RAMBOLL ENVIRON

ENVIRONMENT
& HEALTH

Martyn Grant
Environmental Manager
The Royal Mint
Llantrisant
Pontyclun
CF72 8YT

Dear Martyn

INTERPRETATIVE REPORT ON GROUNDWATER AND SURFACE WATER SAMPLING IN FEBRUARY 2017 AND SUMMARY OF 2016/2017 MONITORING PERIOD

Date 03/03/2017

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Ref LUK17-23222_1_R3

Ramboll Environ UK Limited (“Ramboll Environ”) 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 northern and southern site boundaries. This letter presents an interpretative report on the completion of three scheduled rounds of monitoring undertaken between June 2016 and February 2017.

Background

Previous surface water monitoring has identified elevated concentrations of copper and zinc in the culverted stream that enters the Nant Mychydd (sampling points R7 and R7A). While the source of contamination is being investigated by The Royal Mint, Ramboll Environ recommended that the surface water monitoring programme should be continued from selected sampling points at a reduced frequency of once every four months, or until the contamination reduces to below the respective environmental quality standards (EQS).

Ramboll Environ also carried out groundwater sampling at the site, which has previously identified elevated concentrations of metals in groundwater in several areas. Elevated concentrations of nickel, copper and zinc have been identified in all boreholes monitored throughout 2015/16. The pH was also below [more acidic than] the acceptable EQS range at 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.

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Boreholes BH11 and BH12 were removed from the monitoring programme in 2015/16 and replaced with up gradient boreholes BH001, BH002 and COMAH area borehole BH801, which form part of the ongoing Site Protection and Monitoring Programme (SPMP).

During the last monitoring period (Report Ref: UK17-21704), statistical analysis of results indicated either 'no exceedances' or 'stable' trends for the main determinands of concern tested at BH001 and BH002; therefore, these boreholes were omitted from the 2016/17 monitoring programme. SPMP boreholes are monitored on an annual basis by Ramboll Environ and were sampled in August 2016 under the annual SPMP monitoring round.

February 2017 Surface Water Monitoring Results

Surface water samples were collected on the 14th February 2017 from five sampling locations on the Nant Mychydd River and a watercourse that passes through a culvert beneath the site (sampling points R1, R6, R7, R7A and C1), as shown on Figure 2. Samples were analysed for a range of metals, pH, cyanide and alkalinity at a UKAS accredited laboratory. The laboratory certificates of analysis are attached which provide the method of analysis for each determinand. The surface water analysis results from April 2011 to February 2017 are summarised in the attached table and are presented graphically on Figures 6, 7 and 8.

During the February 2017 monitoring, the highest concentration of copper (0.006mg/l) was recorded at sampling point R7A, where the culverted stream emerges from site prior to entering the Nant Mychydd. This concentration is equal to the EQS of 0.006mg/l (for hardness between 50mg/l and 100mg/l $CaCO_3$). The concentration of copper also equalled the EQS of 0.001mg/l (for hardness between 0mg/l and 50mg/l $CaCO_3$) at sampling point C1 (upstream of the culvert). It should be noted that sampling location C1 is upstream of the site.

Concentrations of nickel and zinc were below the respective EQS values of 0.02mg/l and 0.008-0.05mg/l (hardness dependant) at all surface water sampling locations.

Cyanide was recorded above the laboratory limit of detection (LOD) sampling point R7, where the culverted stream enters the Nant Mychydd. A concentration of 0.04mg/l was recorded, which exceeds the assessment criteria of 0.001mg/l. Cyanide was last detected at this sampling point in February 2016.

Total Petroleum Hydrocarbons (TPH) was detected in all five samples during this monitoring round at a concentration of 0.01mg/l. Concentrations in all samples equal the UK Drinking Water Standards (DWS) of 0.01mg/l. TPH concentrations have remained stable or slightly decreased at all five sampling locations when compared to the previous round of monitoring in October 2016.

Statistical Analysis of Surface Water Monitoring Results

The latest three 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 2017. Determinands that have exceeded the EQS on one or more occasions during the 2012 to 2017

monitoring period have been assessed using this approach. The results of the statistical analysis are shown in Table 1 below and are also presented for each sampling location on Figure 10. The data are presented graphically on Figures 6, 7 and 8.

Table 1: Results of Trend Analysis for Surface Water Results (2010 to 2017)

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

In general, concentrations of determinands which exceeded EQS were either decreasing, stable or there was no trend. The concentration of zinc at sampling point R1 (upstream of the site) has changed from being identified as 'probably increasing' to 'no trend' in 2016/17.

The concentration of zinc at R6 was identified as 'probably increasing'. This is likely to be influenced by detectable concentrations that remain below the EQS. Additionally a single elevated concentration of 0.087mg/l was recorded in October 2014, which marginally exceeded the EQS for the first time at this location. Whilst recent concentrations of zinc have been recorded above the laboratory LOD, they are below the EQS.

The concentration of TPH at sampling point R7, downstream of the confluence between the Nant Mychydd and the stream culverted beneath the site was identified as 'increasing'. This is likely to have been influenced by an overall increase in TPH concentration across all sampling points (both up and down-stream), recorded in February 2016, and is therefore unlikely to be associated with on-site activities.

Samples taken at locations C1 and R6 which are upstream of the site contained elevated copper and zinc concentrations in excess of the EQS which indicate an elevated baseline in the wider environment.

The concentration of copper at R7A, downstream of the site, is shown to be 'possibly decreasing'. Whilst concentrations of copper regularly exceed the EQS, there is an indication that the concentration of copper is decreasing towards the EQS.

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 2017 Rainfall Data

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 2017 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 are presented in Table 2 below. Rainfall data has been provided for the five days preceding the monitoring visit and compared with the daily average rainfall for 15th January to 14th February 2017 and the daily average based on data from the same period in 2006 to 2016.

Table 2: Rainfall Data

Date	Rainfall data (mm)*	15th January to 14th February 2017 daily average (mm)*	2006 – 2016 January/February daily average (mm)*
09/02/17	0.0	2.2	3.5
10/02/17	0.0		
11/02/17	0.5		
12/02/17	1.3		
13/02/17	0.0		
14/02/17	0.5		

* Data gathered from 'IMIDGLAM3' weather station in Caerphilly located 13km East of site (www.wunderground.com) (accessed 28/02/17)

The rainfall data indicates that rainfall in the period of 15th January to 14th February 2017 was slightly lower than 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 slightly lower than average during sampling.

February 2017 Groundwater Monitoring Results

Groundwater samples were collected from the following boreholes: BH8, BH9, BH901R, BH10, BH13, BH32, and BH801 on 25th October 2016 (shown on Figure 1). Samples were analysed for a range of metals, pH and alkalinity at a UKAS accredited laboratory. The laboratory certificates of analysis are attached which provide the method of analysis for each determinand. The analysis results are summarised in the attached table and are represented graphically on Figures 3, 4 and 5.

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:

- During the most recent round of monitoring, the concentrations of nickel (0.097mg/l), copper (0.105mg/l) and zinc (0.214mg/l) in borehole BH8 all exceeded the respective EQS values of 0.02mg/l for nickel, 0.006mg/l for copper and 0.050mg/l for zinc. Concentrations of these determinands have all slightly decreased since the previous round of monitoring in October 2016.

- Samples were collected from boreholes BH9 and the newly installed borehole (referred to as BH901R), that is acting as a replacement for borehole BH901. Concentrations of nickel, copper and zinc in boreholes BH9 and BH901R exceed the respective EQS values. The concentration of copper has slightly decreased in BH901R since the previous round of monitoring (from 0.402mg/l to 0.252mg/l). The remaining concentrations of nickel, copper and zinc have slightly increased in BH9 and BH901R since October 2016.
- Concentrations of nickel, copper and zinc have all slightly decreased in borehole BH10 since the previous round of monitoring; concentrations of nickel (0.064mg/l), copper (0.060mg/l) and zinc (0.151mg/l) were recorded slightly above the relevant EQS values in February 2016.
- In BH32, concentrations of nickel (0.242mg/l), copper (0.005mg/l) and zinc (0.581mg/l) have decreased slightly since the previous round of monitoring in October 2016. Concentrations of nickel and zinc remain above the relevant EQS; however, the concentration of copper has remained below the EQS since the monitoring round of June 2016.
- Concentrations of nickel (0.052mg/l), copper (0.052mg/l) and zinc (0.109mg/l) have slightly decreased in borehole BH13 since the previous round of monitoring in October 2016. Concentrations remain above the relevant EQS for these determinands.
- Borehole BH801, located in the north of the site (adjacent to the copper plating building) and included within ongoing SPMP groundwater sampling, was included in the 2016/17 monitoring. Concentrations of nickel (0.009mg/l), copper (0.005mg/l) and zinc (0.053mg/l) have all decreased since the previous round of monitoring. Concentrations of nickel and copper were recorded below the respective EQS values; however, the concentration of zinc slightly exceeds the EQS.
- Total chromium was not detected above the EQS value of 0.0047mg/l within any of the monitoring wells in the most recent monitoring round.
- The concentration of cadmium was recorded above the laboratory reporting limit (0.0001mg/l) in all boreholes, with the exception of BH801. A maximum recorded value of 0.0007mg/l was recorded in BH8. All reported 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, boron, mercury, selenium and vanadium.
- Low (acidic) pH values (<pH 6) were detected in samples from BH8 (pH 4.9), BH9 (pH 4.9) and BH13 (pH 5.0). Samples from these and several other locations have regularly recorded low pH values throughout the monitoring programme.

During the Site Protection Monitoring Programme (SPMP) groundwater monitoring round in August 2016, elevated concentrations of volatile organic compounds (VOCs) were detected in samples from an area of the site that has previously undergone groundwater remediation. As such, additional samples of groundwater were collected from two boreholes located within the remediated area in October 2016 (CBH6 and BHE5) and February 2017 (CBH6 and BHNP2D). Reduced concentrations of VOCs were recorded in borehole CBH6, when compared to concentrations recorded in August 2016. However, VOC concentrations in borehole BHNP2D are slightly elevated, when compared to concentrations recorded in August 2016. Screening values have been exceeded for 1,1,1-trichloroethane, trichloroethene and tetrachloroethene in BHNP2D. Samples of groundwater indicate that VOC concentrations continue to fluctuate in the remediation area.

Statistical Analysis of Groundwater Monitoring Results

The Mann Kendall test has been performed using data from monitoring rounds undertaken from 2010 (where applicable) to 2017. 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 and are also presented for each sampling location on Figure 9. The data are also presented graphically on Figures 3, 4 and 5.

Table 3: Results of Trend Analysis for Groundwater Results (2010 to 2017)

	Trend				
	Cadmium	**Total Chromium**	**Copper**	**Nickel**	**Zinc**
BH901/BH901R	No Trend	No Exceedances	No Trend	No Trend	No trend
BH8	Decreasing	No Exceedances	Decreasing	Decreasing	Decreasing
BH9	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
BH10	Decreasing	No Exceedances	Probably Decreasing	Decreasing	Decreasing
BH13	Decreasing	No Trend	Decreasing	Decreasing	Probably Decreasing
BH32	No Trend	No Exceedances	No Trend	Decreasing	Decreasing
BH801*	Stable	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', 'stable' 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 Figures 3, 4 and 5.

Analysis has also shown that BH8 and BH10 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 all metals that have exceeded the EQS. 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' is 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 seven results. With the addition of the

2016/17 monitoring data to the Mann Kendall analysis, trends have shifted from 'stable' and 'no trend' to 'decreasing' for metals copper, nickel and zinc. The trend for cadmium has shifted from 'no trend' to 'stable' as more results have been included in the analysis.

Conclusions and Recommendations

Surface Water

Over the three monitoring occasions performed during the 2016/17 period, concentrations of copper and zinc have exceeded the respective EQS for surface water (hardness adjusted) in the tributary of the Nant Mychydd, downstream from the site culvert (sampling point R7A). The EQS for copper was also exceeded on one occasion in the Nant Mychydd, downstream of the confluence with the tributary (sampling point R7). The EQS value was exceeded for copper in the upstream location (C1) on each one sampling occasion, indicating that the baseline concentration for copper in the surface water environment may be slightly elevated.

The statistical analysis has indicated that in general, concentrations of determinands which exceeded EQS were either decreasing, stable or there was no trend. Sediment, which was found to contain elevated concentrations of metals in solid phase, was removed from the culvert that passes beneath the site in 2015. Further culvert repairs to maintain the integrity of the culvert and to prevent the inflow of groundwater and uncontrolled entry of surface water were undertaken in August 2016.

The concentration of copper at R7A, downstream of the site, is shown to be 'possibly decreasing'. Whilst concentrations of copper regularly exceed the EQS, there is an indication that the concentration of copper is decreasing towards the EQS. However, the concentration of zinc at R7A, downstream of the site is shown to be 'stable', which suggests that the concentrations of this metal are not following a decreasing trend towards the EQS value.

