

Martyn Grant
Environmental Manager
The Royal Mint
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Dear Martyn

**INTERPRETATIVE REPORT ON GROUNDWATER AND SURFACE WATER
SAMPLING IN FEBRUARY 2019 AND SUMMARY OF 2018/2019
MONITORING PERIOD**

Ramboll Environment and Health UK Limited ('Ramboll') was instructed by The Royal Mint to carry out surface water sampling from selected locations in the Nant Mychydd River and groundwater sampling from selected boreholes in the area of Building 9A, the Coin Press Room ("CPR"), the COMAH area and the southern site boundary. This letter presents a factual report on the third of three scheduled rounds of monitoring to be undertaken from June 2018 to February 2019.

Background

Surface water monitoring during 2017/18 identified elevated concentrations of copper and/or zinc in the culverted stream that enters the Nant Mychydd (sampling point R7A). While the source of contamination is being addressed by The Royal Mint, Ramboll recommended that the surface water monitoring programme should be continued from selected sampling points. It was recommended and agreed with Natural Resources Wales (NRW) that the frequency of surface water monitoring could be reduced from four-monthly to six-monthly, or until the contamination reduces to below the respective environmental quality standards (EQS).

Ramboll also carried out groundwater sampling at the site which has previously identified elevated concentrations of metals in several areas. Elevated concentrations of nickel, copper and zinc have been identified in all boreholes monitored throughout 2017/18. The pH was also below [more acidic than] the acceptable EQS range in several locations across the site. It was recommended that monitoring should continue from selected boreholes at a frequency of once every four months, or until the contamination reduces to below the respective EQS; and that VOC analysis of groundwater could be discontinued.

Date 28/02/2019

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Ref L1700002116_1 February
2019

Natural Resources Wales (NRW) issued a Compliance Assessment Report (CAR), (Ref: KP3135KV CAR_NRW0033153) in relation to surface and groundwater monitoring results at the site. NRW agreed that monitoring of surface water should continue at a reduced frequency of every six months. NRW recommended that monitoring of groundwater should continue every four months for a further twelve-month period, at which time the frequency can be reviewed (following a Compliance Review of Building 9A).

February 2019 Surface Water Monitoring Results

Surface water samples were collected on the 12th February 2019 from five sampling locations on the Nant Mychydd River and the culverted watercourse that passes through the site (sampling points R1, R6, R7, R7A and C1), as shown on Figure 1. Samples were analysed for a range of metals, pH, alkalinity, cyanide and total petroleum hydrocarbons (TPH) at a UKAS accredited laboratory. The laboratory certificates of analysis are included in Appendix 1, which provide the method of analysis for each determinand. The surface water analysis results from April 2011 to February 2019 are summarised in the table in Appendix 2 and represented graphically in Appendix 3.

- During the February 2019 monitoring, the maximum concentration of copper (0.008mg/l) was recorded at sampling point R7A, where the culverted stream emerges from site prior to entering the Nant Mychydd. This concentration exceeds the EQS of 0.001mg/l (for hardness of less than 50mg/l CaCO₃). Copper was also recorded above the laboratory limit of detection in C1 (0.002mg/l) and R7 (0.002mg/l).
- The concentration of zinc remained below the EQS at sampling points C1 and R1 during the most recent round of monitoring. However, concentrations exceeding the EQS value of 0.008mg/l (for hardness below 50mg/l CaCO₃) were recorded at sampling points R6 (0.009mg/l), R7 (0.010mg/l), and R7A (0.038mg/l). Recorded concentrations are typical for their respective sampling points.
- A maximum recorded concentration of nickel (0.008mg/l) was recorded at sampling point R7A, which is below the EQS value of 0.02mg/l. Nickel was below the laboratory limit of detection at sampling points R1 and R6.
- Cyanide was not recorded above the laboratory limit of detection at any of the sampling points, during the February 2019 monitoring round.
- The TPH concentrations in this monitoring round were below the laboratory limit of detection in all five sampling locations; and therefore, below the UK DWS of 0.01mg/l.

NRW has requested that rainfall data is collected at the time of sampling since this may influence the levels of contaminants in the receiving watercourse. In order to provide data for the February 2019 round of monitoring, weather station information for a location approximately 13km east of the site (weather station reference IMIDGLAM3) has been obtained (www.wunderground.com).

This data is presented in Table 1 below. Rainfall data has been provided for the five days preceding the monitoring visit and compared with the daily average rainfall for 13th January to 12th February 2019 and the daily average based on data from the same period in 2006 to 2019.

Table 1: Rainfall Data

Date	Rainfall data (mm) *	13 th January to 12 th February 2019 daily average (mm) *	2006 – 2019 Jan/Feb daily average (mm) *
07/02/19	7.1	3.39	3.50
08/02/19	15.0		
09/02/19	4.8		
10/02/19	6.1		
11/02/19	0.0		
12/02/19	0.3		
* Data gathered from 'IMIDGLAM3' weather station in Caerphilly located 13km East of site (www.wunderground.com) (accessed 19/02/19)			

The rainfall data indicates that average daily rainfall in the period of 13th January to 12th February 2019 was similar to the average for recent years. Relatively low amounts of rainfall had occurred in the days leading up to the sampling date, the river level was noted to be approximately average during sampling.

Statistical Analysis of Surface Water Monitoring Results

The latest two rounds of monitoring data have been further assessed using the Mann-Kendall Test, a non-parametric statistical test to detect trends in data. Statistical analysis was recommended by Natural Resources Wales (NRW) in the Compliance Assessment Report (CAR) dated August 2013 (Ref: KP3135KV/0187931).

The Mann Kendall test has been applied to data from monitoring rounds undertaken from 2010 to 2019. Determinands that have exceeded the EQS on one or more occasions during the 2012 to 2019 monitoring period have been assessed using this approach. The results of the statistical analysis are shown in Table 2 below.

Table 2: Results of Trend Analysis for Surface Water Results (2010 to 2019)

	Trend			
	Copper	Nickel	Zinc	TPH
C1 (Northern Upstream Boundary)	Decreasing	No Exceedances	Stable	No Trend
R1 (Upstream Nant Mychydd)	Stable	No Exceedances	Stable	No Trend
R6 (Downstream Nant Mychydd)	Stable	No Exceedances	Probably Increasing	No Trend
R7 (Downstream of confluence)	Decreasing	No Exceedances	Decreasing	Increasing
R7A (Tributary of Nant Mychydd)	Decreasing	Decreasing	Stable	Probably Increasing

In general, concentrations of determinands which exceeded EQS were either decreasing, stable or there was no trend. The concentration of copper at sampling point C1 (upstream of the site) has continued to

be identified as 'decreasing' in 2018/19; and the concentration of zinc at sampling point R6 (the Nant Mychudd at the confluence with a tributary stream) has returned to 'probably increasing', which was last identified in 2016/17.

The concentration of TPH at sampling points R7 and R7A (both downstream of the site) have been identified as 'increasing' and 'probably increasing' respectively. However, concentrations remain low, with all samples below the laboratory limit of detection in February 2019; and a maximum recorded TPH concentration of 0.015mg/l in 2018/19.

The concentration of copper at R7A, downstream of the site, is shown to be 'decreasing'. Whilst concentrations of copper regularly exceed the EQS, there is an indication that the concentration of copper is decreasing towards the EQS. Whilst also shown to be 'decreasing', slightly elevated concentrations of copper have been identified upstream of the site; indicating potentially naturally occurring or upstream sources.

The concentration of zinc at R7A, downstream of the site is shown to be 'stable'. It should be noted that the concentration of zinc has regularly exceeded the EQS, so the stable trend suggests that the concentration is not currently decreasing trend towards the EQS value.

February 2019 Groundwater Monitoring Results

Groundwater samples were collected from the following boreholes: BH8, BH9, BH901R, BH10, BH13, BH32, and BH801 (shown on Figure 2). Samples were analysed for a range of metals, pH and alkalinity at a UKAS accredited laboratory. *SPMP boreholes CBH6 and BHNP2D have been omitted from future monitoring rounds given the reduction in volatile organic compound (VOC) concentrations recorded during previous monitoring. VOC analysis has also been omitted from the suite of analysis based on no detections above the laboratory reporting limit.*

The laboratory certificates of analysis are included in Appendix 1, which provide the method of analysis for each determinand. The analysis results are summarised in the table in Appendix 2 and represented graphically in Appendix 3.

The results have been benchmarked against previous analytical results from these monitoring wells and screened against EQS for freshwater. The results are summarised as follows:

- BH8 was inaccessible in February 2018; however, was sampled during the most recent round of monitoring. Concentrations of copper nickel, and zinc have all slightly decreased since the previous monitoring round; however, all continue to exceed their respective EQS values.
- Samples were collected from BH9 and the borehole installed in 2015 (referred to as BH901R), that is acting as a replacement for BH901, both located down-gradient of Building 9A. Concentrations of nickel, copper and zinc have slightly decreased since October 2018; however, all remain in excess of their respective EQS values.
- Concentrations of nickel, copper, and zinc in BH10 have remained very similar to the previous round of monitoring in October 2018, and exceed the relevant EQS values.
- In BH32, concentrations of nickel, copper, and zinc have increased slightly since the previous round of monitoring in October 2018 and remain above the relevant EQS for these determinands.

- Concentrations of nickel, copper, and zinc in BH13 are very similar to those recorded in the previous round of monitoring in October 2018. Concentrations remain above the relevant EQS for these determinands.
- BH801, located in the north of the site (adjacent to the copper plating building) and included within ongoing SPMP groundwater sampling, has been included again for the 2018-19 monitoring programme. Concentrations of nickel, copper, and zinc recorded in February 2019 have all decreased since the previous round of monitoring in October 2018. The concentration of nickel has remained at a concentration below the relevant EQS value; however, the concentrations of copper and zinc have remained at concentrations that exceed the relevant EQS values.
- Total chromium was not recorded above the laboratory limit of detection in any boreholes during the most recent monitoring round. Therefore, all concentrations were below the EQS value of 0.0047mg/l.
- The concentration of cadmium was recorded above the laboratory LOD (0.0001mg/l) in BH8, BH9, BH13, BH32, and BH901R, with a maximum recorded value of 0.0007mg/l in BH8. All recorded values are above the EQS value of 0.00008mg/l.
- The following determinands did not exceed the screening criteria in any of the boreholes: lead, arsenic, mercury, selenium and vanadium.
- Low (acidic) pH values (<pH 6) were detected in samples from BH8 (pH 4.5) and BH9 (pH 5.0). Samples from these and several other locations have regularly recorded low pH values throughout the monitoring programme.

