergo a standard check. The laboratory shall be called to arrange sample pick-up from an appropriate location (e.g. RPS Offices and M4 CaN project office). Ice packs shall be placed in all cool boxes to be used for sample storage and transportation to the designated laboratories.

Sample Locations
Each proposed sample location is shown on the plans attached. Whilst it is intended to sample from the identified locations, final sample locations may be subject to change pending the condition of the reens and whether a sample maybe obtained safely. The proposed routes for access will be pre-arranged pending confirmation of land access with Brian Greaves. Where possible, footpaths will be used to access locations. The sample groups and associated locations are identified in *Table 1* appended to this method statement.

Where required to survey adjacent to live carriage ways, the requirement of RAMS004 shall be adhered to. Work is limited to 15 minutes with any work scheduled to exceed this requiring traffic management. If working in pairs, one person should carry out the work whilst the other observes for oncoming traffic, providing warning upon the approach of a vehicle when up to 300m away.

For each sample location a field sheet shall be completed to collate detailed information regarding the different surface water monitoring locations. This should specifically be done in instances where the location of the sample has deviated from the proposed location. Using a hand held GPS, the National Grid Reference of the location shall be recorded for future sampling. Photographs should also be taken of both the sample location and the approach to point. A photographic record of the local surface water system shall also be provided, with the location and orientation of photos marked on the detailed site plans.

Surface Water Sampling
Two people must be present during surface water sampling. The designated sampler (RPS Consultant) shall wear an inflatable life jacket / buoyancy aid when sampling. A preliminary reconnaissance shall be undertaken in advance of sampling to determine:

- Significant site-specific hazards associated with proposed sample locations (including consideration of bank stability / gradients; bank structure / surface conditions; ease of access to water; overhead constraints / hazards; and lateral constraints considering length of extendable pole;
- Safest sampling location; and
- Safest sampling approach.

Where the preliminary site evaluation demonstrates that a water sample can be taken safely using an extendable pole and bottle holding attachment (i.e. grab sample) a water sample shall be taken. No watercourses shall be entered during these preliminary sampling works. However, in the event that access into the water body is considered to be the most appropriate sampling approach this shall be noted and a photographic record taken for discussion with the project H&S manager upon return to the office. On the basis of this office based review, the final site-specific monitoring approach shall be defined and the MS updated accordingly. Note that a water body could only be entered if it can be determined that the channel bed is firm (i.e. solid substrate), there is safe access to the water-edge (e.g. shallow gradients or steps) and the water level that does not exceed foot depth (c. 10 – 15 cm). Where these conditions are not met sampling shall be undertaken from a safe position on bankside. All sample locations shall be photographed for future reference.

Where there is a risk of falling into a significant water course (e.g. steep banks, channel walls, bridge sampling point above water course), the RPS consultant undertaking the sampling shall wear the safety harness and secure the safety line to an appropriate support structure to eliminate the possibility of falling into the surface watercourse. The harness is not required when sampling small, shallow channels characterised by low flows where a safe means of access has been identified during reconnaissance. The RPS consultant must have been trained in use of the harness in advance of the monitoring round. The second person shall observe the sampling form a safe location, in case of emergency involving sampler.

The sampling approach shall conform to the methodology of former-CCW Monitoring Protocols (1996) attached. A clean sample container shall be fixed to the bottle holder attachment for the extendable pole. The container shall be submerged in the surface water course rinsed three times. A sample shall be taken from below the water surface. Water shall be decanted into the required clean, pre-labelled sample containers (see below). To avoid injury / accident during sampling, over extension with the pole extended shall be avoided. The time of sampling shall be recorded. A record of any visual and olfactory characteristics of the water shall be recorded, including the presence of any hydrocarbon sheens etc (this shall include notes regarding detailed sample location and general water quality in the vicinity of the sample location).

A single split / blind duplicate sample shall be taken from one selected borehole for QA purposes. The sample containers will be clearly labelled with date, sample location and project code. Sample containers will be rinsed three times before sampling. All sample containers shall be filled to the top, making all efforts not to trap any air within the container. Sample bottles shall be placed in cool box with ice packs. Samples from potentially contaminated locations shall be placed in a sealed plastic bag sealed or separate cool box.

Flow Gauging and Water Level Measurement
During the preliminary monitoring round, each sample location shall be evaluated for its suitability for measurement of water levels and gauging of flow. Flow gauging will only be undertaken in subsequent monitoring rounds after discussion with the project H&S manager regarding the proposed approach in light of site constraints and review of the photographic record. This shall include consideration of access to gauging points, the need or otherwise of entering the water course, bed substrate etc. A site-specific flow gauging methodology will be developed for subsequent monitoring round.

House Keeping
ALL waste materials shall be collected and sealed bin liners and taken off-site for appropriate disposal. When working around potentially contaminated sites, RPS personal shall ensure that PPE and equipment has been cleaned sufficiently prior to attending other surface water monitoring locations that maybe within designated areas (e.g. SSSI).