TPH concentrations continued to be slightly elevated during 2015/16 at similar concentrations 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.

We recommend that the surface water sampling scheme continues on a four month frequency (i.e. three rounds per year) until a decreasing trend in concentrations is identified, where concentrations exceed the EQS.

Groundwater

In groundwater, concentrations of nickel, cadmium, copper and zinc have continued to exceed EQS values in each monitoring well, with the exception of BH801 with respect to nickel and cadmium since October 2016 and copper during the most recent round of monitoring in February 2017. Low pH values have been recorded in BH8, BH9, BH10, BH32, BH13 and BH901R on at least one occasion throughout the monitoring programme of 2016/17.

Statistical analysis has shown that trends in groundwater concentrations of the contaminants of concern are ‘decreasing’, ‘stable’ or have ‘no trend’ indicating that concentrations have not been significantly increasing during the 2015/16 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. A decreasing trend in metal concentrations has also been indicated for BH8 and BH10.

Given the locations of consistently elevated concentrations (BH32 and BH901), the results indicate a potential source of ongoing groundwater impact may be associated with Building 9A (pickling, plating, annealing, burnishing).

A continuation of groundwater monitoring is recommended for a further year on a four monthly basis from selected boreholes or until metal concentrations have reduced below the respective EQS in the boreholes where the most significant concentrations have been identified consistently. Ramboll Environ 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,

Andy Goddard
Principal

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agoddard@ramboll.com

Encl. Laboratory Testing Certificates

Summary of Surface Water Monitoring Results

Summary of Groundwater Monitoring Results

Figure 1: Groundwater Sampling Borehole Location Plan

Figure 2: River Sampling Locations

Figure 3: Copper Graphical Representations – Groundwater

Figure 4: Nickel Graphical Representations – Groundwater

Figure 5: Zinc Graphical Representations – Groundwater

Figure 6: Copper Graphical Representations – Surface Water

Figure 7: Nickel Graphical Representations – Surface Water

Figure 8: Zinc Graphical Representations – Surface Water

Our Ref: EXR/235634 (Ver. 2)
Your Ref: UK17-23222

February 28, 2017

Environmental Chemistry
ESG
Bretby Business Park
Ashby Road
Burton-on-Trent
Staffordshire
DE15 0YZ

Telephone: 01283 554400
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Rob Hodgson
Ramboll Environ
8 Village Way
Cardiff
CF15 7NE

For the attention of Rob Hodgson

Dear Rob Hodgson

Sample Analysis - Royal Mint Monitoring 2016/17

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 Environmental Scientifics Group Ltd (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 ESG

K Spencer
Project Co-ordinator
01283 554463

TEST REPORT

UKAS TESTING
1252

Report No. EXR/235634 (Ver. 2)

Ramboll Environ
8 Village Way
Cardiff
CF15 7NE

Site: Royal Mint Monitoring 2016/17

The 14 samples described in this report were registered for analysis by ESG on 15-Feb-2017. This report supersedes any versions previously issued by the laboratory.
The analysis was completed by: 28-Feb-2017

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:

On behalf of
ESG :
Tim Barnes

Operations Director
Energy & Waste Services

Date of Issue: 28-Feb-2017

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.
ESG accepts no responsibility for any sampling not carried out by our personnel.

Units :			pH units	mg/l	mg/l	mg/l	µg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Method Codes :			WSLM3	WSLM12	Calc_CR3	Calc_HD	VOCHSAW	ICPWATVAR	ICPWATVAR	ICPWATVAR	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPMSW	ICPWATVAR
Method Reporting Limits :					0.01	7	1	1	1	0.01	0.001	0.001	0.0001	0.001	0.001	0.002	0.001	0.01
UKAS Accredited :			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LAB ID Number EXA	**Client Sample Description**	**Sample Date**	**pH units w**	**Total Alkalinity as CaCO3 w**	**Chromium (III)**	**Total Hardness as CaCO3**	**VOC HSA-GCMS o**	**Calcium as Ca (Dissolved) a**	**Magnesium as Mg (Dissolved) a**	**Barium as Ba (Dissolved) a**	**Nickel as Ni (Dissolved)**	**Chromium as Cr (Dissolved)**	**Cadmium as Cd (Dissolved)**	**Copper as Cu (Dissolved)**	**Lead as Pb (Dissolved)**	**Zinc as Zn (Dissolved)**	**Arsenic as As (Dissolved)**	**Boron as B (Dissolved) a**
1770670	BH32	14-Feb-17 10:00	6.4	27	<0.01	115		33	8	0.05	0.242	<0.001	0.0004	0.005	<0.001	0.581	<0.001	0.05
1770671	BH8	14-Feb-17 10:40	4.9	8	<0.01	61		18	4	0.02	0.097	<0.001	0.0007	0.105	0.001	0.214	<0.001	0.02
1770672	BH901R	14-Feb-17 11:30	6.2	62	<0.01	125		42	5	0.02	0.202	<0.001	0.0004	0.252	<0.001	0.497	<0.001	0.06
1770673	BH9	14-Feb-17 11:45	4.9	6	<0.01	58		15	5	0.03	0.307	0.001	0.0006	0.763	<0.001	0.658	<0.001	0.1
1770674	CBH6	14-Feb-17 12:15					Req											
1770675	BHNP2D	14-Feb-17 12:30					Req											
1770676	BH801	14-Feb-17 13:00	6.3	50	<0.01	54		10	7	0.02	0.009	<0.001	<0.0001	0.005	<0.001	0.053	<0.001	<0.01
1770677	BH10	14-Feb-17 13:30	6.2	25	<0.01	71		20	5	0.04	0.064	<0.001	0.0001	0.06	<0.001	0.151	<0.001	0.03
1770678	BH13	14-Feb-17 14:00	5	10	<0.01	61		18	4	0.04	0.052	<0.001	0.0002	0.052	<0.001	0.109	<0.001	0.02
1770679	C1	14-Feb-17 14:30	6.4	35	<0.01	42		12	3	<0.01	0.001	<0.001	<0.0001	0.001	<0.001	0.002	<0.001	<0.01
1770680	R1	14-Feb-17 14:45	6.6	45	<0.01	59		17	4	0.01	<0.001	<0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01
1770681	R6	14-Feb-17 15:00	6.7	47	<0.01	64		19	4	0.02	<0.001	<0.001	<0.0001	<0.001	<0.001	0.003	<0.001	<0.01
1770682	R7	14-Feb-17 15:15	6.6	45	<0.01	61		18	4	0.01	<0.001	<0.001	<0.0001	<0.001	<0.001	0.002	<0.001	<0.01
1770683	R7A	14-Feb-17 15:30	6.7	44	<0.01	56		16	4	<0.01	0.003	<0.001	<0.0001	0.006	<0.001	0.012	<0.001	<0.01

ESG

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Client Name Ramboll Environ

Contact Rob Hodgson

Royal Mint Monitoring 2016/17

Sample Analysis

Date Printed	**28-Feb-2017**
Report Number	**EXR/235634**
Table Number	**1**

Where individual results are flagged see report notes for status.

		Units :	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l										
		Method Codes :	ICPMSW	ICPMSW	ICPMSW	KONENS	SFAPI	TPHFID	ICPWATVAR										
		Method Reporting Limits :	0.0001	0.001	0.001	0.01	0.02	0.01	0.01										
		UKAS Accredited :	Yes	Yes	Yes	Yes	Yes	Yes	No										
LAB ID Number EXR	**Client Sample Description**	**Sample Date**	**Mercury as Hg (Dissolved)**	**Selenium as Se (Dissolved)**	**Vanadium as V (Dissolved)**	**Chromium VI as Cr**	**Cyanide (Total) as CN**	**TPH GC**	**Beryllium as Be (Dissolved) a**										
1770670	BH32	14-Feb-17 10:00	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770671	BH8	14-Feb-17 10:40	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770672	BH901R	14-Feb-17 11:30	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770673	BH9	14-Feb-17 11:45	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770674	CBH6	14-Feb-17 12:15																	
1770675	BHNP2D	14-Feb-17 12:30																	
1770676	BH801	14-Feb-17 13:00	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770677	BH10	14-Feb-17 13:30	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770678	BH13	14-Feb-17 14:00	<0.0001	<0.001	<0.001	<0.01			<0.01										
1770679	C1	14-Feb-17 14:30	<0.0001	<0.001	<0.001	<0.01	<0.02	0.01	<0.01										
1770680	R1	14-Feb-17 14:45	<0.0001	<0.001	<0.001	<0.01	<0.02	0.01	<0.01										
1770681	R6	14-Feb-17 15:00	<0.0001	<0.001	<0.001	<0.01	<0.02	0.01	<0.01										
1770682	R7	14-Feb-17 15:15	<0.0001	<0.001	<0.001	<0.01	0.04	0.01	<0.01										
1770683	R7A	14-Feb-17 15:30	<0.0001	<0.001	<0.001	<0.01	<0.02	0.01	<0.01										

ESG

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Client Name **Ramboll Environ**

Contact Rob Hodgson

Royal Mint Monitoring 2016/17

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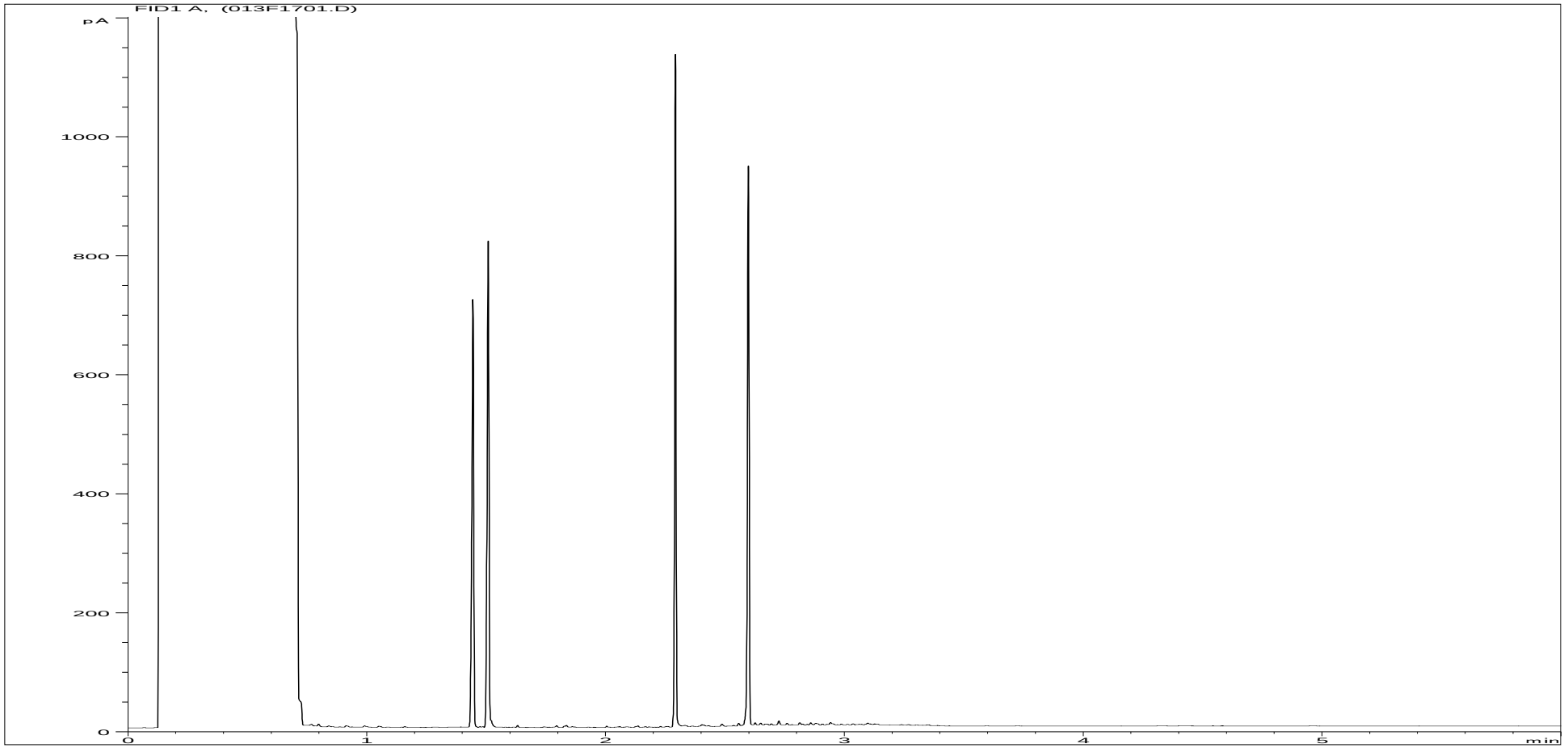
Table Number	**1**

Where individual results are flagged see report notes for status.