Statistical Analysis of Groundwater Monitoring Results

The Mann Kendall test has been performed using data from monitoring rounds undertaken from 2010 (where applicable) to 2019. Determinands that have exceeded the EQS on one or more occasion during the overall monitoring period have been assessed using this approach. The results of the statistical analysis are shown in Table 3 below. The data are also presented graphically in Appendix 3.

Table 3: Results of Trend Analysis for Groundwater Results (2010 to 2019)

	Trend				
	Cadmium	Total Chromium	Copper	Nickel	Zinc
BH901 / BH901R	No Trend	No Exceedances	No Trend	No Trend	Decreasing
BH8	Decreasing	No Exceedances	Decreasing	Decreasing	Decreasing
BH9	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
BH10	Decreasing	No Exceedances	Decreasing	Decreasing	Decreasing
BH13	Decreasing	Probably Decreasing	Decreasing	Decreasing	Decreasing
BH32	Probably Decreasing	No Exceedances	No Trend	Decreasing	Decreasing
BH801 *	No Trend	No Exceedances	Decreasing	Decreasing	Decreasing
*Analysis based on monitoring data since June 2015 and prior SPMP data (from September 2014).					

Overall, the statistical analysis generally showed 'no trend' or 'probably decreasing/decreasing' trends, indicating that contaminants of concern are not increasing in the groundwater.

The Mann Kendall statistical analysis showed that BH9, which has previously contained the most elevated metal concentrations is showing a 'decreasing' trend for all metals which exceeded the EQS values. This reflects a continued gradual reduction in concentrations shown on the graphs presented in Appendix 3.

Analysis has also shown that BH8, BH10 and BH13 are showing 'decreasing' or 'probably decreasing' trends for metal concentrations that exceed the relevant EQS values.

Analysis has shown 'no trend' for BH901/BH901R for copper and nickel, with a decreasing trend for zinc shown for the first time. It should be noted that borehole BH901 was replaced with BH901R in 2015 and the analysis includes samples collected from each of the two boreholes. It should also be noted that whilst 'no trend' and a 'decreasing' trend has been identified, concentrations of nickel, copper, zinc and cadmium are all elevated above the relevant EQS.

Borehole BH801, located in the north of the site, has been included in the monitoring programme since June 2015 and the Mann Kendall analysis is now based on thirteen results. With the addition of the 2018/19 monitoring data to the Mann Kendall analysis, trends have remained 'decreasing' for metals copper, nickel and zinc. The trend for cadmium has remained 'no trend'.

Conclusions and Recommendations

Surface Water

The concentration of copper exceeded the respective EQS for surface water (hardness adjusted) in the tributary of the Nant Mychudd, downstream from the site culvert (sampling point R7A), on both of the monitoring occasions performed during the 2018/19 period. The EQS value was exceeded for copper in the upstream location (C1) on one occasion, indicating that the baseline concentration for copper in the

surface water environment may be slightly elevated, indicating that the source is either upstream or naturally occurring. However, overall, the statistical analysis results indicated that concentrations of copper are decreasing.

The concentration of TPH at sampling points R7 and R7A (both downstream of the site) has been identified as 'increasing' and 'probably increasing'; however, concentrations remain low, marginally above the laboratory limit of detection. TPH concentrations continued to be slightly elevated during 2018/19 at similar concentrations to those detected during the previous monitoring period; however, values do not vary significantly between samples taken from upstream locations and samples taken from downstream locations. Therefore, it is unlikely that the TPH concentrations detected in the surface water environment are attributable to the Royal Mint site.

The CAR issued by NRW in August 2013 recommended that the results of statistical analysis are used to determine the frequency and scope of future monitoring. The CAR also stipulated that trend analysis should be carried out annually. Based on the results of trend analysis, Ramboll recommended in 2017/18 that the sampling frequency be reduced to 6 monthly, with a view to reducing to annual surface water monitoring if decreasing trends continue. Decreasing trends have continued to be identified by the Mann Kendall analysis; however, the EQS values for copper and zinc continue to be exceeded in the downstream locations. Therefore, it is recommended that the sampling frequency continues on a six-monthly basis for another twelve months.

Groundwater

Other than nickel in BH801, groundwater concentrations of nickel, cadmium, copper and zinc have continued to exceed EQS values in each monitoring well on at least one monitoring occasion in the 2018/19 period. Low pH values have been recorded in BH8, BH9, BH32, BH13 and BH901R on at least one occasion throughout the monitoring programme of 2018/19.

Statistical analysis has shown that trends in groundwater concentrations of the contaminants of concern are 'decreasing / probably decreasing' or have 'no trend' indicating that concentrations have not been significantly increasing during the 2018/19 monitoring period.

The Mann Kendall statistical analysis showed that BH9, which has previously contained the most elevated metal concentrations is showing a decreasing trend for all metals which exceeded the EQS values. Decreasing / probably decreasing trends have been shown for BH8, BH10 and BH13.

Despite overall decreasing trends, concentrations of metals consistently exceed the respective EQS in BH32 and BH901 (both located down-hydraulic gradient of Building 9A (pickling, plating, annealing, burnishing). The recent NRW Compliance Assessment Report (CAR_NRW0034536, dated 31st January 2019) summarised that the Site Protection and Monitoring Plan has consistently identified Zone 9 as an area for concern with regard to metal concentrations in groundwater. Following recommendations for an investigation into the bund integrity in Building 9A, the report confirmed that a survey of the bunds in Armour 1 has been completed and NRW have received a copy of the results of the investigation. All the bunds were reportedly found to be in good condition. Given that the bunds have been demonstrated to be good condition, the elevated concentrations are considered likely to be from a historical source, residing in the ground rather than an ongoing source in the building. Continued monitoring is therefore anticipated to identify ongoing decreasing trends.

Based on the results of trend analysis, Ramboll recommends that the frequency (and scope) of groundwater monitoring may also be reduced to 6 monthly. Ramboll recommends that monitoring continues on this basis given that concentrations are consistently above EQS, despite overall decreasing trends.

Ramboll recommends that NRW is consulted on the proposed groundwater monitoring programme going forward.

Please do not hesitate to contact me if there is anything you wish to discuss.

Yours sincerely



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Managing Consultant

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Appendix 1

Laboratory Certificates of Analysis

Our Ref: EXR/278553 (Ver. 1)
Your Ref: 1700002116

February 20, 2019



Environmental Chemistry
SOCOTEC UK Limited
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Ashby Road
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Rob Hodgson
Ramboll Environment and Health UK Ltd
8 Village Way
Cardiff
CF15 7NE

For the attention of Rob Hodgson

Dear Rob Hodgson

Sample Analysis - Royal Mint SW/GW Monitoring

Samples from the above site have been analysed in accordance with the schedule supplied.
The sample details and the results of analyses for these samples are given in the appended report.

An invoice for this work will follow under a separate cover.

Please be aware that our policy for the retention of paper based laboratory records and analysis reports is 6 years.

The work was carried out in accordance with SOCOTEC UK Limited (Multi-Sector Services) Standard Terms and Conditions of Contract.

If I can be of any further assistance please do not hesitate to contact me.

Yours sincerely

for SOCOTEC UK Limited

A handwritten signature in black ink, appearing to read 'C Lamb'.

C Lamb
Project Co-ordinator
01283 554463

TEST REPORT



Report No. EXR/278553 (Ver. 1)

Ramboll Environment and Health UK Ltd
8 Village Way
Cardiff
CF15 7NE

Site: Royal Mint SW/GW Monitoring

The 12 samples described in this report were registered for analysis by SOCOTEC UK Limited on 14-Feb-2019. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 20-Feb-2019

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

The following tables are contained in this report:

Table 1 Main Analysis Results (Page 2)
Analytical and Deviating Sample Overview (Page 3)
Table of Method Descriptions (Page 4)
Table of Report Notes (Page 5)
Table of Sample Descriptions (Appendix A Page 1 of 1)

On behalf of
SOCOTEC UK Lim 
Becky Batham
Operations Manager
Energy & Waste Services

Date of Issue: 20-Feb-2019

Tests marked '^' have been subcontracted to another laboratory.

Where samples have been flagged as deviant on the Analytical and Deviating Sample Overview, for any reason, the data may not be representative of the sample at the point of sampling and the validity of the data may be affected. SOCOTEC UK Limited accepts no responsibility for any sampling not carried out by our personnel.

Units : Method Codes : Method Reporting Limits : UKAS Accredited :			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	pH units		
			ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	SFAPI	TPHFID	WSLM12	WSLM3		
			0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.001	0.002	0.02	0.01			
			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
LAB ID Number EX/	Client Sample Description	Sample Date	Arsenic as As (Dissolved)	Cadmium as Cd (Dissolved)	Chromium as Cr (Dissolved)	Copper as Cu (Dissolved)	Lead as Pb (Dissolved)	Mercury as Hg (Dissolved)	Nickel as Ni (Dissolved)	Selenium as Se (Dissolved)	Vanadium as V (Dissolved)	Zinc as Zn (Dissolved)	Cyanide (Total) as CN	TPH GC	Total Alkalinity as CaCO3 w	pH units w		
1952982	R1	12-Feb-19	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	0.006	<0.02	< 0.010	30	7.2		
1952983	R6	12-Feb-19	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	0.009	<0.02	< 0.010	36	7.2		
1952984	R7	12-Feb-19	<0.001	<0.0001	<0.001	0.002	<0.001	<0.0001	0.001	<0.001	<0.001	0.01	<0.02	< 0.010	38	7.1		
1952985	R7A	12-Feb-19	<0.001	<0.0001	<0.001	0.008	<0.001	<0.0001	0.008	<0.001	<0.001	0.038	<0.02	< 0.010	28	7		
1952986	C1	12-Feb-19	<0.001	<0.0001	<0.001	0.002	<0.001	<0.0001	0.002	<0.001	<0.001	0.007	<0.02	< 0.010	23	7		
1952987	BH901R	12-Feb-19	<0.001	0.0005	<0.001	0.215	<0.001	<0.0001	0.233	<0.001	<0.001	0.551			53	7.2		
1952988	BH9	12-Feb-19	<0.001	0.0006	<0.001	0.529	<0.001	<0.0001	0.257	<0.001	<0.001	0.496			2	5		
1952989	BH8	12-Feb-19	<0.001	0.0007	<0.001	0.099	<0.001	<0.0001	0.107	<0.001	<0.001	0.189			<2	4.5		
1952990	BH801	12-Feb-19	<0.001	<0.0001	<0.001	0.001	<0.001	<0.0001	0.007	<0.001	<0.001	0.018			47	6.9		
1952991	BH10	12-Feb-19	<0.001	<0.0001	<0.001	0.02	<0.001	<0.0001	0.025	<0.001	<0.001	0.04			28	6.9		
1952992	BH32	12-Feb-19	<0.001	0.0006	<0.001	0.041	<0.001	<0.0001	0.259	<0.001	<0.001	0.5			13	6.5		
1952993	BH13	12-Feb-19	<0.001	0.0001	<0.001	0.015	<0.001	<0.0001	0.02	<0.001	<0.001	0.033			4	6.2		
SOCOTEC Bretby Business Park, Ashby Road Burton-on-Trent, Staffordshire, DE15 0YZ Tel +44 (0) 1283 554400 Fax +44 (0) 1283 554422			Client Name		Ramboll Environment and Health UK Ltd						Sample Analysis							
			Contact		Rob Hodgson													
			Royal Mint SW/GW Monitoring									Date Printed		20-Feb-2019				
												Report Number		EXR/278553				
												Table Number		1				

Sample Analysis

SOCOTEC UK Ltd Environmental Chemistry
Analytical and Deviating Sample Overview

W278553

Customer Ramboll Environment and Health UK Ltd
 Site Royal Mint SW/GW Monitoring
 Report No W278553

Consignment No W150510
 Date Logged 14-Feb-2019
 In-House Report Due 21-Feb-2019

Please note the results for any subcontracted analysis (identified with a '^') is likely to take up to an additional five working days.