Appointed person/s

Brian Greaves	*Email: brian.greaves@costain.com*

Personnel involved

Company Personnel	Position	Contact details
Liz Williams	Senior Environmental Consultant	Tel: 02920 668662 | williamsL@rpsgroup.com
Adrian Green	Senior Hydrogeologist	Mob: 07919 215450 | greenAd@rpsgroup.com
Emily Harris	Hydrogeologist	Mob: 07825 402082 | emily.harris@rpsgroup.com
Emily France	Environmental Consultant	Mob: 07786 395126 | emily.france@rpsgroup.com
Emma Robertson	Geo-environmental Consultant	Mob: 07887 762051 | emma.robertson@rpsgorup.com
Laboratory:		**Contact details**

Principal Hazards present on site

Working near active carriage ways Surface Water Course (drowning or serious injury) Lone working	Contaminated groundwater / water (chemical contaminants, vapours and/or microbiological pathogens) Manual handling Adverse Weather

Risk assessments (generic & on-site)

150506TJER6591_RA_SW_Sampling RAMS004 (Costain)	

Control measures (safe systems of work)

GG-SSW001-Driving, Driving Manual, Winter driving guide PDSSOW/016-Working on construction Sites PDSSOW/032-Working in or Near Water_Nov14 PDSSW001-Adverse Weather M4 CaN KS3 Site Rules for Walk Overs Costain: SHE-T-236 Costain: SHE-T-251 Point of Work Risk Assessment (POWRA)	

Certification/Qualifications Required?

CSC Card Holder
Welsh Government Authorisation Letter (access to land)
Induction (as recorded on personnel's M4 CaN Induction Record
Medical Test (in addition to Drugs and Alcohol)
Start of Shift Briefing

Equipment to be used (tools, plant, safety, PPE etc)

PPE
Hi Visibility clothing
Hard hat
Safety footwear
Gloves (Disposable nitrile gloves)
Safety glasses

Surface Water Sampling
Extendable pole and bottle holding head
Buoyancy Aid / Life Jacket
Safety Harness and rope
Sample containers,
Cool boxes
Ice packs
Chain of Custody Forms

General Equipment
Sounding pole to determine river / surface water body substrate.
Camera
Note book
Pens / pencils
Permanent marker
Maps (site specific [sample locations/groups] and regional)
Parcel tape

Personal Hygiene / Cleaning / First Aid
Bottled Clean Water for Rinsing
Blue Towel
First Aid Kit
Wipes & Hand gels
Blue paper towel

Risk Assessment

RPS Planning & Development	Risk Assessment Ref:	Method Statement:
M4CaN M4 Corridor around Newport	**150506JER6591_RA_SW_Sampling** Reviewed: 06/05/2015 **Should be reviewed in conjunction with RAMS004.**	150506JER6591_MS_SW_Sampling Reviewed: 06/05/2015 **Should be reviewed in conjunction with RAMS004.**

Activity:
Surface water monitoring at multiple locations surrounding the proposed alignment of the M4 Corridor around Newport

People at risk	RPS Staff undertaking sampling	Risk rating before control measures	Risk rating after control measures

Hazards	Cause of hazard and potential consequences.	A Severity of hazard 1 = property 5 = fatality	B Likelihood 1 = unlikely 5 = certain	O/A risk rating A x B	Control Measures	C Severity of hazard 1 = property 5 = fatality	D Likelihood 1 = unlikely 5 = certain	O/A risk rating C x D
Travelling to and from site	Collisions with road users, pedestrians or driving off road.	5	3	15	***Adhere to RPS driving guidance.*** Conduct a vehicle check prior to driving. No medication which may affect the ability to drive to be taken if driving. Stop for break if become drowsy during journey to / from site. Do not use mobile phones or other equipment when driving.	5	1	5
Slips/Trips/Falls	Uneven ground, vegetation concealed holes, trailing cables, surface water or wet weather conditions. Unstable embankments (wetlands, bogs. silt). Risk of serious injury, sprains & strains, fractures, concussion.	3	3	9	Conform to site H&S requirements. As a minimum hi visibility clothing must be worn, with appropriate protective footwear. Evaluate all walking routes, keeping to pedestrian pathways or tracks. No uncontrolled walking over areas of broken / demolished ground. No use of mobile phones when walking. Avoid spills / standing water	3	2	6

