

Reporting of Emission to Surface Water for the period from1st July 2017.....to.....31st December 2017.....

Operator : RWE Generation UK plc

Form: Water1

Location: Aberthaw Ash Disposal Site

Permit/Variation Number: DP3432SW

Emission point	Substance/ Parameter	Emission Limit Value	Result U	Test Method (U)	Sample Date and Times (U)	Accreditation/ Certification (U)	Uncertainty (U)
S1 (Group Five Spring)	Aluminium, Dissolved		84 µg/l		23/08/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		13.10 µg/l				
	Boron, Dissolved		12300 µg/l				
	Cadmium, Dissolved		0.441 µg/l				
	Calcium, Dissolved		883 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		5.880 µg/l				
	Magnesium, Dissolved		82.1 mg/l				
	Manganese, Dissolved		433.0 µg/l				
	Molybdenum, Dissolved		4190 µg/l				
	Nickel, Dissolved		0.70 µg/l				
	Selenium Dissolved		10.90 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		0 µg/l				
	Alkalinity to pH 4.5 as CaCO3		2740 mg/l				
	Conductivity at 20C		18400 µS/cm				
	Potassium, Dissolved		234 mg/l				
	Sodium, Dissolved		3080 mg/l				
	Sulphate, Dissolved as SO4		1510 mg/l				
	Nitrogen : Total Oxidised as N		8.52 mg/l				
	Chloride		5430 mg/l				
	Fluoride		0.071 mg/l				
	Ammoniacal Nitrogen as N		0.710 mg/l				
	Carbon, Organic : Total as C :- (TOC)		6.80 mg/l				
	pH		7.54 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty (%)
S1 (Group Five Spring)	Aluminium, Dissolved		62 µg/l		16/11/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic, Dissolved		24.30 µg/l				
	Boron, Dissolved		9780 µg/l				
	Cadmium, Dissolved		0.38 µg/l				
	Calcium, Dissolved		780 mg/l				
	Chromium, Dissolved		2.370 µg/l				
	Copper, Dissolved		0.831 µg/l				
	Magnesium, Dissolved		57 mg/l				
	Manganese, Dissolved		480.0 µg/l				
	Molybdenum, Dissolved		3020 µg/l				
	Nickel, Dissolved		1.10 µg/l				
	Selenium, Dissolved		7 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		170.00 mg/l				
	Conductivity at 20C		13100 uS/cm				
	Potassium, Dissolved		180 mg/l				
	Sodium, Dissolved		2360 mg/l				
	Sulphate, Dissolved as SO4		1200 mg/l				
	Nitrogen : Total Oxidised as N		1.08 mg/l				
	Chloride		4180 mg/l				
	Fluoride		0.07 mg/l				
	Ammoniacal Nitrogen as N		1.420 mg/l				
	Carbon, Organic : Total as C :- {TOC}		11.70 mg/l				
	pH		7.16 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result (d)	Test Method (d)	Sample Date and Times (d)	Accreditation/ Certification (d)	Uncertainty (d)
Eastam Perimeter Drain	Aluminium, Dissolved		µg/l		Unable to extract sample August 2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		µg/l				
	Arsenic Dissolved		µg/l				
	Boron, Dissolved		µg/l				
	Cadmium, Dissolved		µg/l				
	Calcium, Dissolved		µg/l				
	Chromium, Dissolved		mg/l				
	Copper, Dissolved		µg/l				
	Magnesium, Dissolved		µg/l				
	Manganese, Dissolved		mg/l				
	Molybdenum, Dissolved		µg/l				
	Nickel, Dissolved		µg/l				
	Selenium Dissolved		µg/l				
	Vanadium, Dissolved		µg/l				
	Mercury, Dissolved		µg/l				
	Alkalinity to pH 4.5 as CaCO3		µg/l				
	Conductivity at 20C		mg/l				
	Potassium, Dissolved		uS/cm				
	Sodium, Dissolved		mg/l				
	Sulphate, Dissolved as SO4		mg/l				
	Nitrogen : Total Oxidised as N		mg/l				
	Chloride		mg/l				
	Fluoride		mg/l				
	Ammoniacal Nitrogen as N		mg/l				
	Carbon, Organic : Total as C :- (TOC)		mg/l				
	pH		pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result (u)	Test Method (u)	Sample Date and Times (u)	Accreditation/ Certification (u)	Uncertainty (u)
Eastern Perimeter Drain	Aluminium, Dissolved		45 µg/l		16/11/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.58 µg/l				
	Boron, Dissolved		3590 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		222 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		2.560 µg/l				
	Magnesium, Dissolved		21 mg/l				
	Manganese, Dissolved		202.0 µg/l				
	Molybdenum, Dissolved		631 µg/l				
	Nickel, Dissolved		1.10 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		275.00 mg/l				
	Conductivity at 20C		1860 uS/cm				
	Potassium, Dissolved		28 mg/l				
	Sodium, Dissolved		216 mg/l				