ID Number	Description	MethodID		CUST SERV	ICPMSW										SFAPI	TPHFID	WSLM12	WSLM3
		Matrix Type	Sampled		Report A	Nickel as Ni MS (Dissolved)	Chromium as Cr MS (Dissolved)	Cadmium as Cd MS (Dissolved)	Copper as Cu MS (Dissolved)	Lead as Pb MS (Dissolved)	Zinc as Zn MS (Dissolved)	Arsenic as As MS (Dissolved)	Mercury as Hg MS (Dissolved)	Selenium as Se MS (Dissolved)	Vanadium as V MS (Dissolved)	Cyanide (Total) as CN SFA	TPH GC	Total Alkalinity as CaCO3
					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EX/1952982	R1	Surface Water	12/02/19															
EX/1952983	R6	Surface Water	12/02/19															
EX/1952984	R7	Surface Water	12/02/19															
EX/1952985	R7A	Surface Water	12/02/19															
EX/1952986	C1	Surface Water	12/02/19															
EX/1952987	BH901R	Groundwater	12/02/19															
EX/1952988	BH9	Groundwater	12/02/19															
EX/1952989	BH8	Groundwater	12/02/19															
EX/1952990	BH801	Groundwater	12/02/19															
EX/1952991	BH10	Groundwater	12/02/19															
EX/1952992	BH32	Groundwater	12/02/19															
EX/1952993	BH13	Groundwater	12/02/19															

Note: We will endeavour to prioritise samples to complete analysis within holding time; however any delay could result in samples becoming deviant whilst being processed in the laboratory.

If sampling dates are missing or matrices unclassified then results will not be ISO 17025 accredited. Please contact us as soon as possible to provide missing information in order to reinstate accreditation.

Deviating Sample Key

- A The sample was received in an inappropriate container for this analysis
- B The sample was received without the correct preservation for this analysis
- C Headspace present in the sample container
- D The sampling date was not supplied so holding time may be compromised - applicable to all analysis
- E Sample processing did not commence within the appropriate holding time
- F Sample processing did not commence within the appropriate handling time

Requested Analysis Key

- Analysis Required
- Analysis dependant upon trigger result - **Note: due date may be affected if triggered**
- No analysis scheduled
- ^ Analysis Subcontracted - **Note: due date may vary**

The integrity of data for samples/analysis that have been categorised as Deviating may be compromised. Data may not be representative of the sample at the time of sampling. Where individual results are flagged see report notes for status.

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Water	ICPMSW	As Received	Direct quantitative determination of Metals in water samples using ICPMS
Water	SFAPI	As Received	Segmented flow analysis with colorimetric detection
Water	TPHFID	As Received	Determination of pentane extractable hydrocarbons in water by GCFID
Water	WSLM12	As Received	Titration with Sulphuric Acid to required pH
Water	WSLM3	As Received	Determination of the pH of water samples by pH probe

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on the basis indicated in the Method Description table.
All results on MCERTS reports are reported on a 105°C dry weight basis with the exception of pH and conductivity.
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³ @ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

TR Denotes Tremolite

CR Denotes Crocidolite

AC Denotes Actinolite

AM Denotes Amosite

AN Denotes Anthophyllite

NAIIS No Asbestos Identified in Sample

NADIS No Asbestos Detected In Sample

Symbol Reference

^ Sub-contracted analysis.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

N.F No Flow

NS Information Not Supplied

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

§ accreditation has been removed for this result as it is a non-accredited matrix

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

Sample Descriptions

Client : Ramboll Environment and Health UK Ltd
Site : Royal Mint SW/GW Monitoring
Report Number : W27_8553

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Appendix 2

Summary Tables

1700002116 Surface Water Monitoring 2018/19 - Summary of Results

		Analysis															
Sample Point	Date	pH	CaCO3 mg/l	Sulphate (dissolved) mg/l	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l	Cyanide (total) (mg/l)	TPH (mg/l)
R1	Jan-10	7.5	NT	9	<0.001	0.001	<0.0001	<0.001	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	<0.002	<0.02	0.06
	May-10	7.9	NT	9	0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.02	<0.0001	<0.001	<0.002	0.03	<0.01
	Jun-10	7.5	NT	13	0.001	0.002	<0.0001	<0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	<0.002	<0.02	<0.01
	Aug-10	7.5	NT	21	0.001	0.002	<0.0001	<0.001	<0.001	<0.002	<0.001	0.02	<0.0001	<0.001	0.001	<0.02	0.01
	Oct-10	7.7	NT	10	<0.001	0.001	<0.0001	0.001	<0.001	<0.002	<0.001	0.02	<0.0001	0.002	<0.001	<0.02	0.01
	Dec-10	7.6	NT	12	<0.001	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Apr-11	7.4	56	NT	0.001	0.001	<0.0001	0.002	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.03
	May-11	7.6	21	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.41	<0.0001	<0.001	<0.001	<0.02	0.02
	Jul-11	8	61	NT	<0.001	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	0.0001	<0.02	0.02
	Sep-11	7.5	64	NT	0.001	0.003	<0.0001	<0.001	<0.001	0.009	<0.001	0.06	<0.0001	0.001	<0.001	<0.02	0.02
	Nov-11	8.6	61	NT	0.001	0.002	<0.0001	0.001	<0.001	0.003	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	0.01
	Jan-12	8.1	52	NT	0.001	0.005	<0.0001	0.001	<0.001	0.005	<0.001	0.02	<0.0001	<0.001	0.002	<0.02	0.01
	Mar-12	8.2	51	NT	0.001	0.002	<0.0001	0.002	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	<0.01
	May-12	8	39	NT	0.001	0.001	<0.0001	0.002	<0.001	0.009	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.016
	Jul-12	7.7	45	NT	0.002	<0.001	<0.0001	0.002	<0.001	0.009	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Sep-12	7.8	47	NT	0.001	0.001	<0.0001	0.002	<0.001	0.006	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-12	7.8	53	NT	0.001	<0.001	<0.0001	<0.001	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Jan-13	7.5	58	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.005	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	0.02
	Apr-13	7.7	46	NT	<0.001	0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	May-13	8	62	NT	<0.001	0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jul-13	7.6	68	NT	0.001	0.001	<0.0001	0.003	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.105
	Oct-13	7.2	55	NT	0.001	0.001	<0.0001	0.001	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	<0.01
	Nov-13	7.7	62	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jan-14	7.2	36	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-14	6.9	60	NT	0.001	<0.001	<0.0001	0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.03
	Oct-14	8.1	50	NT	0.001	<0.001	<0.0001	0.002	<0.001	0.008	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Feb-15	7.4	53	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jun-15	7.4	38	NT	0.005	<0.001	<0.0001	0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Oct-15	7.4	68	NT	0.003	<0.001	<0.0001	<0.001	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Feb-16	6.8	45	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	0.02	0.06
	Jun-16	7.1	60	NT	0.001	<0.001	<0.0001	0.001	<0.001	0.003	<0.001	0.01	<0.0001	<0.001	<0.001	0.04	0.01
	Oct-16	7.4	66	NT	0.001	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Feb-17	6.6	59	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-17	6.4	56	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Oct-17	7.0	66	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Feb-18	7.2	61	NT	<0.01	<0.01	<0.001	<0.01	<0.01	<0.02	<0.01	<0.01	<0.001	<0.01	<0.01	<0.02	0.01
	Aug-18	7.2	94	NT	0.002	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	0.012
	Feb-19	7.2	30	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.006	<0.001	NT	<0.0001	<0.001	<0.001	<0.02	<0.010
R6	Jan-10	7.5	NT	9	0.001	0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01	0.0001	<0.001	<0.002	<0.02	0.64
	May-10	7.6	NT	10	0.002	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	0.02	<0.0001	<0.001	<0.002	0.24	<0.01
	Jun-10	7.5	NT	14	0.002	0.002	<0.0001	<0.001	<0.001	0.002	<0.001	0.01	<0.0001	<0.001	<0.002	<0.02	<0.01
	Aug-10	7.7	NT	22	0.001	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	0.01
	Oct-10	7.7	NT	11	0.001	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Dec-10	7.4	NT	11	0.001	0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Apr-11	7.4	52	NT	0.002	0.001	<0.0001	0.002	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.04
	May-11	7.4	23	NT	0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.39	<0.0001	<0.001	<0.001	<0.02	0.04
	Jul-11	7.2	71	NT	<0.001	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.02
	Sep-11	7.7	64	NT	0.001	0.001	<0.0001	<0.001	<0.001	0.003	<0.001	0.04	<0.0001	<0.001	<0.001	<0.02	0.01
	Nov-11	7.7	61	NT	0.002	0.002	<0.0001	0.002	<0.001	0.003	<0.001	0.03	<0.0001	<0.001	0.002	<0.02	0.02
	Jan-12	8	57	NT	0.002	0.003	<0.0001	0.002	<0.001	0.008	<0.001	0.02	<0.0001	<0.001	0.002	<0.02	0.02