Hazards	Cause of hazard and potential consequences.	A Severity of hazard 1 = property 5 = fatality	B Likelihood 1 = unlikely 5 = certain	O/A risk rating A x B	Control Measures	C Severity of hazard 1 = property 5 = fatality	D Likelihood 1 = unlikely 5 = certain	O/A risk rating C x D
Vehicles, working near carriage ways, live traffic	Vehicle and plant movements. Collision with own personnel and vehicles along carriage way. Risks of severe injury or death	5	3	15	Conform to H&S requirements. Wear appropriate PPE including high visibility clothing. Do not use mobile phones when walking. Stay on designated pathways / footpaths where possible. Cordon off work / investigation areas. Monitoring locations near carriageways should be carried out during off peak hours. No lone working. Always face oncoming traffic and remain behind crash barriers where possible. Maintain 1.2m between carriageway and site team at all times. Use designated crossing points. No stopping on the M4/M48/A48(M).	5	1	5
Mobile phones	Using mobile phones near carriage ways, water courses, whilst driving. Becoming distracted, potential injury/fatality through collision or slips, trips, falls.	3	3	9	Mobile phones not to be used whilst driving. Whilst on site, mobile phones should only be used in emergency situation, and in areas of stable footing. Should be not be used adjacent to carriage ways.	1	2	2
Railways	Working near rail traffic. Collision with RPS personnel and rail traffic.	5	2	10	No entry of Network Rail Land/Property. Railways in the docks are not lined with barriers and set at the same height as roadways. Where necessary, use designated level crossings to cross lines: Stop, Look, Listen.	4	1	4
Contaminated land, toxic or hazardous materials including asbestos	Hazardous substances, biological (pathogens), chemicals, and ground gas. Risk of adverse health, severe illness, injury or death	5	2	10	Wear appropriate PPE as detailed within method statement. Follow good hygiene practices before eating/drinking and after finishing work. If unanticipated contaminated materials are identified, stop, make safe the working area, and reassess the need for suitable control measures. Do not continue works until a satisfactory solution has been agreed by all involved.	5	1	5
Adverse weather conditions	Working in extreme cold, wet or hot conditions. Risk of hypothermia, frostbite from cold conditions, slipping tools in wet hands/gloves. Risk of sun burn / heat stroke in hot weather	3	3	9	Follow RPS Safe System of Work (PD/SSOW/001). Wear clothing that is appropriate to weather conditions and meets PPE requirements (hats/ gloves etc.). Use sun cream and frequent rehydration in hot weather. Wear long sleeves, trousers, hats and glasses.	3	1	3

Hazards	Cause of hazard and potential consequences.	A Severity of hazard 1 = property 5 = fatality	B Likelihood 1 = unlikely 5 = certain	O/A risk rating A x B	Control Measures	C Severity of hazard 1 = property 5 = fatality	D Likelihood 1 = unlikely 5 = certain	O/A risk rating C x D
Manual Handling (equipment, water containers, cool boxes etc).	Poor lifting / manual handling techniques leading to slips/trips/falls/sprains, cuts and abrasions.	3	3	9	Split loads. All personnel required to have undergone basic manual handling training. Use of competent staff. Only take minimum equipment required and do not exceed 20kg.	3	1	3
Contaminated Surface Water	Accidental exposure to contaminated groundwater through splashes / ingestion when sampling	4	2	8	Appropriate PPE (gloves, long sleeves, eye protection). Personal hygiene precautions.	4	1	4
Drowning	Lack of training or equipment Unable to swim Life Jacket, buoyancy aid or harness and rope not used Risk of death	5	3	15	PD/SSOW/032. No surface water sampling to be undertaken alone (second person needed). The sampler shall not enter the water body to sampled. Safe / stable sampling location shall be determined by site reconnaissance before sampling. Sampler shall where buoyancy aid when sampling. Harness shall be worn where there is the potential to fall in the channel as identified in the reconnaissance. Have throw line available.	3	2	6
Hostile situations	Entering private land, disturbing land owners Physical violence, verbal abuse.	3	2	5	No long working. RPS Personnel shall not enter private land without prior preparation and organisation via Welsh Government and Brian Greaves. Should any confrontational situations be encountered, personnel shall withdraw from the site and report the incident to the Public Liaison team.	2	1	2
Lone working	Limited communications, delayed first aid response	3	3	9	No lone working permitted. All work should be carried out in pairs, as a minimum.	1	1	1
Pathological hazards	Weil's disease, Tetanus, Cryptosporidium Risk of infection leading to serious illness	4	4	16	PD/SS0W/032 Personal hygiene precautions	2	2	4

Information, instruction & training requirements:
Before carrying out site works, personnel shall undergo appropriate inductions All personnel attending site will begin with Start of Shift briefing. This should address key outcomes of Point of Work Risk Assessment (POWRA). Ensure appropriate PPE available Ensure appropriate clothing is worn.

Further action required:	
Prepared by: Emily Harris **Position:** Hydrogeologist, SW Environment Team (RPS)	Signed: EH
Reviewed by: Richard Graham **Position:** Associate Director	Signed: RG
Date: 07/05/2015	

Please use the table below to decide on the likelihood and overall risk for each hazard