	Sulphate, Dissolved as SO4		382 mg/l				
	Nitrogen : Total Oxidised as N		1.68 mg/l				
	Chloride		285 mg/l				
	Fluoride		0.12 mg/l				
	Ammoniacal Nitrogen as N		0 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.10 mg/l				
	pH		8.15 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
S3 (River Thaw)	Aluminium, Dissolved		132 µg/l		23/08/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic, Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		150 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		1.940 µg/l				
	Magnesium, Dissolved		163.0 mg/l				
	Manganese, Dissolved		72.8 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		0.93 µg/l				
	Selenium, Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		0 µg/l				
	Alkalinity to pH 4.5 as CaCO3		262 mg/l				
	Conductivity at 20C		7100 uS/cm				
	Potassium, Dissolved		50 mg/l				
	Sodium, Dissolved		1250 mg/l				
	Sulphate, Dissolved as SO4		325 mg/l				
	Nitrogen : Total Oxidised as N		2.92 mg/l				
	Chloride		2220 mg/l				
	Fluoride		0.226 mg/l				
	Ammoniacal Nitrogen as N		0.015 mg/l				
	Carbon, Organic : Total as C :- {TOC}		3.20 mg/l				
	pH		8.07 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Times (3)	Accreditation/ Certification (4)	Uncertainty (5)
S3 (River Thaw)	Aluminium, Dissolved		89 µg/l		16/11/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic, Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0.04 µg/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.770 µg/l				
	Magnesium, Dissolved		20.5 mg/l				
	Manganese, Dissolved		31.4 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		0.92 µg/l				
	Selenium, Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		295 mg/l				
	Conductivity at 20C		975 µS/cm				
	Potassium, Dissolved		5.83 mg/l				
	Sodium, Dissolved		89.2 mg/l				
	Sulphate, Dissolved as SO4		39.7 mg/l				
	Nitrogen : Total Oxidised as N		3.40 mg/l				
	Chloride		139.0 mg/l				
	Fluoride		0.100 mg/l				
	Ammoniacal Nitrogen as N		0.086 mg/l				
	Carbon, Organic : Total as C :- {TOC}		3.60 mg/l				
	pH		8.13 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Times (3)	Accreditation/ Certification (4)	Uncertainty (5)
Brackish Lagoon	Aluminium, Dissolved		152 µg/l		23/08/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		<700 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		150 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		1.940 µg/l				
	Magnesium, Dissolved		163.0 mg/l				
	Manganese, Dissolved		72.8 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		0.93 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		0 µg/l				
	Alkalinity to pH 4.5 as CaCO3		262 mg/l				
	Conductivity at 20C		7100 uS/cm				
	Potassium, Dissolved		50 mg/l				
	Sodium, Dissolved		1250 mg/l				
	Sulphate, Dissolved as SO4		325 mg/l				
	Nitrogen : Total Oxidised as N		2.92 mg/l				
	Chloride		4650 mg/l				
	Fluoride		0.226 mg/l				
	Ammoniacal Nitrogen as N		0.015 mg/l				
	Carbon, Organic : Total as C :- {TOC}		3.20 mg/l				
	pH		8.07 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Time (3)	Accreditation/ Certification (4)	Uncertainty (5)
Brackish Lagoon	Aluminium, Dissolved		<40 µg/l		10/11/2017	Sampling Station/Testing EA MLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic, Dissolved		<1 µg/l				
	Boron, Dissolved		4050 µg/l				
	Cadmium, Dissolved		0.078 µg/l				
	Calcium, Dissolved		209 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.500 µg/l				
	Magnesium, Dissolved		317 mg/l				
	Manganese, Dissolved		27.8 µg/l				
	Molybdenum, Dissolved		629 µg/l				
	Nickel, Dissolved		0.31 µg/l				
	Selenium, Dissolved		<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved		0 µg/l				
	Alkalinity to pH 4.5 as CaCO3		170 mg/l				
	Conductivity at 20C		14900 uS/cm				
	Potassium, Dissolved		140 mg/l				
	Sodium, Dissolved		2000 mg/l				
	Sulphate, Dissolved as SO4		963 mg/l				
	Nitrogen : Total Oxidised as N		0.52 mg/l				
	Chloride		4970 mg/l				
	Fluoride		0.38 mg/l				
	Ammoniacal Nitrogen as N		0.03 mg/l				
	Carbon, Organic : Total as C :- (TOC)		2.70 mg/l				
	pH		8.47 pH Units				