Analysis																	
Sample Point	Date	pH	CaCO3 mg/l	Sulphate (dissolved) mg/l	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l	Cyanide (total) (mg/l)	TPH (mg/l)
R6 Cont.	Mar-12	8.2	57	NT	0.001	0.002	<0.0001	<0.001	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.02
	May-12	7.9	50	NT	0.001	0.002	<0.0001	0.002	<0.001	0.014	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.016
	Jul-12	7.7	56	NT	0.002	<0.001	<0.0001	0.001	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Sep-12	7.9	53	NT	0.001	0.001	<0.0001	0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Nov-12	7.9	64	NT	0.001	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Jan-13	7.6	65	NT	0.001	<0.001	<0.0001	0.001	<0.001	0.025	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	0.02
	Apr-13	7.8	51	NT	<0.001	0.007	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	May-13	8	74	NT	<0.001	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jul-13	7.6	74	NT	0.002	0.001	<0.0001	0.001	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.019
	Oct-13	7.3	52	NT	0.001	<0.001	<0.0001	0.001	<0.001	0.008	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-13	7.7	77	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jan-14	7.5	42	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-14	6.9	50	NT	0.002	<0.001	0.0001	0.003	<0.001	0.018	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.04
	Oct-14	8.1	34	NT	0.001	<0.001	<0.0001	0.004	<0.001	0.087	<0.001	0.01	<0.0001	<0.001	0.001	<0.02	0.15
	Feb-15	7.3	53	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jun-15	7.4	40	NT	0.005	<0.001	<0.0001	0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Oct-15	7.5	76	NT	0.002	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.13
	Feb-16	6.5	42	NT	0.001	<0.001	<0.0001	<0.001	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.03
	Jun-16	7.2	64	NT	0.002	<0.001	<0.0001	0.002	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Oct-16	7.2	69	NT	0.001	<0.001	<0.0001	0.001	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Feb-17	6.7	64	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-17	6.6	59	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.011	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	0.04
	Oct-17	7.1	68	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Feb-18	7.1	71	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.05
	Aug-18	7.2	103	NT	0.002	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.013
	Feb-19	7.2	36	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.009	<0.001	NT	<0.0001	<0.001	<0.001	<0.02	< 0.010
R7	Jan-10	7.7	NT	7	0.005	0.003	<0.0001	0.01	<0.001	0.009	<0.001	0.01	0.0001	<0.001	<0.002	<0.02	<0.01
	May-10	8	NT	14	0.019	<0.001	<0.0001	0.039	<0.001	0.097	<0.001	0.01	<0.0001	<0.001	<0.002	0.05	<0.01
	Jun-10	7.5	NT	18	0.013	0.002	<0.0001	0.028	<0.001	0.071	<0.001	0.01	<0.0001	<0.001	<0.002	<0.02	<0.01
	Aug-10	7.8	NT	29	0.008	0.001	<0.0001	0.011	<0.001	0.017	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	<0.01
	Oct-10	7.7	NT	20	0.004	0.001	<0.0001	0.007	<0.001	0.009	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Dec-10	7.4	NT	12	0.004	0.001	<0.0001	0.008	<0.001	0.012	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Apr-11	7.5	47	NT	0.017	0.001	<0.0001	0.039	<0.001	0.037	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.03
	May-11	7.7	29	NT	0.011	<0.001	<0.0001	0.023	<0.001	0.038	<0.001	0.39	<0.0001	<0.001	<0.001	<0.02	0.03
	Jul-11	7.4	61	NT	0.003	0.001	<0.0001	0.007	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.02
	Sep-11	7.7	50	NT	0.019	0.001	<0.0001	0.017	<0.001	0.012	<0.001	0.03	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-11	7.7	59	NT	0.009	0.002	<0.0001	0.009	<0.001	0.008	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	0.02
	Jan-12	8	52	NT	0.001	0.003	<0.0001	<0.001	<0.001	0.005	<0.001	0.01	<0.0001	<0.001	0.002	<0.02	0.01
	Mar-12	8.1	37	NT	0.006	0.001	<0.0001	0.009	<0.001	0.009	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	<0.01
	May-12	7.9	46	NT	0.002	0.001	<0.0001	0.003	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.022
	Jul-12	7.7	38	NT	0.008	<0.001	<0.0001	0.013	<0.001	0.016	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Sep-12	7.9	54	NT	0.002	0.001	<0.0001	0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-12	7.8	51	NT	0.002	<0.001	<0.0001	0.003	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Jan-13	7.6	49	NT	0.005	<0.001	<0.0001	0.01	<0.001	0.023	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	0.02
	Apr-13	7.8	48	NT	0.002	0.001	<0.0001	0.004	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	May-13	8.1	54	NT	0.003	<0.001	<0.0001	0.007	<0.001	0.007	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jul-13	7.6	72	NT	0.002	0.002	<0.0001	0.003	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.031
	Oct-13	7.3	57	NT	0.001	<0.001	<0.0001	0.002	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-13	7.7	69	NT	0.002	<0.001	<0.0001	0.004	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jan-14	7.4	36	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-14	7	55	NT	0.002	<0.001	<0.0001	0.003	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.03

Analysis																	
Sample Point	Date	pH	CaCO3 mg/l	Sulphate (dissolved) mg/l	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l	Cyanide (total) (mg/l)	TPH (mg/l)
R7 Cont.	Oct-14	8.1	33	NT	0.012	0.001	<0.0001	0.043	0.002	0.093	<0.001	0.01	<0.0001	<0.001	0.001	<0.02	1.04
	Feb-15	7.3	49	NT	0.002	<0.001	<0.0001	0.004	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-15	7.4	44	NT	0.005	<0.001	<0.0001	0.001	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Oct-15	7.7	68	NT	0.01	<0.001	<0.0001	0.004	<0.001	0.027	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Feb-16	6.5	42	NT	0.002	<0.001	<0.0001	0.003	<0.001	0.008	<0.001	<0.01	<0.0001	<0.001	<0.001	0.02	0.06
	Jun-16	7.2	59	NT	0.002	<0.001	<0.0001	0.003	<0.001	0.004	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.04
	Oct-16	7.4	62	NT	0.004	<0.001	<0.0001	0.007	<0.001	0.03	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Feb-17	6.6	61	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	0.04	0.01
	Jun-17	6.4	59	NT	<0.001	<0.001	<0.0001	0.001	<0.001	0.007	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Oct-17	7.1	59	NT	0.001	<0.001	<0.0001	0.002	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Feb-18	7.2	64	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.03
	Aug-18	7.2	94	NT	0.003	<0.001	<0.0001	0.003	<0.001	0.007	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.015
	Feb-19	7.1	38	NT	0.001	<0.001	<0.0001	0.002	<0.001	0.01	<0.001	NT	<0.0001	<0.001	<0.001	<0.02	< 0.010
R7A	Jan-10	7.8	NT	7	0.004	0.001	<0.0001	0.009	<0.001	0.009	<0.001	<0.01	0.0001	<0.001	<0.002	<0.02	0.25
	May-10	8.1	NT	14	0.021	<0.001	<0.0001	0.041	<0.001	0.113	<0.001	<0.01	<0.0001	<0.001	<0.002	0.03	0.02
	Jun-10	7.5	NT	16	0.013	0.002	<0.0001	0.027	<0.001	0.085	<0.001	0.01	<0.0001	<0.001	<0.002	<0.02	<0.01
	Aug-10	7.8	NT	32	0.013	0.001	<0.0001	0.017	<0.001	0.04	<0.001	0.03	<0.0001	<0.001	<0.001	<0.02	<0.01
	Oct-10	7.7	NT	19	0.004	0.001	<0.0001	0.007	<0.001	0.009	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Dec-10	7.5	NT	15	0.008	0.001	<0.0001	0.015	<0.001	0.033	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Apr-11	7.5	47	NT	0.017	0.001	<0.0001	0.038	<0.001	0.037	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.03
	May-11	7.7	29	NT	0.011	<0.001	<0.0001	0.022	<0.001	0.036	<0.001	0.38	<0.0001	<0.001	<0.001	<0.02	0.02
	Jul-11	7.5	56	NT	0.008	0.001	<0.0001	0.018	<0.001	0.014	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.01
	Sep-11	7.4	50	NT	0.021	0.001	<0.0001	0.018	<0.001	0.012	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-11	7.7	47	NT	0.041	0.002	<0.0001	0.029	<0.001	0.03	<0.001	0.02	<0.0001	<0.001	0.001	<0.02	0.01
	Jan-12	7.9	45	NT	0.011	0.002	<0.0001	0.011	<0.001	0.016	<0.001	0.01	<0.0001	<0.001	0.002	<0.02	<0.01
	Mar-12	8.1	38	NT	0.006	0.001	<0.0001	0.009	<0.001	0.008	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	<0.01
	May-12	7.9	20	NT	0.017	0.001	<0.0001	0.052	0.001	0.07	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.057
	Jul-12	7.8	41	NT	0.008	<0.001	<0.0001	0.013	<0.001	0.016	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Sep-12	7.9	44	NT	0.017	0.001	<0.0001	0.031	<0.001	0.042	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Nov-12	7.8	47	NT	0.004	<0.001	<0.0001	0.007	<0.001	0.008	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	0.02
	Jan-13	7.6	32	NT	0.02	<0.001	0.0002	0.044	0.002	0.089	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	0.04
	Apr-13	7.8	37	NT	0.003	0.001	<0.0001	0.008	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	May-13	8.3	53	NT	0.006	<0.001	<0.0001	0.017	<0.001	0.018	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jul-13	7.5	53	NT	0.018	0.001	<0.0001	0.026	<0.001	0.064	<0.001	<0.01	<0.0001	<0.001	0.001	<0.02	0.012
	Oct-13	7.3	62	NT	0.005	<0.001	<0.0001	0.010	<0.001	0.011	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-13	7.8	61	NT	0.005	<0.001	<0.0001	0.009	<0.001	0.014	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jan-14	7.4	26	NT	0.004	<0.001	<0.0001	0.005	<0.001	0.062	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jun-14	7.1	44	NT	0.013	<0.001	0.0001	0.039	0.001	0.067	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.06
	Oct-14	8.2	20	NT	0.015	0.001	<0.0001	0.057	0.003	0.141	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.6
	Feb-15	7.2	38	NT	0.005	<0.001	<0.0001	0.013	<0.001	0.013	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Jun-15	7.5	35	NT	0.007	<0.001	<0.0001	0.006	<0.001	0.01	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Oct-15	7.5	56	NT	0.006	<0.001	<0.0001	0.012	<0.001	0.018	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Feb-16	6.4	35	NT	0.008	<0.001	<0.0001	0.011	<0.001	0.035	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.05
	Jun-16	7.2	49	NT	0.006	<0.001	<0.0001	0.016	<0.001	0.018	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.03
	Oct-16	7.3	55	NT	0.006	<0.001	<0.0001	0.012	<0.001	0.051	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Feb-17	6.7	56	NT	0.003	<0.001	<0.0001	0.006	<0.001	0.012	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-17	6.6	59	NT	0.008	<0.001	<0.0001	0.024	<0.001	0.032	<0.001	0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Oct-17	7.1	54	NT	0.004	<0.001	<0.0001	0.007	<0.001	0.01	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.03
	Feb-18	7.1	54	NT	0.003	<0.001	<0.0001	0.005	<0.001	0.009	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	0.02
	Aug-18	7	80	NT	0.024	<0.001	<0.0001	0.040	<0.001	0.104	<0.001	0.02	<0.0001	<0.001	<0.001	<0.02	0.015
	Feb-19	7	28	NT	0.008	<0.001	<0.0001	0.008	<0.001	0.038	<0.001	NT	<0.0001	<0.001	<0.001	<0.02	< 0.010