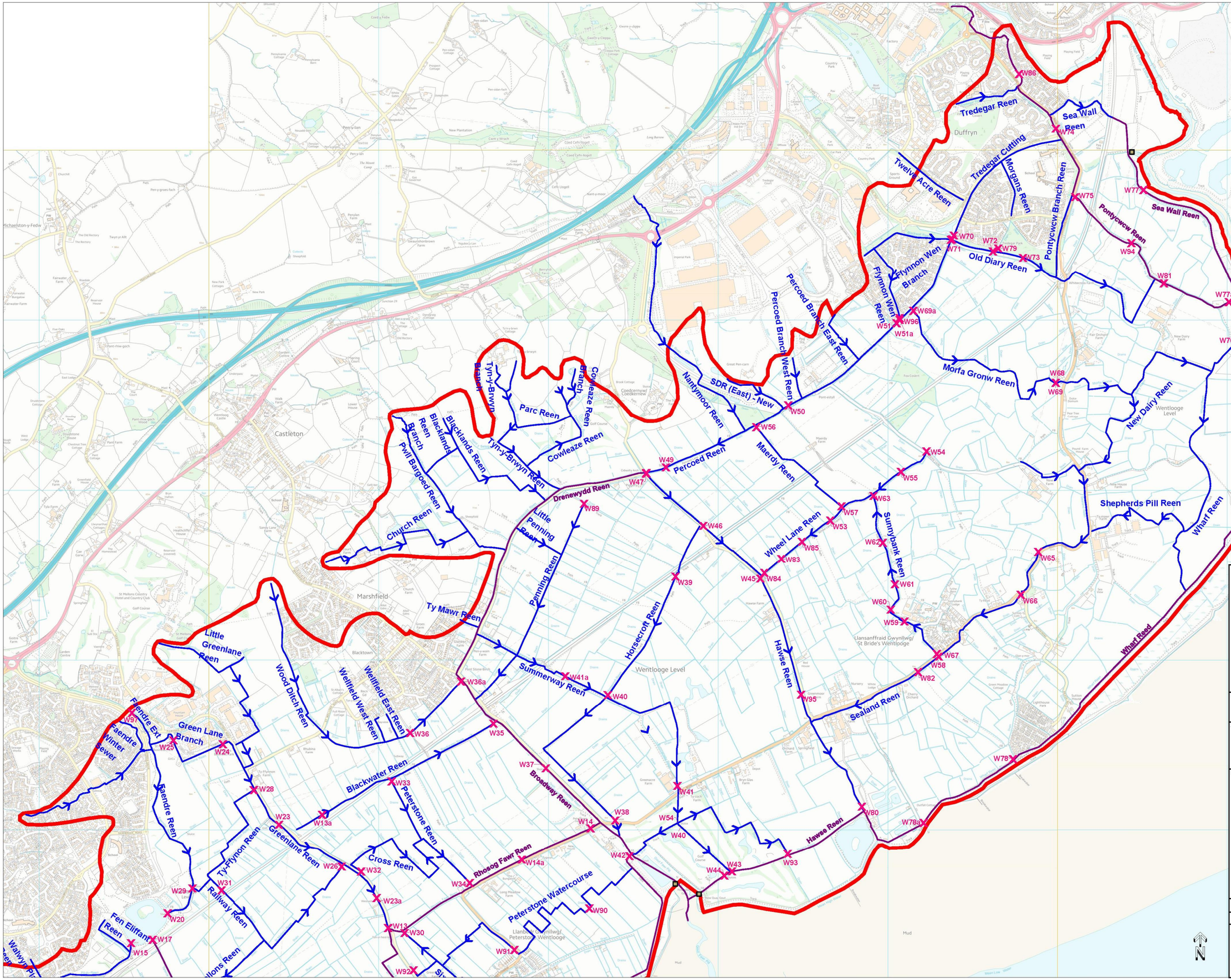
Risk Assessment Severity v Likelihood Matrix

			1	2	3	4	5
			Unlikely	Low	Medium	High	Certain
SEVERITY	1	Property Damage	1L	2L	3L	4M	5M
	2	Minor	2L	4M	6M	8M	10H
	3	Moderate	3L	6M	9M	12H	15H
	4	Serious	4M	8M	12H	16VH	20VH
	5	Fatality	5M	10H	15H	20VH	25VH
			LIKELIHOOD				

Severity	Likelihood
1. Minor **Property Damage** only	1. **Unlikely** (probably will not occur)
2. **Minor** Injury – (first aid only) (And/Or Minor Regulation Non-Compliance)	2. **Low** (may occur)
3. **Moderate** (over 3 day injury) (And/Or Possible Improvement Notice)	3. **Medium** (could occur)
4. **Serious** (immediately reportable injury) (And/Or Possible Prohibition Notice/Prosecution)	4. **High** (near certain to occur)
5. **Fatality** or multiple fatalities	5. **Certain** (will occur)

Risk	Rating	Time Scale
Low	1 – 3	Low significance. **May be determined as an acceptable risk.**
Medium	4 – 9	Investigate if there is something else that can be done to reduce risk. **If the risk cannot be reduced further "so far as is reasonably practicable" it may be determined as an acceptable risk.**
High	10 – 15	Must take some extra precautions before going on site
Very High	16 - 25	DO NOT GO ON SITE UNTIL THE H&S RISKS ARE REDUCED TO ALARP

Annex M: Former-CCW Gwent Level Plans



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Board

CWLIDB

Site

Map 2 - Marshfield, St Brides & Duffryn

Key

- IDB Boundary
- CWL Reens
- Flow Direction
- NRW Main Rivers
- CWL Sluices
- Tidal Flaps