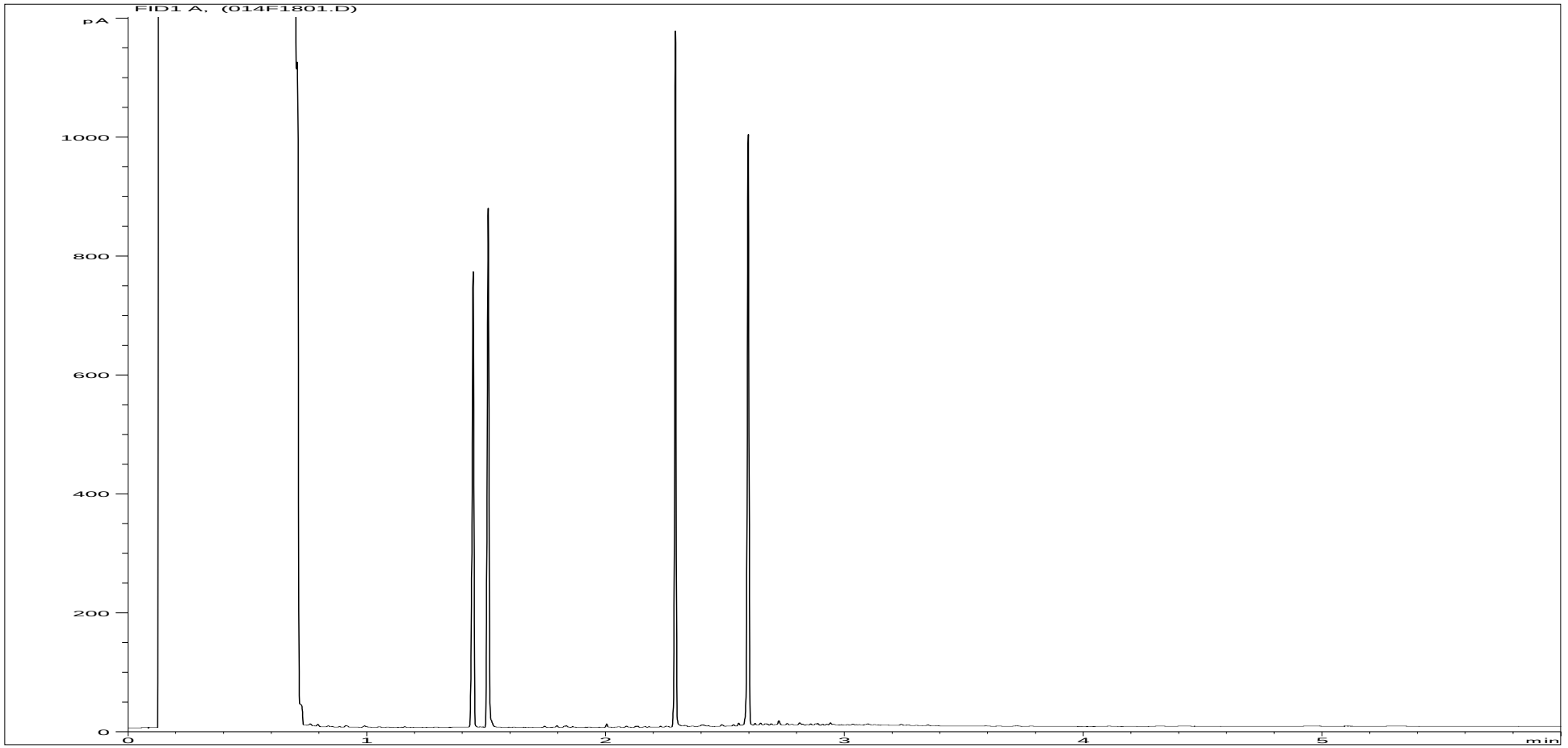
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	EX1770679	**Job Number:**	W23_5634
Multiplier:	0.005	**Client:**	Ramboll Environ
Dilution:	1	**Site:**	Royal Mint Monitoring 2016/17
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	C1
Acquisition Date/Time:	22-Feb-17, 18:39:34		
Datafile:	D:\TES\DATA\Y2017\022217TPH_GC3\022217 2017-02-22 15-10-12\013F1701.D		

Where individual results are flagged see report notes for status.

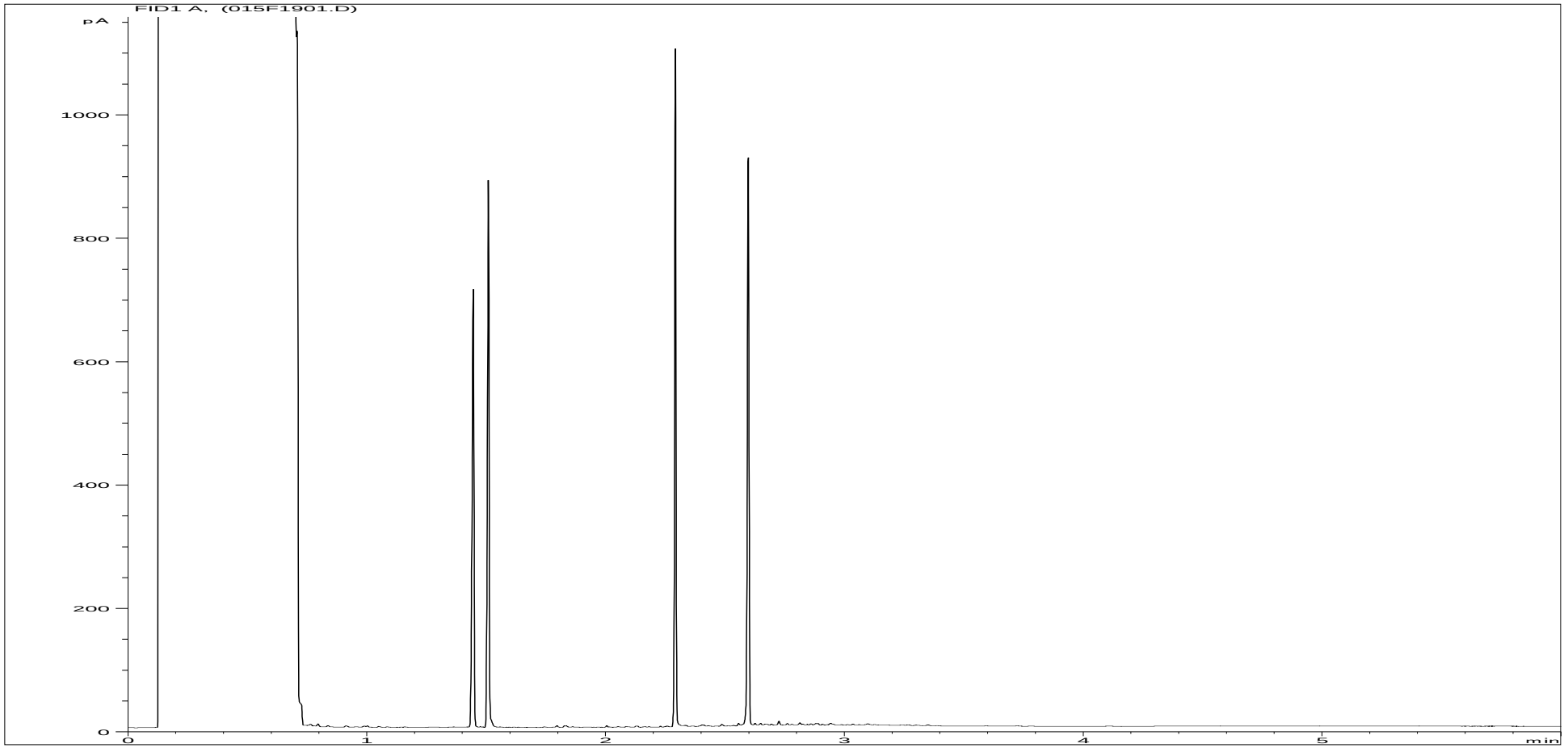
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	EX1770680	**Job Number:**	W23_5634
Multiplier:	0.005	**Client:**	Ramboll Environ
Dilution:	1	**Site:**	Royal Mint Monitoring 2016/17
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	R1
Acquisition Date/Time:	22-Feb-17, 18:52:16		
Datafile:	D:\TES\DATA\Y2017\022217TPH_GC3\022217 2017-02-22 15-10-12\014F1801.D		

Where individual results are flagged see report notes for status.

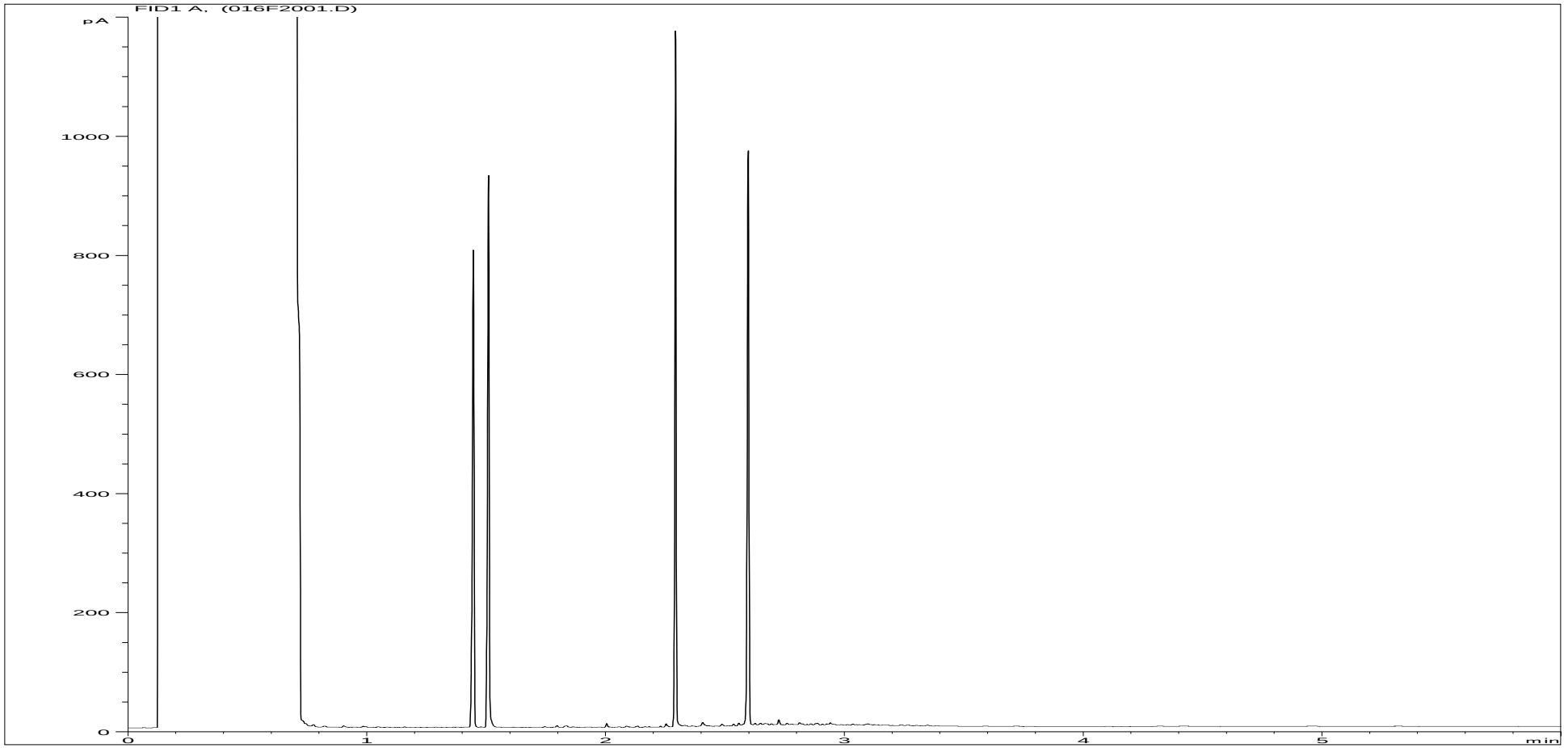
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	EX1770681	**Job Number:**	W23_5634
Multiplier:	0.005	**Client:**	Ramboll Environ
Dilution:	1	**Site:**	Royal Mint Monitoring 2016/17
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	R6
Acquisition Date/Time:	22-Feb-17, 19:05:01		
Datafile:	D:\TES\DATA\Y2017\022217TPH_GC3\022217 2017-02-22 15-10-12\015F1901.D		

Where individual results are flagged see report notes for status.