Analysis																	
Sample Point	Date	pH	CaCO3 mg/l	Sulphate (dissolved) mg/l	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l	Cyanide (total) (mg/l)	TPH (mg/l)
C1	Mar-12	8.1	40	NT	0.004	0.001	<0.0001	0.009	0.002	0.01	0.001	<0.01	<0.0001	<0.001	0.002	<0.02	<0.01
	May-12	7.9	43	NT	0.011	0.001	<0.0001	0.026	<0.001	0.01	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.014
	Jul-12	7.8	45	NT	0.002	<0.001	<0.0001	0.004	<0.001	0.007	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Sep-12	7.7	43	NT	0.003	0.001	<0.0001	0.004	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Nov-12	7.7	45	NT	0.002	<0.001	<0.0001	0.002	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jan-13	7.7	30	NT	0.006	<0.001	<0.0001	0.009	<0.001	0.016	<0.001	0.03	<0.0001	<0.001	0.001	<0.02	<0.01
	Apr-13	7.8	41	NT	0.001	0.002	<0.0001	0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.04
	May-13	7.9	69	NT	0.002	<0.001	<0.0001	0.002	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jul-13	7.4	50	NT	0.002	<0.001	<0.0001	0.003	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.058
	Oct-13	7.7	88	NT	0.002	<0.001	<0.0001	0.004	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Nov-13	7.6	37	NT	0.002	<0.001	<0.0001	0.002	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jan-14	7.6	39	NT	0.002	<0.001	<0.0001	0.002	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jun-14	7.0	34	NT	0.005	<0.001	<0.0001	0.01	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Oct-14	8.1	14	NT	0.008	<0.001	<0.0001	0.014	<0.001	0.012	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.3
	Feb-15	7.0	38	NT	<0.001	<0.001	<0.0001	0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	<0.01
	Jun-15	7.4	33	NT	0.005	<0.001	<0.0001	0.002	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Oct-15	7.6	42	NT	0.003	<0.001	<0.0001	0.002	<0.001	0.007	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Feb-16	6.4	30	NT	0.007	<0.001	<0.0001	0.005	<0.001	0.012	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Jun-16	7.0	41	NT	0.003	<0.001	<0.0001	0.006	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Oct-16	7.0	38	NT	0.003	<0.001	<0.0001	0.003	<0.001	0.005	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Feb-17	6.4	42	NT	0.001	<0.001	<0.0001	0.001	<0.001	0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Jun-17	6.2	46	NT	0.001	<0.001	<0.0001	0.002	<0.001	<0.002	<0.001	0.03	<0.0001	<0.001	<0.001	<0.02	0.01
	Oct-17	6.7	42	NT	0.002	<0.001	<0.0001	0.002	<0.001	0.011	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.02
	Feb-18	7.0	45	NT	<0.001	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.01
	Aug-18	6.8	60	NT	0.005	<0.001	<0.0001	0.005	<0.001	0.004	<0.001	<0.01	<0.0001	<0.001	<0.001	<0.02	0.011
	Feb-19	7.0	23	NT	0.002	<0.001	<0.0001	0.002	<0.001	0.007	<0.001	NT	<0.0001	<0.001	<0.001	<0.02	< 0.010
Assessment Criteria (mg/l)		6 to 9 (2)		400	0.02 (1)	0.0047 (3)	0.00009 (1)	0 - 50 = 0.001 (3) 50-100 = 0.006	0.0072 (1)	0-50 = 0.008 (3) 50-100 = 0.05	0.05 (2)	2 (2)	0.001 (1)	0.01 (4)	0.02 (3)	0.001 (1)	0.01(4)

Notes:

2018-2019 Sampling Points

EQS Adjusted for Hardness

Yellow cells indicate elevated concentrations compared with Assessment Criteria (e.g. EQS).

NG = No Guideline

NT = Not Tested

1 = Annex I of Directive 2008/105/EC of the European Parliament & of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending

2 = Table 2a: Environmental Quality Standards (EQS) for List 2 dangerous substances, EC Dangerous Substances Directive (76/464/EEC)

3 = Table 2b: Environmental Quality Standards (EQS) for hardness related List 2 dangerous substances, EC dangerous substances Directive (76/464/EEC)

NB - in the absence of hardness data, a conservative approach has been adopted and the lowest EQS values used

4 = Water Supply (Water Quality) (England and Wales) Regulations 2000 (SI 2000/3184) (as amended); Water Supply (Water Quality) (Wales) Regulations 2001 (SI 3911 W.323) (as amended)

Groundwater Monitoring - Summary of Results

		Analysis												
Borehole	Date	pH	CaCO3 (mg/l)	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l
Guideline Value		6-9 (1)	NG	0.02 (1)	0.0047(1)	0.00008(1)	0.001-0.028* (1)	0.0072 (1)	0.008 - 0.125* (1)	0.05(1)	2 (1)	0.00005(1)	0.01(2)	0.02 - 0.06* (1)
BH801	01-Mar-06	6.5	120	0.23	<0.005	<0.001	<0.005	<0.005	0.042	<0.005	<0.005	<0.00005	<0.005	NT
	01-May-06	6.7	85	0.077	<0.005	<0.001	0.017	<0.005	0.18	<0.005	0.05	<0.00005	<0.005	NT
	01-Dec-06	6.6	76	0.014	<0.005	<0.001	0.14	<0.005	0.13	<0.005	0.006	<0.00005	<0.005	NT
	01-Aug-07	6.8	59	0.017	<0.005	<0.001	<0.005	<0.005	0.047	<0.005	0.006	<0.00005	<0.005	NT
	01-Aug-08	6.9	120	0.37	<0.005	<0.001	1.8	<0.005	0.66	<0.005	0.021	<0.00005	<0.005	NT
	01-Sep-09	7.63	235	0.01	0.005	<0.001	15.9	<0.005	0.467	<0.005	<0.018	<0.00005	<0.005	NT
	01-Oct-09	6.3	88	0.06	0.002	<0.001	0.362	<0.001	0.464	<0.001	0.03	0.0002	<0.001	NT
	01-Aug-10	6.5	68	0.048	0.001	<0.001	0.369	<0.001	0.819	<0.001	0.03	<0.00005	<0.001	NT
	01-Aug-11	6.7	80	0.058	0.002	0.0002	0.482	<0.001	1.312	<0.001	0.02	<0.0001	<0.001	NT
	20-Aug-12	7	72	0.017	<0.001	<0.0001	0.066	<0.001	0.347	<0.001	0.01	<0.0001	<0.001	NT
	30-Aug-13	6.9	100	0.043	0.002	0.0002	0.767	<0.001	3.119	<0.001	<0.01	<0.0001	<0.001	NT
	04-Sep-14	7.2	79	0.057	<0.001	0.0002	0.302	<0.001	1.37	<0.001	0.04	<0.0001	<0.001	NT
	04-Jun-15	7	113	0.079	<0.001	0.0007	2.627	<0.001	4.669	<0.001	<0.01	<0.0001	<0.001	<0.001
	12-Oct-15	6.6	52	0.031	<0.001	<0.0001	0.101	<0.001	0.776	<0.001	<0.01	<0.0001	<0.001	<0.001
	17-Feb-16	6.3	47	0.018	<0.001	<0.0001	0.098	<0.001	0.629	<0.001	<0.01	<0.0001	<0.001	<0.001
	30-Jun-16	6.5	66	0.075	<0.001	0.0003	0.422	<0.001	2.253	<0.001	0.01	<0.0001	<0.001	<0.001
	25-Oct-16	6.4	43	0.013	<0.001	<0.0001	0.029	<0.001	0.232	<0.001	<0.01	<0.0001	<0.001	<0.001
	14-Feb-17	6.3	54	0.009	<0.001	<0.0001	0.005	<0.001	0.053	<0.001	<0.01	<0.0001	<0.001	<0.001
	16-Jun-17	6.2	52	0.022	<0.001	0.001	0.086	<0.001	0.784	<0.001	0.01	<0.0001	<0.001	<0.001
	31-Oct-17	6.4	51	0.008	<0.001	<0.0001	0.002	<0.001	0.045	<0.001	<0.01	<0.0001	<0.001	<0.001
	07-Feb-18	6.6	54	0.012	<0.001	<0.0001	0.005	<0.001	0.166	<0.001	<0.01	<0.0001	<0.001	<0.001
25-Jun-18	6.5	51	0.013	<0.001	0.0001	0.014	<0.001	0.141	<0.001	<0.01	<0.0001	<0.001	<0.001	
23-Oct-18	6.4	43	0.013	<0.001	<0.0001	0.017	<0.001	0.102	<0.001	<0.01	<0.0001	<0.001	<0.001	
12-Feb-19	6.9	47	0.007	<0.001	<0.0001	0.001	<0.001	0.018	<0.001	NT	<0.0001	<0.001	<0.001	
BH8	01-Oct-09	4.5	NT	0.571	0.001	0.0021	0.22	0.002	0.45	<0.001	0.05	<0.0001	0.002	<0.002
	01-Feb-10	4.3	NT	0.315	0.002	0.0027	0.239	0.002	0.68	<0.001	0.06	<0.0001	0.003	<0.002
	01-Apr-10	4.4	NT	0.141	<0.001	<0.0001	0.17	<0.001	0.952	<0.001	0.03	<0.0001	0.001	<0.002
	01-Jun-10	4.6	NT	0.57	0.001	0.0019	0.195	0.002	1.368	<0.001	0.04	<0.0001	0.001	<0.002
	25-Jan-13	5.2	14	0.162	<0.001	0.0013	0.283	0.002	0.379	<0.001	0.05	<0.0001	<0.001	0.001
	03-Apr-13	5.4	5	0.19	<0.001	0.0014	0.293	0.002	0.482	<0.001	<0.01	<0.0001	0.001	<0.001
	31-May-13	5.9	<30	0.307	0.001	0.0009	0.452	<0.001	1.325	<0.001	<0.01	<0.0001	<0.001	<0.001
	26-Jul-13	4.9	<2	0.176	<0.001	0.0017	0.262	0.004	0.703	<0.001	0.02	<0.0001	<0.001	<0.001
	07-Oct-13	5.4	0	0.111	<0.001	0.001	0.225	0.003	0.323	<0.001	0.02	<0.0001	<0.001	<0.001
	25-Nov-13	6.6	7	0.103	0.001	0.0007	0.152	<0.001	0.232	<0.001	0.03	<0.0001	<0.001	<0.001
	30-Jan-14	5.9	8	0.08	<0.001	0.0007	0.099	<0.001	0.205	<0.001	0.03	<0.0001	<0.001	<0.001
	04-Jun-14	4.8	6	0.085	<0.001	0.0007	0.132	0.001	0.23	<0.001	<0.01	<0.0001	<0.001	<0.001
	08-Oct-14	6.5	<2	0.235	<0.001	0.0014	0.285	0.003	0.564	<0.001	0.03	<0.0001	<0.001	<0.001
	10-Feb-15	5.3	5	0.104	<0.001	0.0006	0.112	<0.001	0.21	<0.001	0.03	<0.0001	0.001	<0.001
	04-Jun-15	6.2	0	0.243	<0.001	0.0012	0.258	0.002	0.487	<0.001	0.04	<0.0001	0.003	<0.001
	12-Oct-15	5.6	59	0.135	0.001	0.0008	0.168	<0.001	0.28	<0.001	<0.01	<0.0001	<0.001	<0.001
	17-Feb-16	4.7	71	0.101	<0.001	0.0007	0.122	0.001	0.195	<0.001	<0.01	<0.0001	0.001	<0.001
	30-Jun-16	4.4	82	0.154	<0.001	0.0009	0.179	0.002	0.316	<0.001	0.03	<0.0001	<0.001	<0.001
	25-Oct-16	4.5	67	0.127	<0.001	0.0008	0.139	0.002	0.27	<0.001	0.02	<0.0001	<0.001	<0.001
	14-Feb-17	4.9	61	0.097	<0.001	0.0007	0.105	0.001	0.214	<0.001	0.02	<0.0001	<0.001	<0.001
	16-Jun-17	4.3	77	0.19	<0.001	0.0009	0.197	0.002	0.346	<0.001	0.06	<0.0001	<0.001	<0.001
31-Oct-17	4.8	56	0.086	<0.001	0.0006	0.09	<0.001	0.166	<0.001	<0.01	<0.0001	<0.001	<0.001	
07-Feb-18	Not Sampled							Not Sampled						Not Sampled
25-Jun-18	Not Sampled							Not Sampled						Not Sampled
23-Oct-18	4.5	86	0.131	<0.001	0.0007	0.112	<0.001	0.212	<0.001	0.05	<0.0001	0.001	<0.001	
12-Feb-19	4.5	<2	0.107	<0.001	0.0007	0.099	<0.001	0.189	<0.001	NT	<0.0001	<0.001	<0.001	
BH9	15-Oct-09	7.5	NA	0.002	0.001	<0.0001	0.001	<0.001	0.005	<0.001	0.05	<0.0001	<0.001	<0.002
	06-Sep-11	4.5	NA	1.011	0.006	0.0012	1.11	<0.001	5.872	0.001	0.07	<0.0001	<0.001	<0.001
	27-Sep-11	4.5	NA	3.96	0.004	0.0049	2.081	<0.001	19.61	<0.001	0.07	<0.0001	0.002	0.001
	31-Oct-11	4.4	0	7.402	0.02	0.0022	9.91	0.002	31.02	0.001	NA	<0.0001	<0.001	NA
	14-Dec-11	4.7	0	10.4	0.013	0.0059	9.567	<0.001	40.3	<0.001	0.3	<0.0001	0.003	<0.001
	13-Mar-12	6.1	3	2.57	0.027	0.0017	3.452	0.005	22.99	0.001	<			