Created by: L Harris

Scale:1:10000 | Date:14/08/2013

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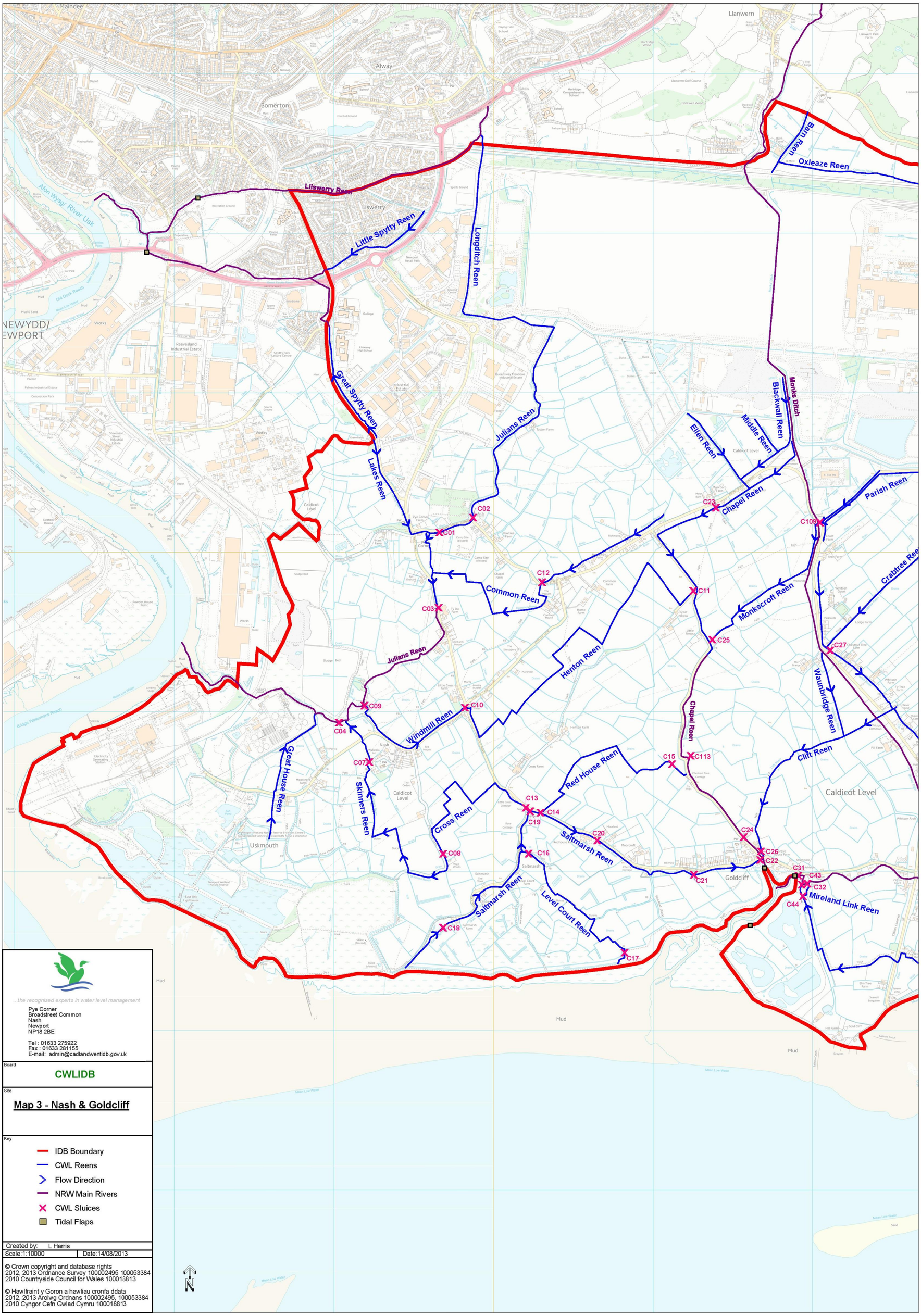

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Board

CWLIDB

Site

Map 3 - Nash & Goldcliff

Key

- IDB Boundary
- CWL Reens
- Flow Direction
- NRW Main Rivers
- CWL Sluices
- Tidal Flaps