- [1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.
- [2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. colorimetry.
- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements, or flow/time proportional samples, the percentage of the process operating time covered by the monitoring is given.
- [4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.
- [5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.
- [6] The emission limit values for all substances is expressed as a maximum individual value, unless otherwise stated.

Signed H. Way Date 11/01/18 (authorised to sign as representative of the Operator)

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty µl
Antimony, Dissolved		<40 µg/l				
Arsenic, Dissolved		14 µg/l				
Boron, Dissolved	310	161 µg/l				
Cadmium, Dissolved	80000	30700 µg/l				
Calcium, Dissolved	15	0.32 µg/l				
Chromium, Dissolved		367 mg/l				
Copper, Dissolved		<0.5 µg/l				
Magnesium, Dissolved		<0.2 µg/l				
Manganese, Dissolved		217 mg/l				
Molybdenum, Dissolved		120 µg/l				
Nickel, Dissolved	9000	2680 µg/l				
Selenium, Dissolved		0.3 µg/l				
Silver, Dissolved	350	8.17 µg/l				
Vanadium, Dissolved		56 µg/l				
Mercury, Dissolved	20	<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO ₃		180 mg/l		07/11/2017	Sampling Area/Testing EA NLS	
Conductivity at 20°C		4000 µS/cm				
Potassium, Dissolved		105 mg/l				
Sodium, Dissolved		550 mg/l				
Sulphate, Dissolved as SO ₄		1910 mg/l				
Nitrogen : Total Oxidised as N		1.17 mg/l				
Chloride		759 mg/l				
Fluoride		<0.05 mg/l				
Ammoniacal Nitrogen as N		0.23 mg/l				
Carbon, Organic : Total as C :- (TOC)	6.8	<0.7 mg/l				
pH		7.70 pH Units				
Ionic Balance		0.42 %				
Electrical Conductivity		5168 µS/cm				
Temperature		12.5 deg C				
Dissolved Oxygen		1.40 mg/l				
pH		7.64 pH Units				
Groundwater Level		8.36 m AOD				

BVS

Substance/ Emission point Parameter	Emission Limit Value	Result vs	Test Method (B)	Sample Date and Time (C)	Accreditation/ Certification (A)	Uncertainty (H)
Aluminium, Dissolved		<10 µg/l				
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		1170 µg/l				
Caesium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		282 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		1.11 µg/l				
Magnesium, Dissolved		20 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		<3 µg/l				
Nickel, Dissolved		1.2 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Availability to pH 4.5 as CaCO3		282 mg/l				
Conductivity at 20C		1400 µS/cm				
Potassium, Dissolved		2 mg/l				
Sodium, Dissolved		90 mg/l				
Sulphate, Dissolved as SO4		515 mg/l				
Nitrogen : Total Oxidised as N		0.36 mg/l				
Chloride		72 mg/l				
Fluoride		0.08 mg/l				
Ammoniacal Nitrogen as N		0.03 mg/l				
Carbon, Organic : Total as C :- (TOC)		1 mg/l				
pH		7.11 pH Units				
ionic Balance		0.83 %				
Electrical Conductivity		1280 µS/cm				
Temperature		13.1 deg C				
Dissolved Oxygen		4.51 mg/l				
pH		6.78 pH Units				
Groundwater Level		8.50 m AOD				

EH5

Sampling Area/Testing
EA NLS

31/08/2017

Field Measurements

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty (%)
Aluminium, Dissolved		<10 µg/l				
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		1140 µg/l				
Calcium, Dissolved		<0.1 µg/l				
Chromium, Dissolved		333 mg/l				
Copper, Dissolved		<0.5 µg/l				
Copper, Dissolved		1.21 µg/l				
Magnesium, Dissolved		21 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		6 µg/l				
Nickel, Dissolved		1.4 µg/l				
Selenium, Dissolved		<2 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO3		254 mg/l				
Conductivity at 20C		1620 µS/cm				
Potassium, Dissolved		2 mg/l				
Sodium, Dissolved		66 mg/l				
Sulphate, Dissolved as SO4		576 mg/l				
Nitrogen : Total Oxidised as N		0.67 mg/l				
Chloride		107 mg/l				
Fluoride		0.08 mg/l				
Ammoniacal Nitrogen as N		0.10 mg/l				
Carbon, Organic : Total as C :- (TOC)		1 mg/l				
pH		7.13 pH Units				
Ionic Balance		3.14 %				
Electrical Conductivity		1669 µS/cm				
Temperature		11.4 deg C				
Dissolved Oxygen		5.17 mg/l				
pH		7.00 pH Units				
Groundwater Level		8.30 mNOD				