Groundwater Monitoring - Summary of Results

		Analysis												
Borehole	Date	pH	CaCO3 (mg/l)	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l
Guideline Value		6-9 (1)	NG	0.02 (1)	0.0047(1)	0.00008(1)	0.001-0.028* (1)	0.0072 (1)	0.008 - 0.125* (1)	0.05(1)	2 (1)	0.00005(1)	0.01(2)	0.02 - 0.06* (1)
BH10	01-Jun-10	4.6	NA	0.176	<0.001	0.0003	0.184	<0.001	0.314	<0.001	0.02	<0.0001	<0.001	<0.002
	06-Sep-11	5.6	NA	0.097	<0.001	0.0001	0.044	<0.001	0.428	<0.001	NA	<0.0001	<0.001	<0.001
	27-Sep-11	5.8	NA	0.052	<0.001	<0.0001	0.012	<0.001	0.154	<0.001	0.02	<0.0001	<0.001	<0.001
	31-Oct-11	6.8	13	0.073	0.001	<0.0001	0.032	<0.001	0.291	<0.001	NA	<0.0001	<0.001	NA
	14-Dec-11	7.2	50	0.009	0.001	<0.0001	0.009	<0.001	0.027	<0.001	0.07	<0.0001	0.001	<0.001
	13-Mar-12	5	0	4.727	0.001	0.0034	0.686	0.003	20.9	<0.001	0.01	<0.0001	0.002	0.001
	14-May-12	5.2	0	1.558	<0.001	0.0017	0.709	0.002	5.341	<0.001	0.04	<0.0001	<0.001	<0.001
	10-Jul-12	4.7	0	0.998	0.001	0.002	1.117	0.003	6.488	<0.001	0.05	<0.0001	0.001	<0.001
	18-Sep-12	5.1	0	0.755	0.001	0.0013	1.806	0.002	3.781	<0.001	0.04	<0.0001	<0.001	<0.001
	27-Nov-12	4.8	<2	0.752	<0.001	0.0013	0.728	0.002	3.319	<0.001	0.07	<0.0001	<0.001	<0.001
	25-Jan-13	5.4	16	0.617	<0.001	0.0011	0.984	0.002	2.05	<0.001	0.1	<0.0001	<0.001	<0.001
	03-Apr-13	5.6	4	0.596	<0.001	0.0011	1.537	0.002	1.898	<0.001	0.02	<0.0001	<0.001	<0.001
	31-May-13	5.7	49	0.464	<0.001	0.0009	1.244	0.002	1.704	<0.001	0.02	<0.0001	<0.001	<0.001
	26-Jul-13	5.4	<2	0.203	<0.001	0.0005	0.491	0.001	0.726	<0.001	<0.01	0.0002	<0.001	<0.001
	07-Oct-13	5.9	0	0.221	<0.001	0.0006	0.435	0.001	0.801	<0.001	0.03	<0.0001	<0.001	<0.001
	25-Nov-13	6.3	0	0.34	<0.001	0.0006	0.531	0.001	1.003	<0.001	0.05	<0.0001	<0.001	<0.001
	30-Jan-14	5.3	3	0.277	<0.001	0.0006	0.434	<0.001	0.945	<0.001	0.06	<0.0001	<0.001	<0.001
	04-Jun-14	4.8	4	0.138	<0.001	0.0004	0.352	0.001	0.38	<0.001	0.01	<0.0001	<0.001	<0.001
	08-Oct-14	8.1	38	0.003	<0.001	<0.0001	0.006	<0.001	0.007	<0.001	0.01	<0.0001	<0.001	<0.001
	10-Feb-15	6.8	53	0.002	<0.001	<0.0001	0.009	<0.001	0.011	<0.001	<0.01	<0.0001	<0.001	<0.001
	04-Jun-15	7.3	36	0.013	0.001	<0.0001	0.008	<0.001	0.015	<0.001	<0.01	<0.0001	<0.001	<0.001
	12-Oct-15	6.7	85	0.02	0.001	<0.0001	0.015	<0.001	0.048	<0.001	<0.01	<0.0001	<0.001	<0.001
	17-Feb-16	6.1	83	0.046	<0.001	0.0001	0.026	<0.001	0.076	<0.001	<0.01	<0.0001	<0.001	<0.001
	30-Jun-16	6.1	71	0.029	<0.001	<0.0001	0.021	<0.001	0.059	<0.001	0.03	<0.0001	<0.001	<0.001
	25-Oct-16	5.9	67	0.097	<0.001	0.0002	0.084	<0.001	0.194	<0.001	0.03	<0.0001	<0.001	<0.001
	14-Feb-17	6.2	71	0.064	<0.001	0.0001	0.06	<0.001	0.151	<0.001	0.03	<0.0001	<0.001	<0.001
	16-Jun-17	6.2	59	0.027	<0.001	<0.0001	0.03	<0.001	0.055	<0.001	0.02	<0.0001	<0.001	<0.001
	31-Oct-17	6.3	85	0.047	<0.001	0.0001	0.03	<0.001	0.085	<0.001	<0.01	<0.0001	<0.001	<0.001
	07-Feb-18	6.3	113	0.121	<0.001	0.0003	0.105	<0.001	0.186	<0.001	<0.01	<0.0001	<0.001	<0.001
	25-Jun-18	6.0	63	0.074	<0.001	0.0002	0.086	<0.001	0.117	<0.001	0.02	<0.0001	<0.001	<0.001
	23-Oct-18	6.4	73	0.022	<0.001	<0.0001	0.016	<0.001	0.036	<0.001	0.02	<0.0001	<0.001	<0.001
	12-Feb-19	6.9	28	0.025	<0.001	<0.0001	0.02	<0.001	0.04	<0.001	NT	<0.0001	<0.001	<0.001
BH32	01-Jun-10	6.6	NA	0.004	0.001	<0.0001	0.002	<0.001	<0.002	<0.001	0.02	<0.0001	<0.001	<0.002
	06-Sep-11	5.6	NA	2.18	0.003	0.0023	0.029	<0.001	4.856	<0.001	0.06	<0.0001	<0.001	<0.001
	27-Sep-11	6.3	NA	1.992	0.004	0.0014	0.006	<0.001	2.702	<0.001	0.06	<0.0001	0.001	0.001
	31-Oct-11	5.8	18	6.396	0.003	0.0042	0.04	<0.001	16.36	<0.001	NA	<0.0001	0.002	NA
	14-Dec-11	6.9	177	0.247	0.004	0.0002	0.003	<0.001	0.265	<0.001	0.07	<0.0001	0.002	0.002
	13-Mar-12	7.2	80	0.688	0.003	0.0006	0.003	<0.001	0.963	<0.001	<0.01	<0.0001	0.001	0.002
	14-May-12	7.2	166	0.465	0.004	0.0003	0.004	<0.001	0.871	<0.001	0.03	<0.0001	0.002	0.002
	10-Jul-12	6.8	13	1.96	0.001	0.0031	0.03	<0.001	4.906	<0.001	0.07	0.0001	<0.001	<0.001
	18-Sep-12	6.6	9	2.488	0.002	0.004	0.038	<0.001	6.379	<0.001	0.11	<0.0001	<0.001	<0.001
	27-Nov-12	7.2	67	0.834	0.001	0.001	0.009	<0.001	1.657	<0.001	0.06	<0.0001	<0.001	<0.001
	25-Jan-13	7	20	0.862	<0.001	0.0013	0.012	<0.001	1.903	<0.001	0.08	<0.0001	<0.001	0.001
	03-Apr-13	7.2	26	0.952	<0.001	0.001	0.006	<0.001	1.767	<0.001	0.04	<0.0001	<0.001	<0.001
	31-May-13	6.9	52	1.87	0.001	0.0028	0.044	<0.001	3.44	<0.001	0.06	<0.0001	<0.001	<0.001
	26-Jul-13	5.4	8	2.461	0.001	0.0043	0.069	<0.001	7.082	<0.001	0.08	<0.0001	<0.001	<0.001
	07-Oct-13	5.7	13	2.991	0.001	0.0051	0.136	<0.001	6.877	<0.001	0.1	<0.0001	<0.001	<0.001
	25-Nov-13	6.7	82	0.511	<0.001	0.0007	0.005	<0.001	1.32	<0.001	0.07	<0.0001	0.003	<0.001
	30-Jan-14	6.4	66	0.298	<0.001	0.0004	0.008	<0.001	0.785	<0.001	0.05	<0.0001	0.002	<0.001
	04-Jun-14	5.8	40	0.512	<0.001	0.0008	0.005	<0.001	1.157	<0.001	0.04	<0.0001	0.001	<0.001
	08-Oct-14	7.2	7	1.349	<0.001	0.0025	0.119	<0.001	2.669	<0.001	0.08	<0.0001	<0.001	<0.001
	10-Feb-15	6.4	156	0.085	<0.001	0.0002	0.037	<0.001	0.248	<0.001	0.01	<0.0001	0.003	<0.001
	04-Jun-15	6.9	54	0.097	<0.001	0.0001	0.003	<0.001	0.226	<0.001	0.03	<0.0001	0.001	<0.001
	12-Oct-15	6.4	87	0.2	0.001	0.0003	0.005	<0.001	0.459	<0.001	0.03	<0.0001	<0.001	<0.001
	17-Feb-16	6	113	0.362	<0.001	0.0008	0.022	<0.001	0.699	<0.001	<0.01	<0.0001	<0.001	<0.001
	30-Jun-16	5.8	111	0.236	<0.001	0.0004	0.005	<0.001	0.585	<0.001	0.06	<0.0001	<0.001	<0.001
	25-Oct-16	5.7	145	0.391	<0.001	0.0007	0.009	<0.001	0.85	<0.001	0.06	<0.0001	<0.001	<0.001
	14-Feb-17	6.4	115	0.242	<0.001	0.0004	0.005	<0.001	0.581	<0.001	0.05	<0.0001	<0.001	<0.001
	16-Jun-17	5.5	96	0.345	<0.001	0.0007	0.025	<0.001	0.811	<0.001	0.07	<0.0001	<0.001	<0.001
	31-Oct-17	6.1	85	0.173	<0.001	0.0004	0.01	<0.001	0.423	<0.001	<0.01	<0.0001	<0.001	<0.001
	07-Feb-18	6.3	147	0.306	<0.001	0.0006	0.017	<0.001	0.711	<0.001	<0.01	<0.0001	0.002	<0.001
	25-Jun-18	6.1	76	0.163	<0.001	0.0003	0.007	<0.001	0.362	<0.001	0.03	<0.0001	<0.001	<0.001
	23-Oct-18	5.9	66	0.166	<0.001	0.0003	0.006	<0.001	0.377	<0.001	0.04	<0.0001	<0.001	<0.001
	12-Feb-19	6.5	13	0.259	<0.001	0.0006	0.041	<0.001	0.5	<0.001	NT	<0.0001	<0.001	<0.001