Created by: L Harris

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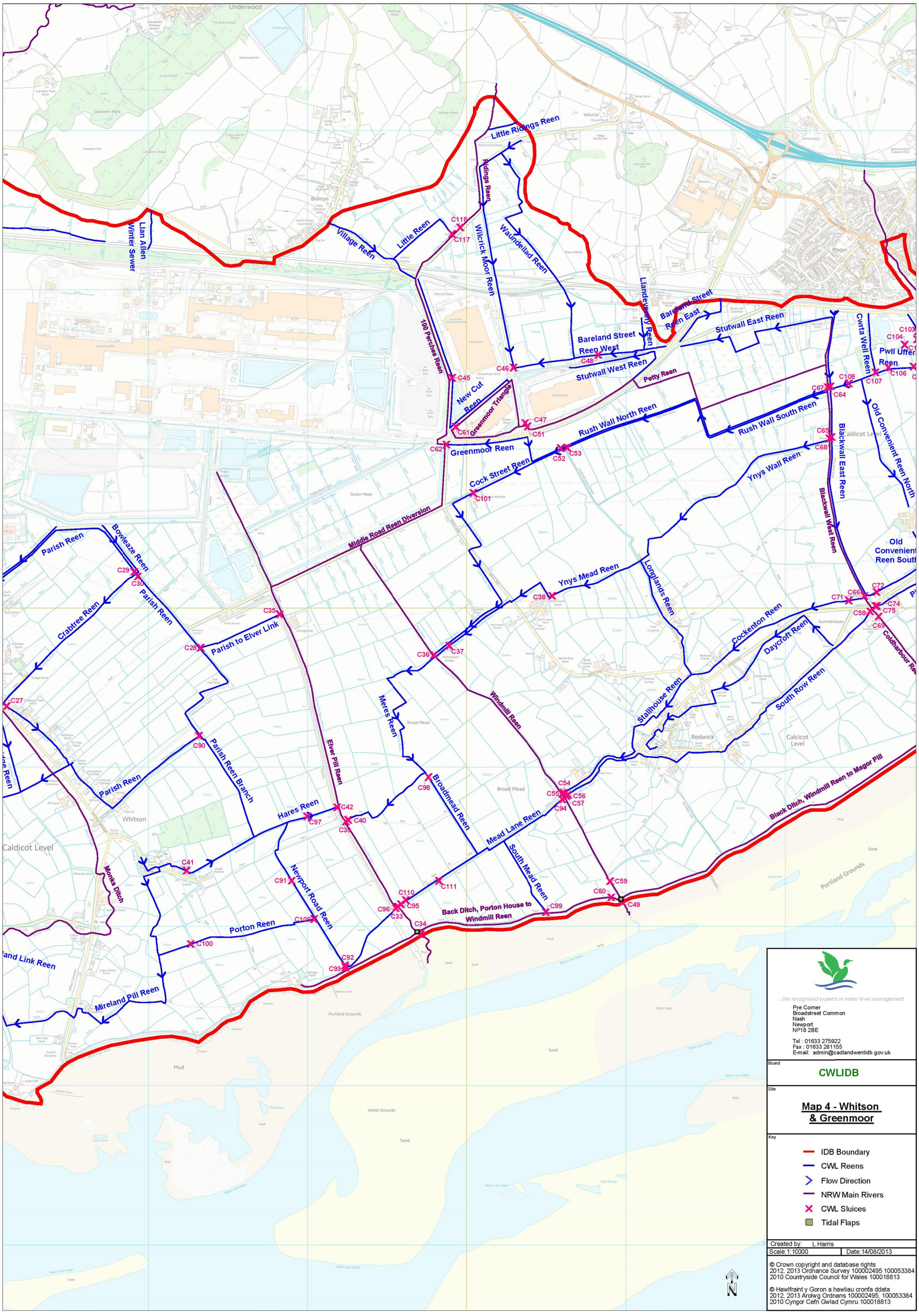

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Board

CWLIDB

Site

Map 4 - Whitson & Greenmoor

Key

- IDB Boundary
- CWL Reens
- Flow Direction
- NRW Main Rivers
- CWL Sluices
- Tidal Flaps

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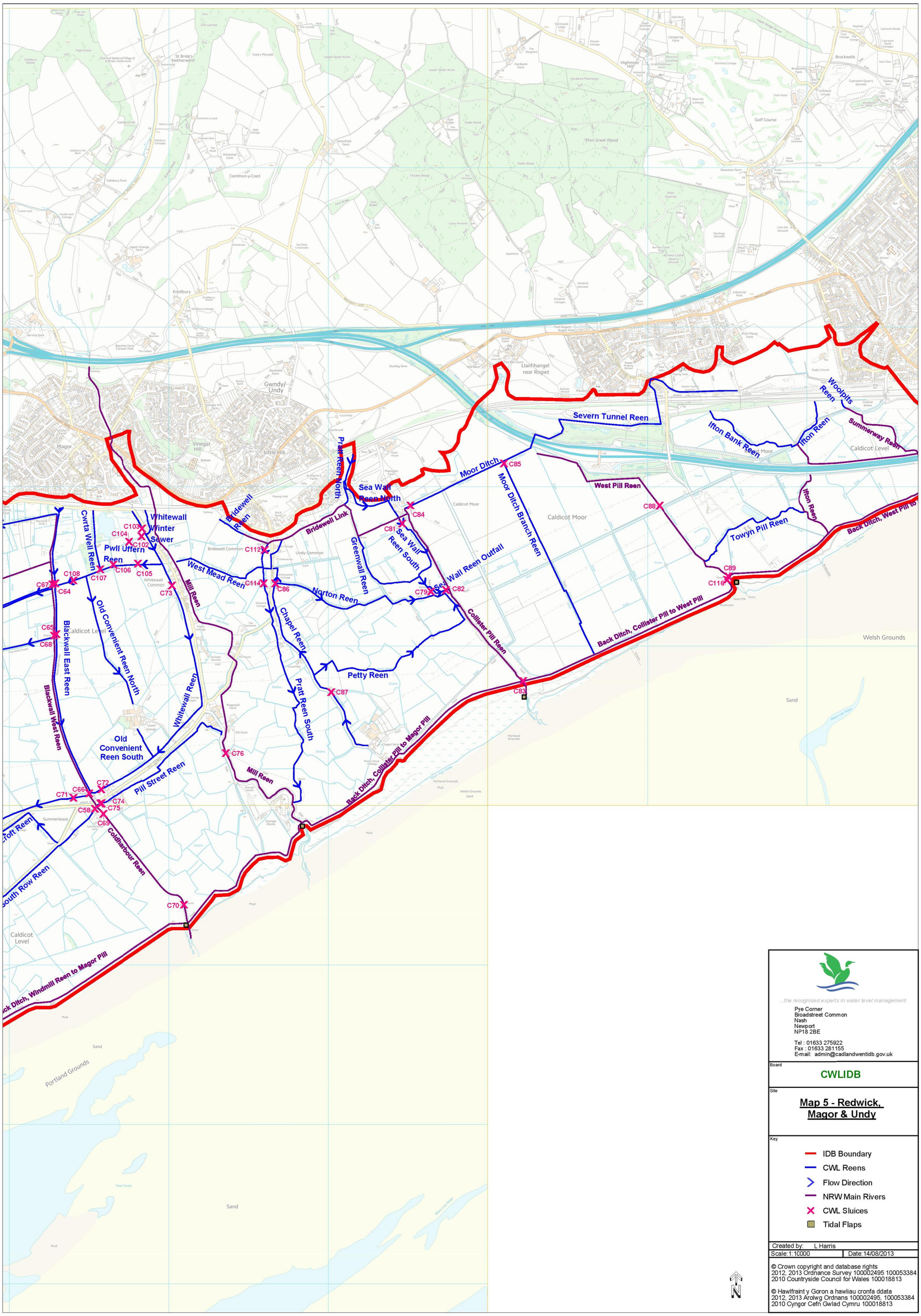