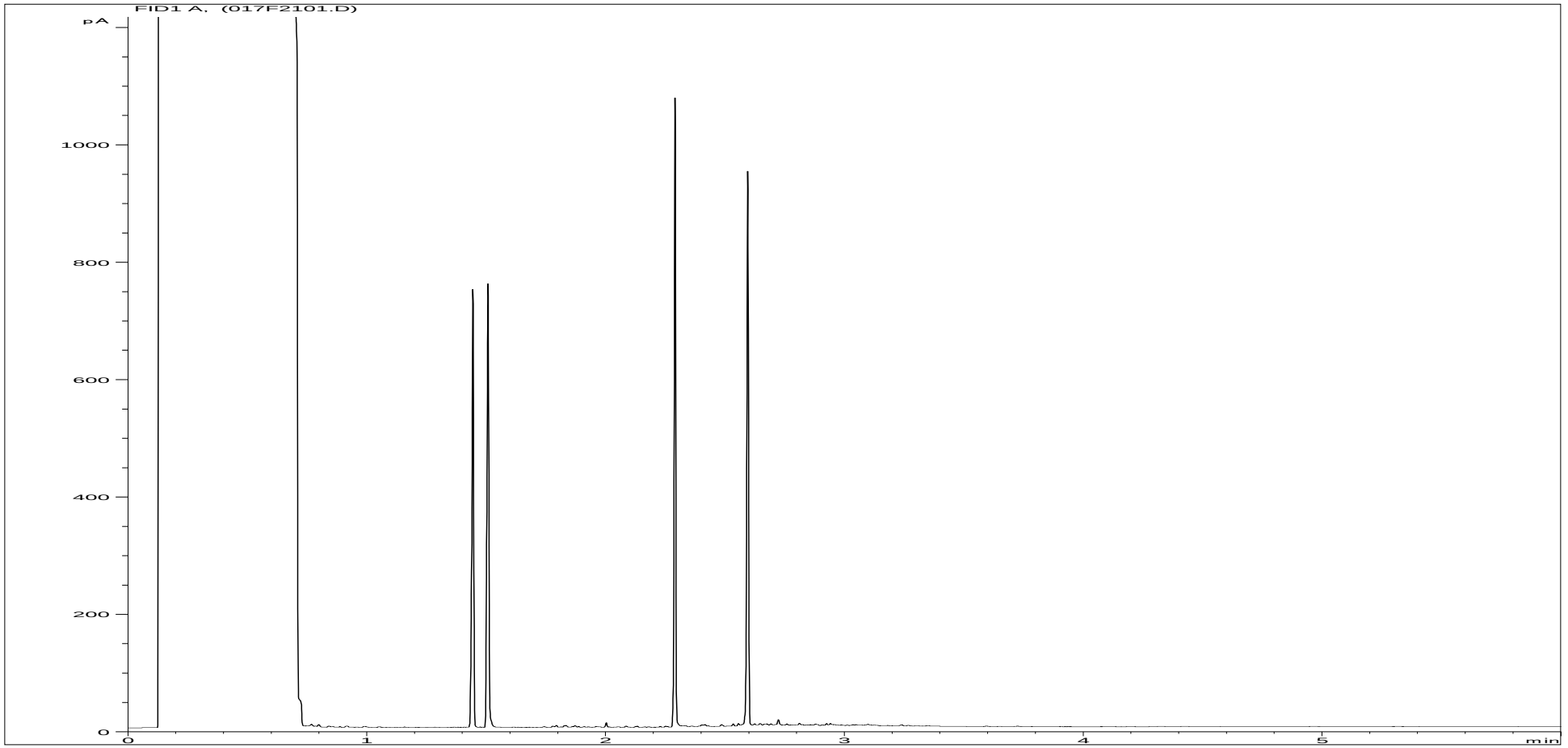
Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	EX1770682	**Job Number:**	W23_5634
Multiplier:	0.0051	**Client:**	Ramboll Environ
Dilution:	1	**Site:**	Royal Mint Monitoring 2016/17
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	R7
Acquisition Date/Time:	22-Feb-17, 19:17:43		
Datafile:	D:\TES\DATA\Y2017\022217TPH_GC3\022217 2017-02-22 15-10-12\016F2001.D		

Where individual results are flagged see report notes for status.

Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	EX1770683	**Job Number:**	W23_5634
Multiplier:	0.005	**Client:**	Ramboll Environ
Dilution:	1	**Site:**	Royal Mint Monitoring 2016/17
Acquisition Method:	5UL_RUNF.M	**Client Sample Ref:**	R7A
Acquisition Date/Time:	22-Feb-17, 19:30:27		
Datafile:	D:\TES\DATA\Y2017\022217TPH_GC3\022217 2017-02-22 15-10-12\017F2101.D		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

Customer and Site Details:	Ramboll Environ: Royal Mint Monitoring 2016/17	**Directory/Quant file:**	2017\021717\ Initial Calibration	**Matrix:**	Water
Sample Details:	CBH6	**Date Booked in:**	15-Feb-17	**Method:**	Headspace
LIMS ID Number:	EX1770674	**Date Analysed:**	17-Feb-17	**Multiplier:**	1
Job Number:	W23_5634	**Operator:**	PR	**Position:**	20

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	-	< 1	-
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	-	< 1	-
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	2.90	1	53
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	3.31	3	80
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	3.57	10	58
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	-	< 1	-
Trichloroethene	79-01-6	4.07	8	92
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	4.79	9	87
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.60	114	Dibromofluoromethane	110
1,4-Difluorobenzene	3.95	117	Toluene-d8	99
Chlorobenzene-d5	5.09	117	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	5.89	95		

Where individual results are flagged see report notes for status.

Volatile Organic Compounds by HSA-GCMS

UKAS accredited?: Yes

Customer and Site Details:	Ramboll Environ: Royal Mint Monitoring 2016/17	**Directory/Quant file:**	2017\021717\ Initial Calibration	**Matrix:**	Water
Sample Details:	BHNP2D	**Date Booked in:**	15-Feb-17	**Method:**	Headspace
LIMS ID Number:	EX1770675	**Date Analysed:**	17-Feb-17	**Multiplier:**	1
Job Number:	W23_5634	**Operator:**	PR	**Position:**	21

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Dichlorodifluoromethane	75-71-8 *	-	< 1	-
Chloromethane	74-87-3	-	< 1	-
Vinyl Chloride	75-01-4	1.04	3	52
Bromomethane	74-83-9 *	-	< 5	-
Chloroethane	75-00-3	-	< 5	-
Trichlorofluoromethane	75-69-4	-	< 1	-
1,1-Dichloroethene	75-35-4	1.90	18	96
trans 1,2-Dichloroethene	156-60-5	-	< 1	-
1,1-Dichloroethane	75-34-3	2.90	48	98
2,2-Dichloropropane	594-20-7 *	-	< 1	-
cis 1,2-Dichloroethene	156-59-2	3.30	7	79
Bromochloromethane	74-97-5	-	< 1	-
Chloroform	67-66-3	-	< 1	-
1,1,1-Trichloroethane	71-55-6	3.58	184	85
Carbon Tetrachloride	56-23-5	-	< 1	-
1,1-Dichloropropene	563-58-6	-	< 1	-
Benzene	71-43-2	-	< 1	-
1,2-Dichloroethane	107-06-2	3.78	1	M
Trichloroethene	79-01-6	4.07	36	90
1,2-Dichloropropane	78-87-5	-	< 1	-
Dibromomethane	74-95-3	-	< 1	-
Bromodichloromethane	75-27-4	-	< 1	-
cis 1,3-Dichloropropene	10061-01-5 *	-	< 1	-
Toluene	108-88-3	-	< 1	-
trans 1,3-Dichloropropene	10061-02-6 *	-	< 1	-
1,1,2-Trichloroethane	79-00-5	-	< 1	-
Tetrachloroethene	127-18-4	4.79	14	86
1,3-Dichloropropane	142-28-9	-	< 1	-
Dibromochloromethane	124-48-1	-	< 1	-
1,2-Dibromoethane	106-93-4	-	< 1	-
Chlorobenzene	108-90-7	-	< 1	-
Ethylbenzene	100-41-4	-	< 1	-
1,1,1,2-Tetrachloroethane	630-20-6	-	< 1	-
m and p-Xylene	108-38-3/106-42-3	-	< 1	-
o-Xylene	95-47-6	-	< 1	-

Target Compounds	CAS #	R.T. (min.)	Concentration µg/l	% Fit
Styrene	100-42-5	-	< 1	-
Bromoform	75-25-2	-	< 1	-
iso-Propylbenzene	98-82-8	-	< 1	-
1,1,2,2-Tetrachloroethane	79-34-5 *	-	< 1	-
Propylbenzene	103-65-1	-	< 1	-
Bromobenzene	108-86-1	-	< 1	-
1,2,3-Trichloropropane	96-18-4	-	< 1	-
2-Chlorotoluene	95-49-8	-	< 1	-
1,3,5-Trimethylbenzene	108-67-8	-	< 1	-
4-Chlorotoluene	106-43-4	-	< 1	-
tert-Butylbenzene	98-06-6	-	< 1	-
1,2,4-Trimethylbenzene	95-63-6	-	< 1	-
sec-Butylbenzene	135-98-8	-	< 1	-
p-Isopropyltoluene	99-87-6	-	< 1	-
1,3-Dichlorobenzene	541-73-1	-	< 1	-
1,4-Dichlorobenzene	106-46-7	-	< 1	-
n-Butylbenzene	104-51-8	-	< 1	-
1,2-Dichlorobenzene	95-50-1	-	< 5	-
1,2-Dibromo-3-chloropropane	96-12-8 *	-	< 5	-
1,2,4-Trichlorobenzene	120-82-1	-	< 5	-
Hexachlorobutadiene	87-68-3	-	< 5	-
Naphthalene	91-20-3	-	< 5	-
1,2,3-Trichlorobenzene	87-61-6	-	< 5	-

Compounds marked * are not UKAS accredited
"M" denotes that % fit has been manually interpreted

Internal standards	R.T.	Area %	Surrogates	% Rec
Pentafluorobenzene	3.60	119	Dibromofluoromethane	106
1,4-Difluorobenzene	3.95	118	Toluene-d8	98
Chlorobenzene-d5	5.09	117	Bromofluorobenzene	85
1,4-Dichlorobenzene-d4	5.89	97		

Where individual results are flagged see report notes for status.

Analytical and Deviating Sample Overview

Customer Ramboll Environ
Site Royal Mint Monitoring 2016/17
Report No W235634

Consignment No W116161
Date Logged 15-Feb-2017
Report Due 22-Feb-2017

ID Number	Description	Matrix Type	Sampled	MethodID	Calc_CR3	Calc_HD	CUSTSERV	ICPMSW										ICPWATVAR				
					Chromium (III) (CALC)	Total Hardness as CaCO3 (CALC)	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)	Calcium as Ca (Dissolved) VAR	Magnesium as Mg (Dissolved) VAR	Barium as Ba (Dissolved) VAR	Boron as B (Dissolved) VAR	Beryllium as Be (Dissolved) VAR
					✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
EX/1770670	BH32	Groundwater	14/02/17																			
EX/1770671	BH8	Groundwater	14/02/17																			
EX/1770672	BH901R	Groundwater	14/02/17																			
EX/1770673	BH9	Groundwater	14/02/17																			
EX/1770674	CBH6	Groundwater	14/02/17																			
EX/1770675	BHNP2D	Groundwater	14/02/17																			
EX/1770676	BH801	Groundwater	14/02/17																			
EX/1770677	BH10	Groundwater	14/02/17																			
EX/1770678	BH13	Groundwater	14/02/17																			
EX/1770679	C1	Surface Water	14/02/17																			
EX/1770680	R1	Surface Water	14/02/17																			
EX/1770681	R6	Surface Water	14/02/17																			
EX/1770682	R7	Surface Water	14/02/17																			
EX/1770683	R7A	Surface Water	14/02/17																			

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

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.

Analytical and Deviating Sample Overview

Customer Ramboll Environ
Site Royal Mint Monitoring 2016/17
Report No W235634

Consignment No W116161
Date Logged 15-Feb-2017
Report Due 22-Feb-2017

ID Number	Description	Matrix Type	Sampled	MethodID	KONENS	SFAPI	TPHFID	VOCHSAW	WSLM12	WSLM3
					Chromium VI. as Cr (Kone)	Cyanide (Total) as CN SFA	TPH GC	VOC HSA-GCMS	Total Alkalinity as CaCO3	pH units
					✓	✓	✓	✓	✓	✓
EX/1770670	BH32	Groundwater	14/02/17							
EX/1770671	BH8	Groundwater	14/02/17							
EX/1770672	BH901R	Groundwater	14/02/17							
EX/1770673	BH9	Groundwater	14/02/17							
EX/1770674	CBH6	Groundwater	14/02/17							
EX/1770675	BHNP2D	Groundwater	14/02/17							
EX/1770676	BH801	Groundwater	14/02/17							
EX/1770677	BH10	Groundwater	14/02/17							
EX/1770678	BH13	Groundwater	14/02/17							
EX/1770679	C1	Surface Water	14/02/17							
EX/1770680	R1	Surface Water	14/02/17							
EX/1770681	R6	Surface Water	14/02/17							
EX/1770682	R7	Surface Water	14/02/17							
EX/1770683	R7A	Surface Water	14/02/17							

Note: For analysis where the scheduled turnaround is greater than the holding time we will do our utmost to prioritise these samples. However, it is possible that samples could become deviant whilst being processed in the laboratory.