Groundwater Monitoring - Summary of Results

		Analysis												
Borehole	Date	pH	CaCO3 (mg/l)	Nickel (dissolved) mg/l	Chromium (dissolved) mg/l	Cadmium (dissolved) mg/l	Copper (dissolved) mg/l	Lead (dissolved) mg/l	Zinc (dissolved) mg/l	Arsenic (dissolved) mg/l	Boron (dissolved) mg/l	Mercury (dissolved) mg/l	Selenium (dissolved) mg/l	Vanadium (dissolved) mg/l
Guideline Value		6-9 (1)	NG	0.02 (1)	0.0047(1)	0.00008(1)	0.001-0.028* (1)	0.0072 (1)	0.008 - 0.125* (1)	0.05(1)	2 (1)	0.00005(1)	0.01(2)	0.02 - 0.06* (1)
BH13	01-Oct-09	5.2	NA	0.721	0.001	0.002	0.243	<0.001	0.611	<0.001	0.04	0.0001	<0.001	<0.002
	01-Feb-10	5.5	NA	0.263	0.001	0.0008	0.24	<0.001	0.055	<0.001	0.03	<0.0001	<0.001	<0.002
	01-Apr-10	5.5	NA	0.214	<0.001	0.0006	0.092	<0.001	0.154	<0.001	0.01	<0.0001	<0.001	<0.002
	01-Jun-10	4.6	NA	0.244	<0.001	0.0008	0.243	0.001	0.285	<0.001	0.02	0.0001	<0.001	<0.002
	01-Nov-11	6.4	0	0.193	<0.001	0.0004	0.111	<0.001	0.528	<0.001	NA	<0.0001	<0.001	NA
	16-Dec-11	7.4	47	0.128	0.001	0.0004	0.021	<0.001	0.287	<0.001	<0.01	<0.0001	<0.001	<0.001
	13-Mar-12	6.9	198	0.009	0.006	0.0004	0.001	<0.001	0.002	<0.001	<0.01	<0.0001	0.001	0.002
	14-May-12	6.7	0	0.214	<0.001	0.0005	0.104	<0.001	0.761	<0.001	0.01	<0.0001	<0.001	<0.001
	10-Jul-12	5.9	0	0.387	<0.001	0.0008	0.14	0.001	1.228	<0.001	0.02	<0.0001	<0.001	<0.001
	18-Sep-12	5.5	0	1.907	0.001	0.0037	0.138	0.002	1.851	<0.001	0.09	<0.0001	<0.001	<0.001
	27-Nov-12	7.3	12	0.249	<0.001	0.0006	0.034	<0.001	0.615	<0.001	0.02	<0.0001	<0.001	0.001
	25-Jan-13	6.5	20	0.306	<0.001	0.0007	0.114	<0.001	0.839	<0.001	0.06	<0.0001	<0.001	0.001
	03-Apr-13	6.8	12	0.276	<0.001	0.0006	0.098	<0.001	0.774	<0.001	<0.01	<0.0001	<0.001	<0.001
	31-May-13	6.9	50	0.553	<0.001	0.0011	0.091	0.001	0.681	<0.001	0.02	<0.0001	<0.001	<0.001
	26-Jul-13	5	<2	1.746	<0.001	0.0027	0.098	0.001	0.924	<0.001	0.09	<0.0001	<0.001	<0.001
	07-Oct-13	6.1	14	0.4	<0.001	0.0009	0.109	0.001	0.625	<0.001	0.04	<0.0001	<0.001	<0.001
	25-Nov-13	6.6	8	0.169	<0.001	0.0006	0.075	<0.001	0.43	<0.001	0.03	<0.0001	<0.001	<0.001
	30-Jan-14	6.3	30	0.124	<0.001	0.0005	0.004	<0.001	0.133	<0.001	0.05	<0.0001	<0.001	<0.001
	04-Jun-14	4.8	234	0.168	<0.001	0.0005	0.054	<0.001	0.373	<0.001	<0.01	<0.0001	<0.001	<0.001
	08-Oct-14	7.4	<2	0.644	<0.001	0.0015	0.115	0.001	0.594	<0.001	0.06	<0.0001	<0.001	<0.001
	10-Feb-15	5.4	4	0.075	<0.001	0.0003	0.041	<0.001	0.14	<0.001	0.02	0.0004	<0.001	<0.001
	04-Jun-15	5.8	4	0.164	0.017	0.0003	0.04	<0.001	0.198	<0.001	0.02	<0.0001	<0.001	<0.001
	12-Oct-15	6.1	40	0.102	<0.001	0.0003	0.059	<0.001	0.227	<0.001	<0.01	<0.0001	<0.001	<0.001
	17-Feb-16	4.8	61	0.096	<0.001	0.0003	0.041	<0.001	0.128	<0.001	<0.01	<0.0001	<0.001	<0.001
	30-Jun-16	4.7	53	0.077	<0.001	0.0003	0.053	<0.001	0.162	<0.001	0.03	<0.0001	<0.001	<0.001
	25-Oct-16	4.6	75	0.069	<0.001	0.0004	0.074	<0.001	0.148	<0.001	0.03	<0.0001	<0.001	<0.001
	14-Feb-17	5.0	61	0.052	<0.001	0.0002	0.052	<0.001	0.109	<0.001	0.02	<0.0001	<0.001	<0.001
	16-Jun-17	5.2	47	0.038	<0.001	0.0002	0.032	<0.001	0.068	<0.001	0.03	<0.0001	<0.001	<0.001
	31-Oct-17	4.9	45	0.037	<0.001	0.0002	0.04	<0.001	0.081	<0.001	<0.01	<0.0001	<0.001	<0.001
	07-Feb-18	5.7	61	0.032	<0.001	0.0002	0.016	<0.001	0.07	<0.001	<0.01	<0.0001	<0.001	<0.001
	25-Jun-18	4.9	68	0.075	<0.001	0.0003	0.029	<0.001	0.068	<0.001	0.03	<0.0001	<0.001	<0.001
	23-Oct-18	5.1	47	0.018	<0.001	0.0001	0.014	<0.001	0.03	<0.001	0.02	<0.0001	<0.001	<0.001
	12-Feb-19	6.2	4	0.02	<0.001	0.0001	0.015	<0.001	0.033	<0.001	NT	<0.0001	<0.001	<0.001
BH901	01-Mar-06	5.8	<20	0.076	0.008	<0.001	0.074	<0.005	0.031	<0.005	<0.005	<0.00005	<0.005	NA
	01-May-06	4.3	<20	2.7	<0.005	0.002	2.2	<0.005	0.89	<0.005	0.032	<0.00005	<0.005	NA
	01-Dec-06	3.5	<20	3.8	0.006	0.005	2.3	<0.005	1.6	<0.005	0.140	<0.00005	<0.005	NA
	01-Aug-07	6.70	62	0.09	<0.005	<0.001	0.013	<0.005	0.018	<0.005	0.031	<0.00005	<0.005	NA
	01-Aug-08	3.3	<20	2.1	<0.005	0.003	0.96	<0.005	2.5	<0.005	0.060	<0.00005	<0.005	NA
	01-Sep-09	5.36	6.5	0.342	<0.005	<0.001	0.401	<0.005	0.522	<0.005	<0.018	<0.00005	<0.005	NA
	01-Aug-10	6.40	41	0.035	0.001	<0.001	0.019	<0.001	0.142	<0.001	0.030	<0.00005	<0.005	NA
	01-Aug-11	6.70	11	0.185	<0.001	0.0003	0.067	<0.001	0.749	<0.001	0.030	<0.0001	<0.001	NA
	14-Dec-11	6	<2	0.608	<0.001	0.0008	0.3	<0.001	2.682	<0.001	0.11	<0.0001	0.001	<0.001
	13-Mar-12	5.2	0	0.44	0.002	0.0011	2.143	0.002	2.89	<0.001	<0.01	<0.0001	<0.001	0.001
	14-May-12	6.7	0	3.982	0.007	0.0031	6.873	0.003	17.55	<0.001	0.03	<0.0001	0.003	<0.001
	10-Jul-12	4.9	0	0.279	0.002	0.0005	0.834	<0.001	1.561	<0.001	0.02	<0.0001	<0.001	<0.001
	18-Sep-12	6.1	0	0.212	0.001	0.0006	0.394	<0.001	0.815	<0.001	0.04	<0.0001	<0.001	<0.001
	27-Nov-12	4.7	<0	0.283	0.001	0.0006	0.523	0.002	1.196	<0.001	0.04	<0.0001	<0.001	<0.001
	25-Jan-13	6.4	13	0.319	<0.001	0.0008	0.536	0.002	1.19	<0.001	0.05	<0.0001	<0.001	0.001
	03-Apr-13	7.1	24	0.136	<0.001	0.0003	0.234	<0.001	0.462	<0.001	<0.01	<0.0001	<0.001	<0.001
	31-May-13	5.9	<30	0.307	0.001	0.0009	0.452	<0.001	1.325	<0.001	<0.01	<0.0001	<0.001	<0.001
	26-Jul-13	4.7	<2	0.316	<0.001	0.0013	0.272	0.002	1.394	<0.001	0.03	<0.0001	<0.001	<0.001
	07-Oct-13	5.4	0	0.36	<0.001	0.0014	0.437	<0.001	1.474	<0.001	0.04	<0.0001	<0.001	<0.001
	25-Nov-13	6	2	0.738	<0.001	0.0015	0.777	0.001	2.073	<0.001	0.1	<0.0001	<0.001	<0.001
	30-Jan-14	4.2	<2	0.553	<0.001	0.0009	1.356	0.003	1.592	<0.001	0.11	<0.0001	<0.001	<0.001
	04-Jun-14	4.3	0	0.521	<0.001	0.0036	1.612	0.003	2.457	<0.001	0.04	<0.0001	<0.001	<0.001
	08-Oct-14	6.3	<2	1.048	0.001	0.008	0.772	0.003	2.042	<0.001	0.04	<0.0001	<0.001	<0.001
	10-Feb-15	4.6	0	0.386	<0.001	0.0009	1.219	<0.001	1.098	<0.001	0.12	0.0002	<0.001	<0.001
	04-Jun-15	5.5	0	0.58	0.002	0.0028	1.03	0.001	1.482	<0.001	0.06	<0.0001	0.002	<0.001
	12-Oct-15	Not Sampled						Not Sampled						Not Sampled
BH901R	17-Feb-16	5.9	114	0.447	<0.001	0.0011	0.633	<0.001	1.214	<0.001	0.06	<0.0001	<0.001	<0.001
	30-Jun-16	5.9	131	0.266	<0.001	0.0006	0.184	<0.001	0.702	<0.001	0.05	<0.0001	<0.001	<0.001
	25-Oct-16	5.6	49	0.167	<0.001	0.0003	0.402	<0.001	0.448	<0.001	0.03	<0.0001	<0.001	<0.001
	14-Feb-17	6.2	125	0.202	<0.001	0.0004	0.252	<0.001	0.497	<0.001	0.06	<0.0001	<0.001	<0.001
	16-Jun-17	6.2	45	0.13	<0.001	0.0004	0.319	<0.001	0.392	<0.001	0.05	<0.0001	<0.001	<0.001
	31-Oct-17	6.3	103	0.158	<0.001	0.0003	0.222	<0.001	0.368	<0.001	0.09	<0.0001	<0.001	<0.001
	07-Feb-18	6.4	134	0.394	<0.001	0.0008	0.519	<0.001	1.154	<0.001	0.08	<0.0001	<0.001	<0.001
	25-Jun-18	5.7	73	0.146	<0.001	0.0004	0.344	<0.001	0.412	<0.001	0.05	<0.0001	<0.001	<0.001
	23-Oct-18	6.2	135	0.272	<0.001	0.0006	0.234	<0.001	0.638	<0.001	0.11	<0.0001	<0.001	<0.001
	12-Feb-19	7.2	53	0.233	<0.001	0.0005	0.215	<0.001	0.551	<0.001	NT	<0.0001	<0.001	<0.001