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Board

CWLIDB

Site

Map 5 - Redwick, Magor & Undy

Key

- IDB Boundary
- CWL Reens
- Flow Direction
- NRW Main Rivers
- CWL Sluices
- Tidal Flaps

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Annex N: RPS Surface Water Sampling Summary Table

Sampling Group Name	Group Description	Sample Location	Q1 26th May - 5th June 2015	Q2 28th - 31st July 2015	Q3 13th – 15th October 2015	Q4 26th - 28th January 2016	Monitoring Point Details	Sampling Notes	Other Proximal Monitoring Locations
Pwll Bargoed Reen WTA 1	WTA 1 Possible existing highway run-off (M4/A48/M48)	1.1	✓	✓	✓	✓	Upstream of IDB Main Reen Saturated Channel of Pwyll Bargoed	Representative of potential WTA discharge location	Titan R1
		1.2	✓	×	×	×	IDB Main Reen: Saturated Channel of Pwyll Bargoed	Removed as information is captured within location 1.1.	-
Tyn-Brwyn Reen WTA 2	WTA 2 Possible existing highway runoff Possibly downstream CL-4	2.1	✓	×	×	×	Upstream of IDB Main Reen: Tyn-y-brwyn Reen	Removed as intermittently dry. Not considered to be a representative up gradient sample location.	Titan R2 Arup 1
		2.2	✓	✓	✓	✓	IDB Main Reen: Point of perennial flow within Tyn-y-brwyn Reen	Representative of down gradient location from alignment and WTA 2.	-
Cefn Llogel Farm	Influence of CL-4 (Upstream & Downstream) Possible influence of exiting highway run-off	3.1	✓	×	×	×	Unnamed	Discontinued as an up stream location, situated north of Scheme with unidentifiable connectivity with reens south of alignment.	-
Nantymoor Reen	CL-6 and possible WTA 4a & 4b Upstream / Downstream of Scheme Alignment at IDB main reen crossing Possible effect of existing highway run-off	4.1	×	×	×	×	Originally proposed as upstream of IDB Main Reens and the Scheme	Not sampled as other locations within group provide adequate coverage.	
		4.2	✓	✓	×	✓	IDB Main Reen: Nantymoor Reen (after culverted beneath existing M4)	Provides up gradient location of CL6, alignment and proposed WTA 4b.	-
		4.3	✓	✓	×	×	IDB Main Reen: Nantymoor Reen	Represents outfall from CL6 and also on the proposed alignment.	Titan R3
		4.4	✓	✓	×	✓	IDB Main Reen: Percoed Reen	Provides down gradient comparable location of alignment and CL6, and possibly WTA.	Titan R4
Electricity Substation	CL-7 & WTA 4b & 4a Upstream point on IDB Main Reen	5.1	✓	×	×	×	Field Drains discharging to IDB Main Reen: Percoed Reen	Removed as location 5.2 should capture sufficient data	
		5.2	✓	✓	✓	✓	IDB Main Reen: Percoed Reen	Provides water quality at upstream location of Percoed Reen and in the vicinity of CL 7 and near proposed WTA	-
Maerdy Farm WTA	Newly proposed WTA at Maerdy Farm	6.1	✓	×	×	×	IDB Main Reen: Hawse Reen	WTA that location was capturing has been modified	Titan R5 b/w 6.1 & 6.2
		6.2	×	×	×	×	Proposed to capture new WTA at Maerdy Farm collected downstream.	WTA moved	Titan R5 b/w 6.1 & 6.2
Green Lane Landfill	CL-8 & CL-9 WTA 5 Upstream & Downstream of Scheme at IDB main reen crossing	7.1	✓	✓	✓	×	IDB Main Reen: Morfa Gronw Reen	Representative of WTA and CL7	Titan R5 b/w 6.1 & 6.2
		7.2	✓	×	×	×	IDB Main Reen: Morfa Gronw Reen	**S**ampled in Q1. Information is captured within location 7.4, further downstream.	Titan R5 upstream of 7.2
		7.3	✓	✓	×	✓	IDB Main Reen: Wheel Lane Reen	Downstream of alignment capturing multiple requirements: WTA 5, CL8 and CL9.	N
		7.4	✓	✓	×	×	IDB Main Reen: Morfa Gronw Reen	Other sample location capture information	
Whitecross Farm	CL-11 Upstream & Downstream of Scheme at IDB main reen crossing	8.1	✓	✓	×	×	IDB Main Reen: Old Dairy Reen	Removed as IDB Main Reen crossed by alignment	
		8.2	✓	×	×	×	IDB Main Reen: Old Dairy Reen	Removed as IDB Main Reen crossed by alignment	Downstream of Titan R7, near Arup 3
Afon Ebbw	NRW Watercourse	-	×	×	×	×	Ebbw River	Water quality monitoring undertaken by NRW	
Alexandra Docks	CL13; CL14; CL16	-	×	×	×	×	Alexandra Docks		
Afon Usk	NRW Watercourse	-	×	×	×	×	Usk River		
Mir Steel Works	CL-20; CL22; CL23	11.1	✓	✓	×	×	NRW Watercourse: Julians Reen	Represents quality of NRW main reen (Julians Reen) at point down gradient of alignment.	
Pye Corner WTA 6	WTA 6 Upstream & Downstream of Scheme on main reen	12.1	✓	×	×	×	IDB Main Reen: Lakes Reen	Sampled in Q1. Discontinued as data captured by Location 13.1.	Arup 5
		12.2	✓	✓	✓	✓	IDB Main Reen: Lakes Reen	**P**rovides down gradient location of WTA and alignment.	Downstream of Titan R8
Pye Corner WTA 7 & Llanwern Research Labs	WTA 7 CL-22 & CL-23 Upstream and downstream of alignment on main reen	13.1	✓	✓	✓	✓	IDB Main Reen: Julians Reen	Provides data for WTA, on a main reen.	Hyder
		13.2	✓	✓	×	×	IDB Main Reen: Julians Reen	Removed as data captured by 13.1	Just downstream of Titan R9
Llanwern WTA 8	WTA 8 CL-26	14.1	×	✓	✓	✓	IDB Main Reen: Ellen Reen	**C**L26 and potential WTA discharge point. Location has been moved further downstream on Ellen Reen due to access issues.	Titan R11; Arup sample from field drain within CL-26
		14.2	✓	✓	×	×	IDB Main Reen: Chapel Reen	Uncertain continuity with WTA. Data captured by 14.1	Hyder