In this instance please contact the laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

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	Calc_CR3	As Received	Calculation of Chromium III from Total Chromium and Chromium VI
Water	Calc_HD	As Received	Calculation based on Dissolved metals analysis by ICPOES
Water	ICPMSW	As Received	Direct quantitative determination of Metals in water samples using ICPMS
Water	ICPWATVAR	As Received	Direct determination of Metals and Sulphate in water samples using ICPOES
Water	KONENS	As Received	Direct analysis using discrete colorimetric analysis
Water	SFAPI	As Received	Segmented flow analysis with colorimetric detection
Water	TPHFID	As Received	Determination of pentane extractable hydrocarbons in water by GCFID
Water	VOCHSAW	As Received	Determination of Volatile Organics Compounds by Headspace GCMS
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 105ºC 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/cm^3@ 15^{o}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 Anthophylite
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
Þ 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 Environ

Site : Royal Mint Monitoring 2016/17

Report Number : W23_5634

Lab ID Number	Client ID	Description
EX/1770670	BH32	Groundwater
EX/1770671	BH8	Groundwater
EX/1770672	BH901R	Groundwater
EX/1770673	BH9	Groundwater
EX/1770674	CBH6	Groundwater
EX/1770675	BHNP2D	Groundwater
EX/1770676	BH801	Groundwater
EX/1770677	BH10	Groundwater
EX/1770678	BH13	Groundwater
EX/1770679	C1	Surface Water
EX/1770680	R1	Surface Water
EX/1770681	R6	Surface Water
EX/1770682	R7	Surface Water
EX/1770683	R7A	Surface Water

Table 2: Surface Water Monitoring 2016-2017 (UK17-23222) - 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
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
	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

		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.	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
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
	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

		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-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
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
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	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

		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 Cont.	Feb-15	7	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	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	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
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:

2016-2017 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)

Table 1: Groundwater Monitoring 2016 - 2017 (UK17-23222) - 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)
BH001	01-Mar-06	6.5	50	0.012	<0.005	<0.001	<0.005	<0.005	0.031	<0.005	<0.005	<0.00005	<0.005	NT
	01-May-06	5.5	<20	0.01	<0.005	<0.001	<0.005	<0.005	0.018	<0.005	0.012	<0.00005	<0.005	NT
	01-Oct-07	6.5	140	0.021	<0.005	<0.001	0.008	<0.005	0.045	<0.005	<0.005	<0.00005	<0.005	NT
	01-Aug-08	6.2	65	0.035	<0.005	<0.001	0.018	<0.005	0.19	<0.005	0.04	<0.00005	<0.005	NT
	01-Dec-08	6.7	88	0.015	<0.005	<0.001	0.018	<0.005	0.11	<0.005	0.031	<0.00005	<0.005	NT
	01-Sep-09	7.04	90	0.024	<0.005	<0.001	0.015	<0.005	0.312	<0.005	<0.018	<0.00005	<0.005	NT
	01-Aug-10	6.8	75	0.083	0.002	<0.001	0.041	<0.001	0.301	0.001	0.02	<0.00005	<0.001	NT
	01-Aug-11	7.1	98	0.004	0.002	<0.001	0.001	<0.001	0.016	0.004	0.03	<0.0001	<0.001	NT
	20-Aug-12	7.1	85	0.059	<0.001	<0.0001	0.042	<0.001	0.165	0.003	0.01	0.0001	<0.001	NT
	30-Aug-13	7	88	0.13	0.001	0.0002	0.054	<0.001	0.358	<0.001	<0.01	<0.0001	<0.001	NT
	05-Sep-14	6.8	72	0.083	<0.001	0.0002	0.055	<0.001	0.302	<0.001	0.01	<0.0001	<0.001	NT
	04-Jun-15	7.1	99	0.018	<0.001	<0.0001	0.017	<0.001	0.101	0.005	<0.01	<0.0001	<0.001	<0.001
	12-Oct-15	6.9	91	0.086	<0.001	<0.0001	0.024	<0.001	0.16	<0.001	<0.01	<0.0001	<0.001	<0.001
	17-Feb-16	6.7	99	0.004	<0.001	<0.0001	0.005	<0.001	0.037	0.006	<0.01	<0.0001	<0.001	<0.001
BH002	01-Mar-06	7.8	250	0.005	0.005	<0.001	0.012	<0.005	<0.005	<0.005	0.008	<0.00005	0.013	NT
	01-May-06	8.2	320	0.021	<0.005	<0.001	0.008	<0.005	0.01	<0.005	0.034	<0.00005	<0.005	NT
	01-Aug-07	6.5	92	<0.005	<0.005	<0.001	<0.005	0.015	<0.005	<0.005	0.015	<0.00005	<0.005	NT
	01-Aug-08	6.1	63	<0.005	<0.005	<0.001	<0.005	<0.005	0.025	<0.005	0.03	<0.00005	<0.005	NT
	01-Dec-08	5.5	<20	<0.005	<0.005	<0.001	<0.005	<0.005	<0.005	<0.005	0.008	<0.00005	<0.005	NT
	01-Sep-09	6.15	18	0.007	<0.005	<0.001	<0.005	<0.005	0.028	<0.005	<0.018	<0.00005	<0.005	NT
	01-Aug-10	6.3	18	0.006	0.001	<0.001	<0.001	<0.001	0.017	<0.001	0.03	<0.00005	<0.001	NT
	01-Aug-11	5.9	19	0.005	0.002	<0.001	0.003	<0.001	0.016	<0.001	0.07	<0.0001	<0.001	NT
	21-Aug-12	7.7	36	0.006	0.002	<0.0001	0.003	0.001	0.022	<0.001	0.02	<0.0001	<0.001	NT
	13-Sep-13	7.1	53	0.006	<0.001	0.0001	0.002	<0.001	0.024	<0.001	<0.01	<0.0001	<0.001	NT
	05-Sep-14	6.3	32	0.007	<0.001	<0.0001	0.003	<0.001	0.018	<0.001	0.01	<0.0001	<0.001	NT
	04-Jun-15	6.9	24	0.011	0.001	<0.0001	<0.001	<0.001	0.007	<0.001	<0.01	<0.0001	<0.001	<0.001
	12-Oct-15	6.2	45	0.005	0.001	<0.0001	<0.001	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	<0.001
	17-Feb-16	5.7	49	0.004	<0.001	<0.0001	<0.001	<0.001	0.007	<0.001	<0.01	<0.0001	<0.001	<0.001
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
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
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	<0.01	<0.0001	<0.001	0.014
	14-May-12	4.7	0	2.254	0.012	0.0015	4.592	0.002	7.107	<0.001	0.08	<0.0001	<0.001	<0.001
	10-Jul-12	4.5	0	1.122	0.014	0.0011	2.581	0.002	5.178	0.001	0.08	<0.0001	<0.001	0.002
	18-Sep-12	6.7	0	0.458	0.003	0.0006	1.41	<0.001	1.921	<0.001	0.06	<0.0001	<0.001	<0.001
	27-Nov-12	6.8	9	0.679	0.002	0.0009	1.29	<0.001	2.205	<0.001	0.09	<0.0001	<0.001	<0.001
	25-Jan-13	7.5	24	0.546	<0.001	0.0008	0.771	<0.001	1.765	<0.001	0.11	<0.0001	<0.001	0.001
	03-Apr-13	6.2	17	0.522	0.001	0.0008	2.185	<0.001	1.806	<0.001	0.04	<0.0001	<0.001	<0.001
	31-May-13	5.1	117	0.754	0.006	0.0014	2.888	0.001	2.901	<0.001	0.08	<0.0001	<0.001	<0.001
	26-Jul-13	5.4	<2	0.329	0.002	0.0009	1.397	<0.001	1.313	<0.001	0.04	<0.0001	<0.001	<0.001
	07-Oct-13	5.1	10	1.176	0.005	0.0014	1.906	<0.001	2.568	<0.001	0.1	<0.0001	<0.001	<0.001
	25-Nov-13	6.7	104	0.227	<0.001	0.0005	0.123	0.006	0.575	<0.001	0.07	<0.0001	<0.001	<0.001
	30-Jan-14	6.7	111	0.121	<0.001	0.0002	0.051	<0.001	0.154	<0.001	0.05	<0.0001	<0.001	<0.001
	04-Jun-14	6.2	115	0.066	0.001	0.0003	0.054	<0.001	0.192	<0.001	0.01	<0.0001	<0.001	<0.001
	08-Oct-14	8	83	0.107	0.001	0.0004	0.048	<0.001	0.264	<0.001	0.02	<0.0001	<0.001	0.001
	10-Feb-15	6.4	134	0.16	<0.001	0.0004	0.115	<0.001	0.315	<0.001	0.05	<0.0001	<0.001	<0.001
	04-Jun-15	6.4	0	0.27	0.002	0.0006	0.72	<0.001	0.558	<0.001	0.11	<0.0001	0.001	<0.001
	12-Oct-15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	17-Feb-16	6.1	109	0.31	<0.001	0.0007	0.384	<0.001	0.675	<0.001	0.05	<0.0001	<0.001	<0.001
	30-Jun-16	5.3	79	0.283	<0.001	0.0006	0.736	<0.001	0.626	<0.001	0.1	<0.0001	<0.001	<0.001
	25-Oct-16	5.2	49	0.224	<0.001	0.0005	0.564	<0.001	0.508	<0.001	0.03	<0.0001	<0.001	<0.001
	14-Feb-17	4.9	58	0.307	0.001	0.0006	0.763	<0.001	0.658	<0.001	0.1	<0.0001	<0.001	<0.001

		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		<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
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
BH11	01-Feb-10	6.6	NA	0.003	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	<0.002
	01-Apr-10	6.7	NA	0.003	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.002
	01-Jun-10	6.4	NA	0.003	0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.002
	01-Nov-11	7.2	108	0.004	0.002	<0.0001	<0.001	<0.001	<0.002	<0.001	NA	<0.0001	<0.001	NA
	14-Dec-11	7	129	0.004	0.002	<0.0001	<0.001	<0.001	0.007	<0.001	0.08	<0.0001	0.001	0.001
	13-Mar-12	7.2	89	0.003	0.003	<0.0001	0.001	<0.001	0.003	0.002	<0.01	<0.0001	<0.001	0.002
	14-May-12	7.3	111	0.006	0.003	<0.0001	0.002	<0.001	0.009	<0.001	0.01	<0.0001	<0.001	0.001
	10-Jul-12	7.4	83	0.004	0.001	<0.0001	0.001	<0.001	0.006	<0.001	<0.01	<0.0001	<0.001	<0.001
	18-Sep-12	7.4	65	0.005	0.002	<0.0001	<0.001	<0.001	0.002	<0.001	0.02	<0.0001	<0.001	<0.001
	27-Nov-12	7.6	83	0.004	0.001	<0.0001	0.004	<0.001	0.007	<0.001	0.01	<0.0001	<0.001	<0.001
	25-Jan-13	7.5	80	0.002	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	0.04	<0.0001	<0.001	0.001
	03-Apr-13	7.6	73	0.003	0.001	<0.0001	0.002	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001
	31-May-13	7.4	78	0.003	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001
	26-Jul-13	6.7	93	0.002	0.002	<0.0001	0.001	<0.001	0.006	<0.001	<0.01	0.0003	<0.001	0.001
	07-Oct-13	7	146	0.004	0.001	<0.0001	0.002	<0.001	0.007	<0.001	0.03	<0.0001	<0.001	<0.001
	25-Nov-13	7.1	124	0.003	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001
	30-Jan-14	7	94	0.003	<0.001	<0.0001	0.001	<0.001	<0.002	<0.001	0.02	<0.0001	<0.001	<0.001
	04-Jun-14	6.4	102	0.003	<0.001	<0.0001	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	<0.001	<0.001
	08-Oct-14	8	85	0.003	<0.001	<0.0001	<0.001	<0.001	0.004	<0.001	0.01	<0.0001	<0.001	<0.001
	10-Feb-15	6.7	82	0.002	<0.001	<0.0001	0.002	<0.001	0.003	<0.001	<0.01	<0.0001	<0.001	<0.001
BH12	01-Oct-09	6.4	NA	0.022	0.003	0.002	0.002	<0.001	0.008	<0.001	0.04	0.0001	<0.001	<0.002
	01-Feb-10	6.2	NA	0.01	0.002	0.0006	<0.001	<0.001	0.004	<0.001	0.04	<0.0001	<0.001	<0.002
	01-Apr-10	6.2	NA	0.012	<0.001	0.0016	<0.001	<0.001	0.003	<0.001	0.03	<0.0001	<0.001	<0.002
	01-Jun-10	6.3	NA	0.012	0.002	0.0015	0.004	<0.001	0.003	<0.001	0.02	<0.0001	<0.001	<0.002
	31-Oct-11	6.5	168	0.01	0.004	0.0006	0.002	<0.001	0.005	<0.001	NA	0.0002	0.001	NA
	16-Dec-11	7.4	91	0.002	0.002	0.0005	<0.001	<0.001	<0.002	<0.001	<0.01	<0.0001	0.001	<0.001
	13-Mar-12	5.9	0	0.36	<0.001	0.0011	0.156	0.001	1.576	<0.001	<0.01	<0.0001	0.001	0.001
	14-May-12	7.1	102	0.005	0.003	0.0002	0.001	<0.001	0.005	<0.001	0.02	<0.0001	<0.001	0.001
	10-Jul-12	7.3	155	0.007	0.002	0.0002	0.002	<0.001	0.007	<0.001	0.01	<0.0001	<0.001	0.001
	18-Sep-12	7.3	171	0.008	0.004	0.0004	0.002	<0.001	0.002	<0.001	0.05	0.0002	<0.001	<0.001
	27-Nov-12	7.6	139	0.004	0.002	0.0002	<0.001	<0.001	0.003	<0.001	0.02	<0.0001	<0.001	0.001
	25-Jan-13	7.6	123	0.003	<0.001	0.0001	<0.001	<0.001	<0.002	<0.001	0.04	<0.0001	<0.001	0.001
	03-Apr-13	7.6	178	0.008	0.003	0.0004	<0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	0.001
	31-May-13	7.4	201	0.007	0.004	0.0003	0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	0.002
	26-Jul-13	6.6	158	0.008	0.004	0.0005	0.004	<0.001	0.004	<0.001	0.01	<0.0001	<0.001	0.002
	07-Oct-13	7.1	165	0.009	0.002	0.0008	0.005	<0.001	0.004	<0.001	0.03	<0.0001	<0.001	0.001
	25-Nov-13	6.8	162	0.004	<0.001	0.0003	0.001	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	<0.001
	30-Jan-14	6.9	127	0.002	<0.001	<0.0001	0.001	<0.001	<0.002	<0.001	0.02	<0.0001	0.002	<0.001
	04-Jun-14	6.3	242	0.008	0.004	0.0005	0.002	<0.001	<0.002	<0.001	0.01	<0.0001	<0.001	0.002
	08-Oct-14	8.2	162	0.007	0.001	0.0004	0.005	<0.001	0.003	<0.001	0.03	<0.0001	<0.001	<0.001
	10-Feb-15	6.5	232	0.008	0.002	0.0004	0.002	<0.001	0.002	<0.001	0.02	0.0001	<0.001	0.001