Notes:

Yellow cells indicate elevated concentrations compared with Environmental Quality Standards and UK Drinking Water Standards.

Blue cells are results obtained from the Site Protection Monitoring Programme (SPMP).

NG = No Guideline

NA = Not Available

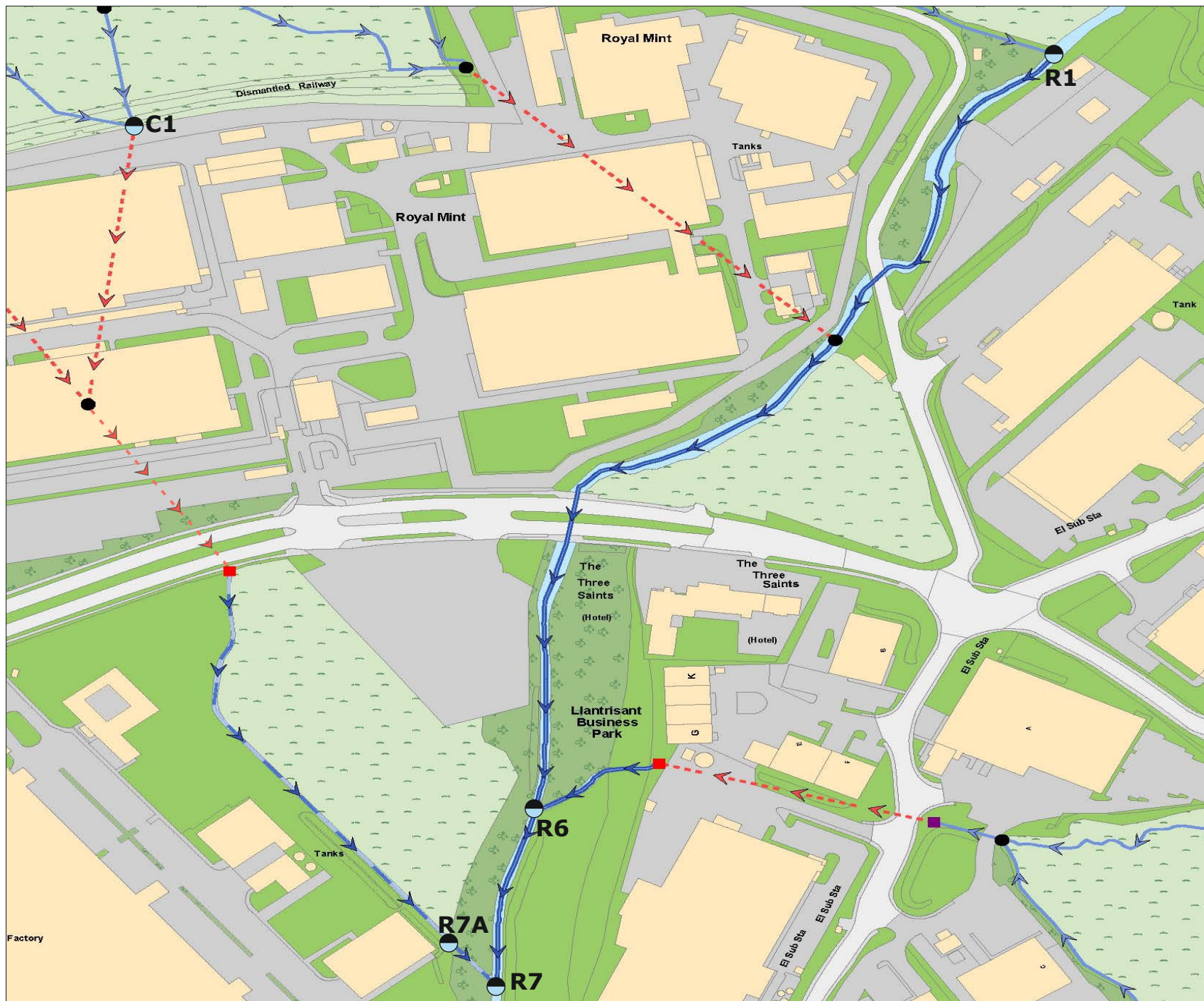
(1)= European Environmental Quality Standard (EQS): The River Basin Districts Typology, Standards and Groundwater threshold Values (Water Framework Directive (England and Wales) Directions 2010

(2)= Water Supply (Water Quality) (England and Wales) Regulations 2000 (SI 2000/3184) (as amended); Water Supply (Water Quality) (Wales) Regulations 2001 (SI 3911 W.323) (as amended)

* = Range determined by alkalinity

Appendix 3

Figures and Graphs



Legend

● River Sampling Locations

Title **Figure 1: River Sampling Locations**

Site **The Royal Mint,
Llantrisant
Pontyclun,
Mid Glamorgan,
CF72 8YT**

Client **The Royal Mint**

Project No. **1700002116**

Issue **2**

Date **February 2019**

Drawn by **RH**

RAMBOLL

Scale

NTS