B45

Sampling Area/Testing
EA NLS

09/11/2017

Field Measurements

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Time (3)	Accreditation/ Certification (4)	Uncertainty (5)
Aluminium, Dissolved		<49 µg/l		30/08/2017	Sampling Assoc/Testing EA NLS	
Arsenite, Dissolved		<10 µg/l				
Arsenic, Dissolved		22 µg/l				
Boron, Dissolved		25100 µg/l				
Calcium, Dissolved		0.40 µg/l				
Calcium, Dissolved		655 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		0.44 µg/l				
Magnesium, Dissolved		200 mg/l				
Manganese, Dissolved		3570 µg/l				
Molybdenum, Dissolved		3070 µg/l				
Nickel, Dissolved		7.9 µg/l				
Selenium, Dissolved		16.10 µg/l				
Vanadium, Dissolved		23 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Acidity to pH 4.5 as CaCO3		370 mg/l				
Conductivity at 20C		7410 uS/cm				
Potassium, Dissolved		84 mg/l				
Sodium, Dissolved		934 mg/l				
Sulphate, Dissolved as SO4		1880 mg/l				
Nitrogen : Total Oxidised as N		9.37 mg/l				
Chloride		1650 mg/l				
Fluoride		0.13 mg/l				
Ammoniacal Nitrogen as N		1.27 mg/l				
Carbon, Organic : Total as C :- (TOC)		2 mg/l				
pH		7.28 pH Units				
Ionic Balance		0.67 %				
Electrical Conductivity		6900 µS/cm	Field Measurements			
Temperature		14.2 deg C				
Dissolved Oxygen		6.42 mg/l				
pH		7.54 pH Units				
Groundwater Level		8.14 mAOD				

BH8

Substance/ Parameter	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty (%)
Aluminium, Dissolved	Aluminium, Dissolved		<40 µg/l				
Antimony, Dissolved	Antimony, Dissolved		<10 µg/l				
Arsenic, Dissolved	Arsenic, Dissolved		27 µg/l				
Boron, Dissolved	Boron, Dissolved		27000 µg/l				
Cadmium, Dissolved	Cadmium, Dissolved		0.41 µg/l				
Calcium, Dissolved	Calcium, Dissolved		647 mg/l				
Chromium, Dissolved	Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved	Copper, Dissolved		0.39 µg/l				
Magnesium, Dissolved	Magnesium, Dissolved		211 mg/l				
Manganese, Dissolved	Manganese, Dissolved		2000 µg/l				
Molybdenum, Dissolved	Molybdenum, Dissolved		3250 µg/l				
Nickel, Dissolved	Nickel, Dissolved		6.1 µg/l				
Selenium, Dissolved	Selenium, Dissolved		18.00 µg/l				
Vanadium, Dissolved	Vanadium, Dissolved		<20 µg/l				
Mercury, Dissolved	Mercury, Dissolved		<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO3	Alkalinity to pH 4.5 as CaCO3		390 mg/l		07/11/2017	Sampling Assoc/Testing EA NLS	
Conductivity at 20C	Conductivity at 20C		6800 uS/cm				
Potassium, Dissolved	Potassium, Dissolved		84 mg/l				
Sodium, Dissolved	Sodium, Dissolved		883 mg/l				
Sulphate, Dissolved as SO4	Sulphate, Dissolved as SO4		1960 mg/l				
Nitrogen : Total Oxidised as N	Nitrogen : Total Oxidised as N		11.40 mg/l				
Chloride	Chloride		1430 mg/l				
Fluoride	Fluoride		0.14 mg/l				
Ammoniacal Nitrogen as N	Ammoniacal Nitrogen as N		1.16 mg/l				
Carbon, Organic : Total as C :- (TOC)	Carbon, Organic : Total as C :- (TOC)		2 mg/l				
pH	pH		7.47 pH Units				
Ionic Balance	Ionic Balance		1.00 %				
Electrical Conductivity	Electrical Conductivity		7279 µS/cm				
Temperature	Temperature		11.5 deg C				
Dissolved Oxygen	Dissolved Oxygen		8.28 mg/l				
pH	pH		7.35 pH Units				
Groundwater Level	Groundwater Level		5.45 m AOD				