		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
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
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

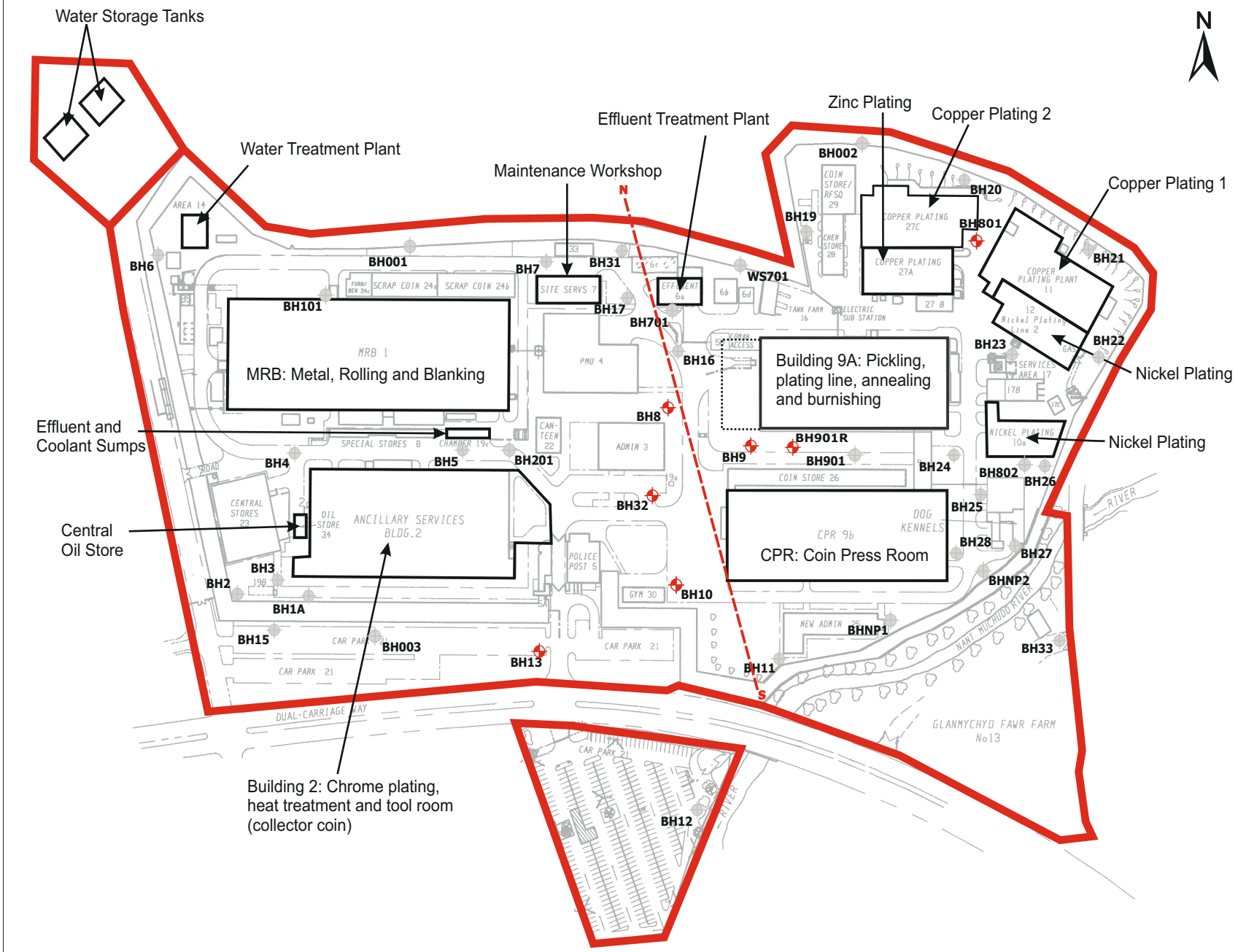
Notes:
The yellow cells indicate elevated concentrations compared with Environmental Quality Standards and UK Drinking Water Standards.
Blue cells are results obtained from the Site Protection MonitoringProgramme (SPMP).
NS = Not Sampled
NG = No Guideline
NA = Not Available

(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)

(3)= A filtered sample taken from BH9

* = Range determined by alkalinity



Legend

- Site Boundary
- Sampled Boreholes

Title **Figure 1: Borehole Location Plan**

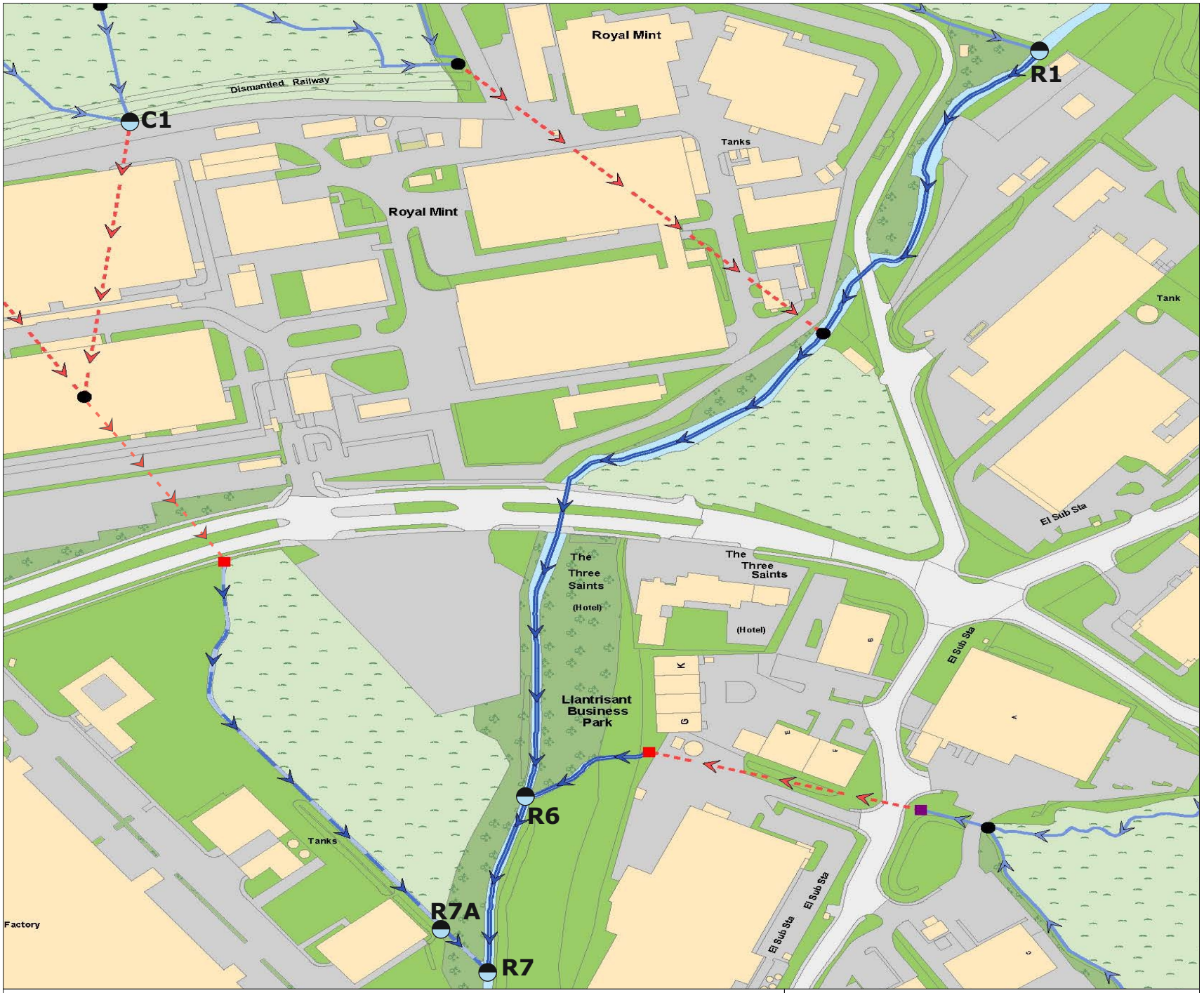
Site **The Royal Mint, Llantrisant Pontyclun, Mid Glamorgan, CF72 8YT**