Sampling Group Name	Group Description	Sample Location	Q1 26th May - 5th June 2015	Q2 28th - 31st July 2015	Q3 13th – 15th October 2015	Q4 26th - 28th January 2016	Monitoring Point Details	Sampling Notes	Other Proximal Monitoring Locations
Llanwern - Monks Ditch	CL-26 & CL-25 WTA 8	15.1	✓	✓	✗	✗	Monks Ditch U/S of Llanwern	Up stream of CL26 and WTA discharge to main reen.	N
		15.2	No Access	No Access	✓	✓	NRW Watercourse : Black Wall Reen	No access until Q3. Downstream of CL26 and WTA discharge.	Hyder
		15.3	✓	✓	✗	✗	NRW Watercourse: Monks Ditch	Removed as CL site location	
Llanwern - Monkscroft / Bowleaze Reen	CL-26 & CL-25	16.1	✗	✓	✗	✗	Boundary drain of CL26	Removed as CL site location	N
		16.2	✓	✓	✗	✗	IDB Main Reen: Bowleaze Reen	Removed as CL site location	Titan R13
Llanwern WTA 9	CL-27 and WTA 9	17.1	✓	✓	✓	✓	NRW Watercourse: 100 Perches Reen	NRW Main Reen, up gradient of WTA, alignment and CL27. Perennial flow.	Titan R15
		17.2	✓	✓	✗	✗	NRW Watercourse: Middle Road Reen	Became dry. Discontinued	Titan R16
		17.3	✓	✗	✗	✗	NRW Watercourse: Elver Pill Reen	**S**ufficient data in surrounding location collected	Titan R14
Rush Wall North Reen WTA 10	WTA 10	18.1	✓	✓	✓	✓	IDB Main Reen: Rush Wall North Reen	Likely to be receiving watercourse of WTA discharge.	Titan R17 and Arup 9
		18.2	✗	✗	✗	✗	Bareland Street Reen West	Not collected in Q1 or Q2. Location 20.1 representative.	
Tesco Distribution Centre	CL-42 Upstream & Downstream of Scheme on NRW watercourse	19.1	✓	✓	✗	✗	NRW Watercourse: Greenmoor Triangle / Petty Reen	Sampled in Q1 and Q2**.** WTA discharge is to Bareland Street Reen, captured by location 20.1.	Titan R18 near (but dif. System?)
		19.2	✓	✓	✗	✗	NRW Watercourse: Petty Reen	NRW Main Watercourse and confluence of Greenmoor Triangle.	N
Bareland Street Reen WTA 10	WTA 10	20.1	✓	✓	✗	✗	IDB Main Reen: Bareland Street Reen West	Representative of WTA discharge.	Titan R21 / Arup
Mill Reen WTA 11	WTA NRW Main Watercourse crossed by alignment	MR WTA	✗	✓	✓	✓	NRW Watercourse: Mill Reen	Collected in Q2 onwards following update to WTA locations	
Church Road WTA 12	WTA 12 CL-41	22.1	Dry	Dry	✗	✗	IDB Main Reen: Pratt Reen North	Dry	Titan R20 and Arup 11