Client **The Royal Mint**

Project No.	**UK17-23222**
Issue	**3**
Date	**February 2017**
Drawn by	**RH**

Scale **NTS**

RAMBOLL ENVIRON



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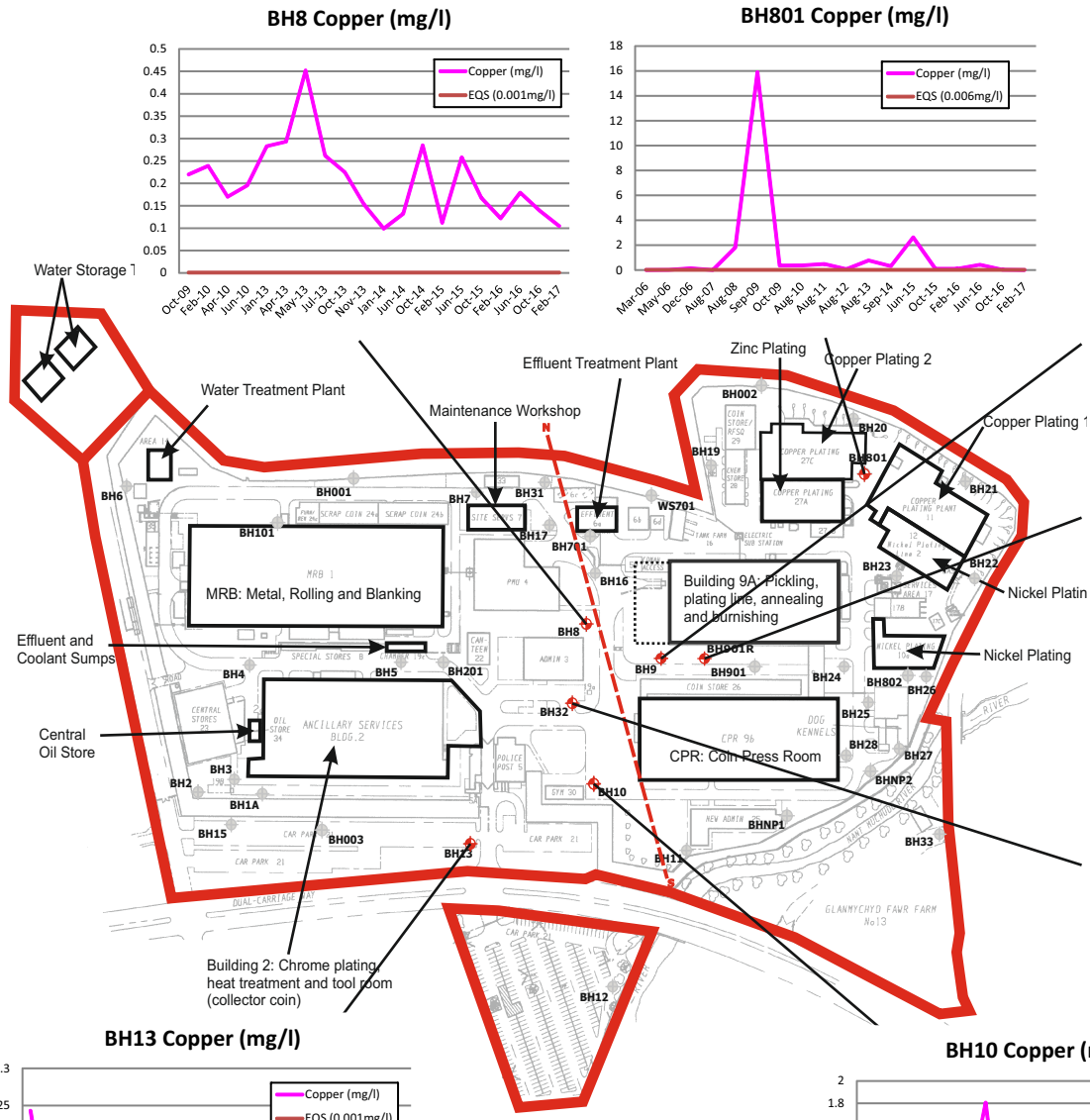
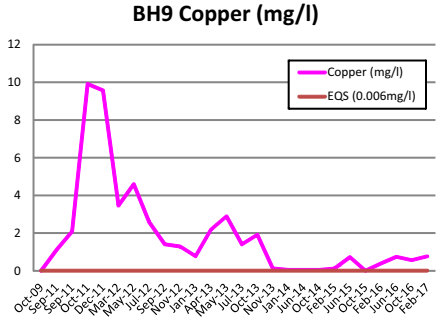
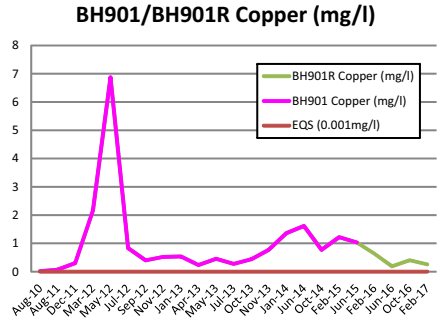
River Sampling Locations

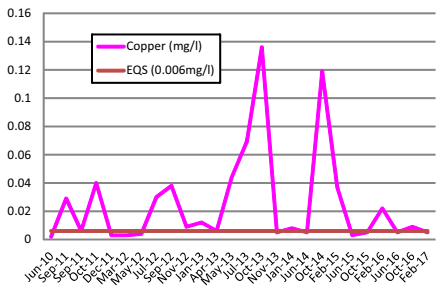
Title	**Figure 2: River Sampling Locations**
Site	**The Royal Mint, Llantrisant Pontyclun, Mid Glamorgan, CF72 8YT**
Client	**The Royal Mint**
Project No.	**UK17-23222**
Issue	**3**
Date	**February 2017**
Drawn by	**RH**
Scale	**NTS**

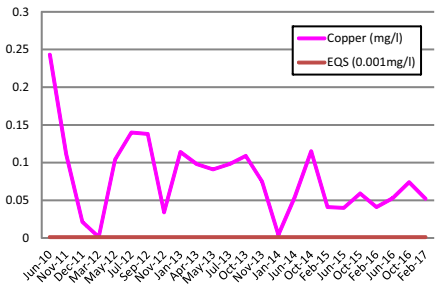
RAMBOLL ENVIRON

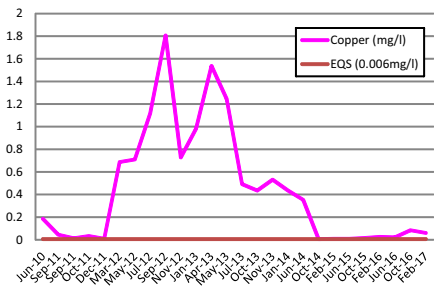












Legend

Site Boundary

Sampled Boreholes

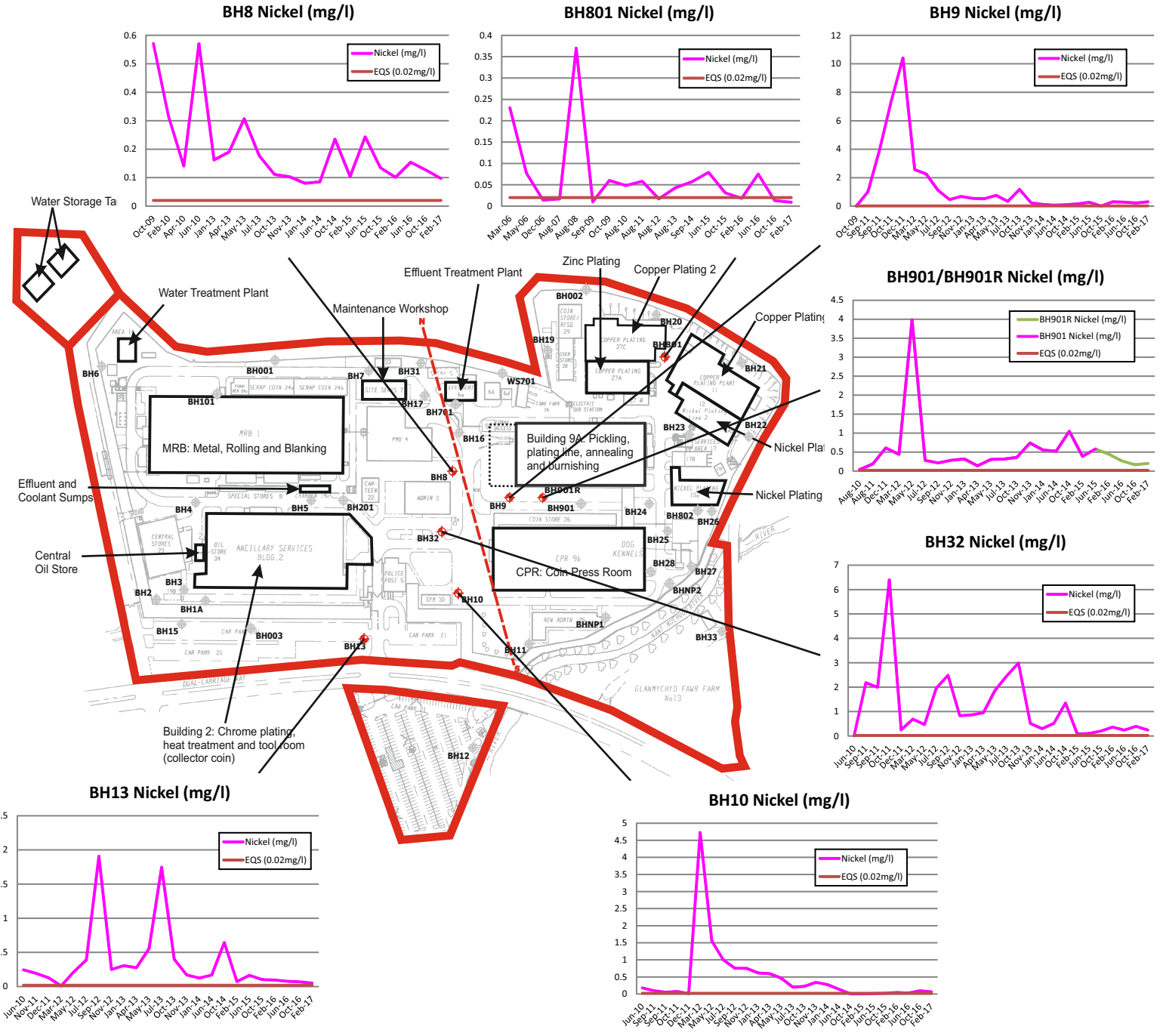
For borehole BH801 data presented between March 2006 and September 2014 was obtained during the Site Protection Monitoring Programme (SPMP) annual groundwater monitoring.

Title: Figure 3: Graphical Representation of Copper Concentrations

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

Client	The Royal Mint
Project No.	UK17-23222
Issue	3
Date	February 2017
Drawn by	RH
Scale	NTS

RAMBOLL ENVIRON



Legend

Site Boundary

Sampled Boreholes

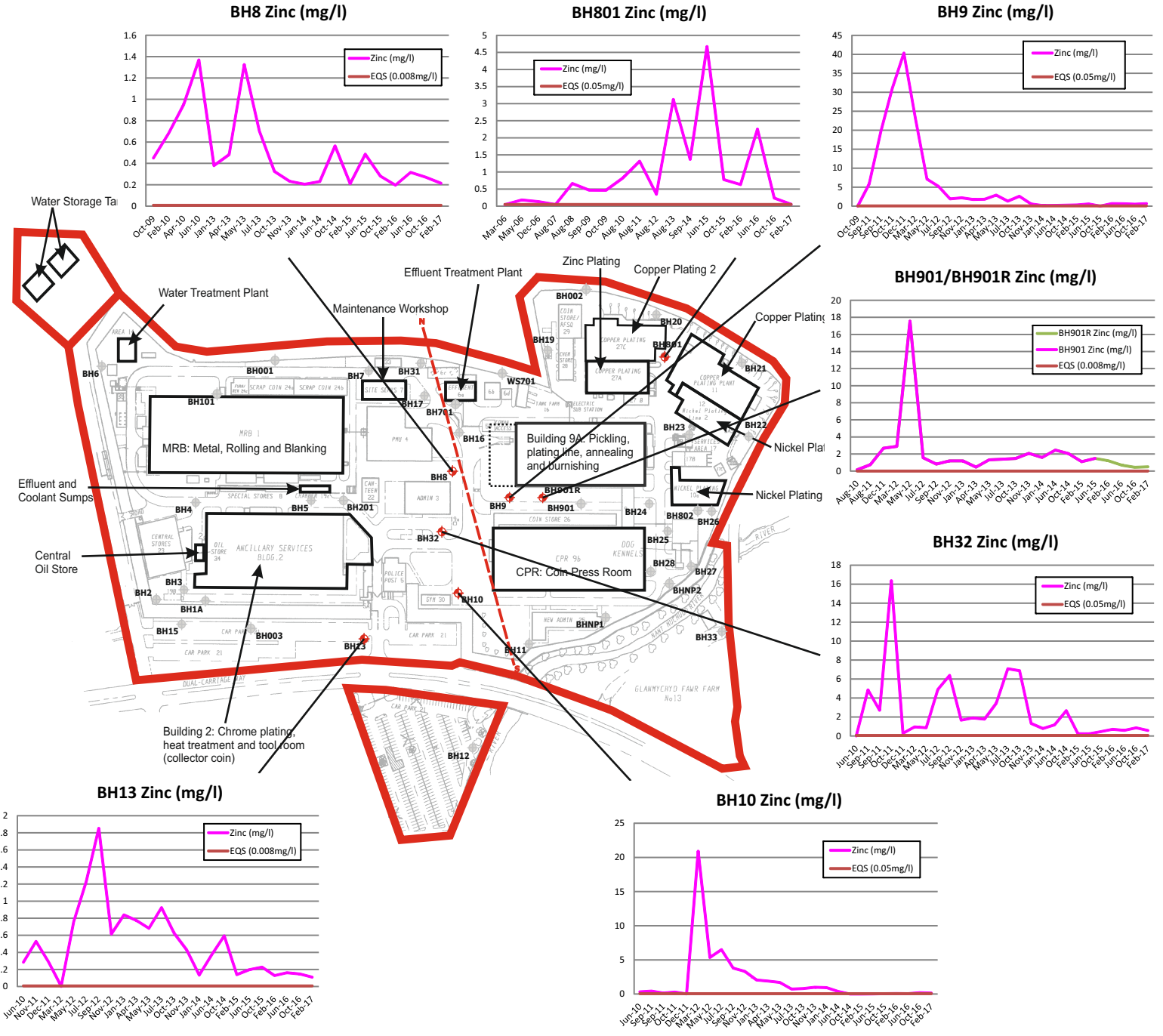
For borehole BH801 data presented between March 2006 and September 2014 was obtained during the Site Protection Monitoring Programme (SPMP) annual groundwater monitoring.

Title Figure 4: Graphical Representation of Nickel Concentrations

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

Client	The Royal Mint
Project No.	UK17-23222
Issue	3
Date	February 2017
Drawn by	RH
Scale	NTS

RAMBOLL
ENVIRON



Legend

Site Boundary

Sampled Boreholes

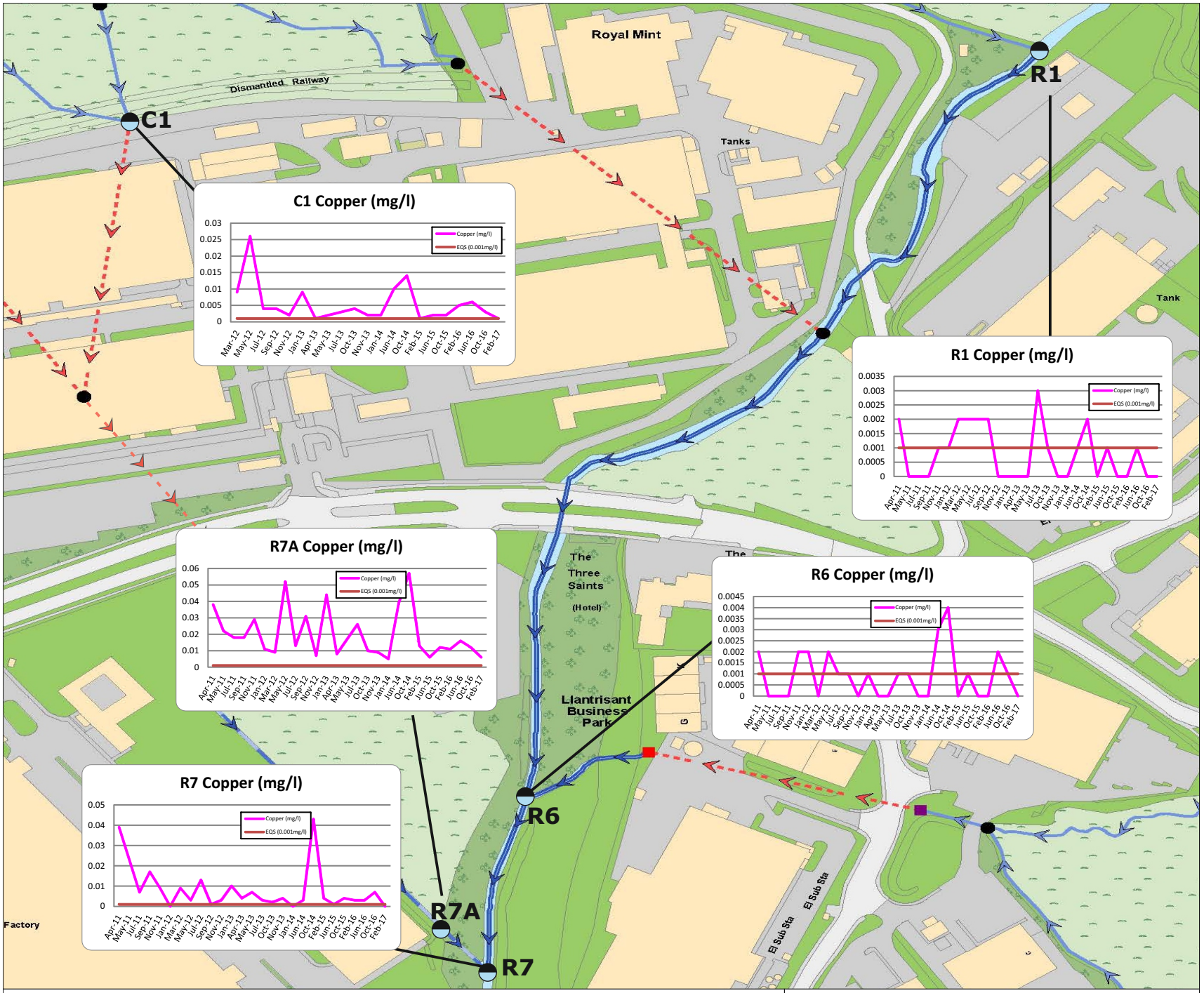
For borehole BH801 data presented between March 2006 and September 2014 was obtained during the Site Protection Monitoring Programme (SPMP) annual groundwater monitoring.

Title Figure 5: Graphical Representation of Zinc Concentrations

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

Client	The Royal Mint
Project No.	UK17-23222
Issue	3
Date	February 2017
Drawn by	RH
Scale	NTS

RAMBOLL
ENVIRON



Legend

River Sampling Locations

Title: Figure 6: Copper Concentration Graphs - Surface Water

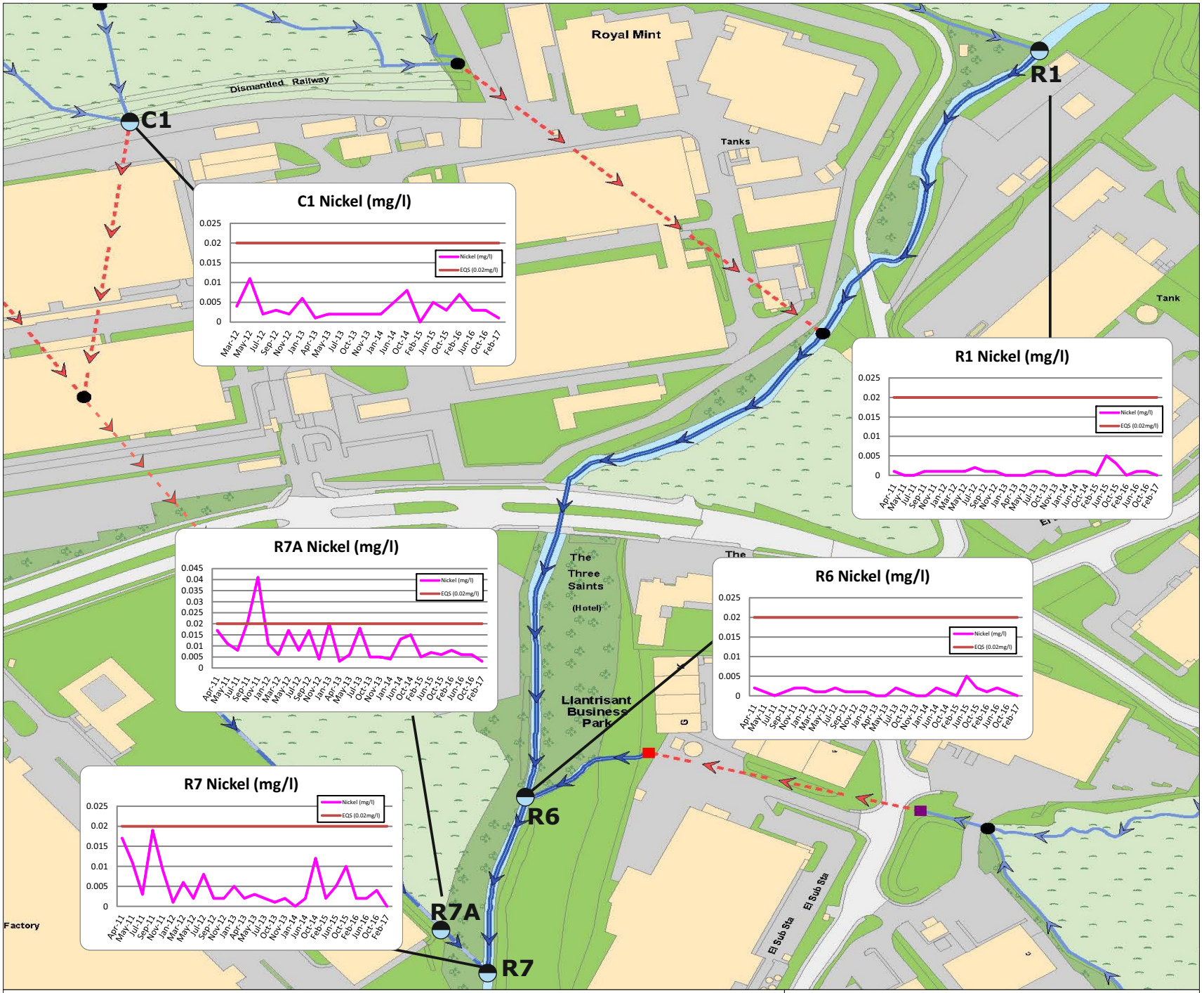
Site: The Royal Mint, Llantrisant, Pontyclun, Mid Glamorgan, CF72 8YT

Client: The Royal Mint

Project No.	UK17-23222
Issue	3
Date	February 2017
Drawn by	RH

Scale: NTS

RAMBOLL ENVIRON



Legend

River Sampling Locations

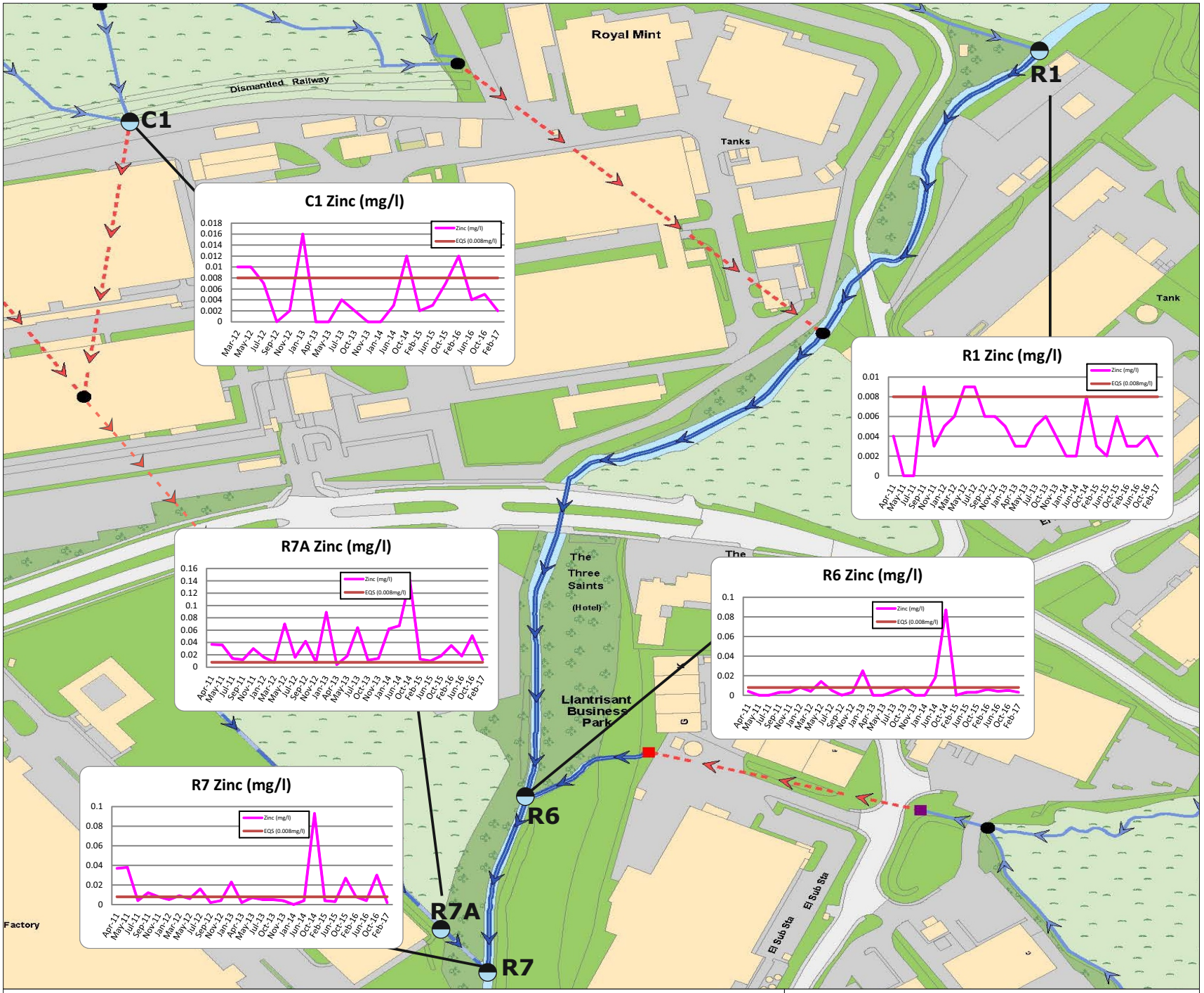
Title Figure 7: Nickel Concentration Graphs - Surface Water

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

Client	The Royal Mint
Project No.	UK17-23222
Issue	3
Date	February 2017
Drawn by	RH

Scale NTS

RAMBOLL ENVIRON



Legend

River Sampling Locations

Title Figure 8: Zinc Concentration Graphs - Surface Water

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

Client	The Royal Mint
Project No.	UK17-23222
Issue	3
Date	February 2017
Drawn by	RH

Scale NTS

RAMBOLL ENVIRON