EA-10

Substance/ Emulsion point Parameter	Emulsion Limit Value	Result of	Test Method	Sample Date and Time	Accreditation/ Certification	Uncertainty %
Aluminium, Dissolved		440 µg/l				
Antimony, Dissolved		<10 µg/l				
Arsenic, Dissolved	310	5 µg/l				
Boron, Dissolved	60000	22000 µg/l				
Cadmium, Dissolved	15	0.15 µg/l				
Calcium, Dissolved		827 mg/l				
Chloride, Dissolved		<0.5 µg/l				
Copper, Dissolved		<0.2 µg/l				
Magnesium, Dissolved		126 mg/l				
Manganese, Dissolved		1280 µg/l				
Molybdenum, Dissolved	9000	3670 µg/l				
Nickel, Dissolved		<0.3 µg/l				
Selenium, Dissolved	350	<1 µg/l				
Vanadium, Dissolved		<20 µg/l				
Mercury, Dissolved	20	<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO3		475 mg/l		11/08/2015	Sampling Assoc/Testing EA NLS	
Conductivity at 20C		13800 µS/cm				
Potassium, Dissolved		280 mg/l				
Sodium, Dissolved		2380 mg/l				
Sulphate, Dissolved as SO4		1910 mg/l				
Nitrogen : Total Oxidised as N		<0.2 mg/l				
Chloride		3330 mg/l				
Fluoride		0.45 mg/l				
Ammoniacal Nitrogen as N		3.45 mg/l				
Carbon, Organic : Total as C :- (TOC)	8.6	1 mg/l				
pH		7.17 pH Units				
Ionic Balance		6.04 %				
Electrical Conductivity		14000 µS/cm				
Temperature		19.2 deg C				
Dissolved Oxygen		0.30 mg/l				
pH		7.29 pH Units				
Groundwater Level		2.46 m AOD	Field Measurements			

BH7

Substance/ Parameter	Enforcement Limit Value	Result	Test Method	Sample Date and Time	Accreditation/ Certification	Uncertainty
Aluminium, Dissolved		<40 µg/l				
Antimony, Dissolved		<10 µg/l				
Arsenic, Dissolved	310	2 µg/l				
Boron, Dissolved	60000	16700 µg/l				
Cadmium, Dissolved	15	0.22 µg/l				
Calcium, Dissolved		594 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		<0.2 µg/l				
Magnesium, Dissolved		261 mg/l				
Manganese, Dissolved		1060 µg/l				
Molybdenum, Dissolved	9000	2170 µg/l				
Nickel, Dissolved		<0.3 µg/l				
Selenium, Dissolved	350	<1 µg/l				
Vanadium, Dissolved		<20 µg/l				
Mercury, Dissolved	20	<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO3		265 mg/l		07/11/2017	Sampling Assoc/Testing EA NLS	
Conductivity at 20C		14300 uS/cm				
Potassium, Dissolved		144 mg/l				
Sodium, Dissolved		1800 mg/l				
Sulphate, Dissolved as SO4		1420 mg/l				
Nitrogen : Total Oxidised as N		<0.2 mg/l				
Chloride		4200 mg/l				
Fluoride		0.45 mg/l				
Ammoniacal Nitrogen as N		3.31 mg/l				
Carbon, Organic : Total as C :- (TOC)	6.6	1 mg/l				
pH		7.22 pH Units				
Ionic Balance		5.78 %				
Electrical Conductivity		15300 µS/cm				
Temperature		12.1 deg C				
Dissolved Oxygen		0.82 mg/l				
pH		6.88 pH Units				
Groundwater Level		2.46 m AOD				

BH7

Substance/ Extension p101: Parameter	Extension Limit Value	Result in	Test Method in	Sample Date and Times in	Accreditation/ Certification in	Uncertainty in
Aluminum, Dissolved		µg/l		Borehole not sampled August 2017 due to damage	Sampling Assoc/Testing EA NEL8	
Antimony, Dissolved		µg/l				
Arsenic, Dissolved		µg/l				
Boron, Dissolved		µg/l				
Cadmium, Dissolved		µg/l				
Calcium, Dissolved		mg/l				
Chromium, Dissolved		µg/l				
Copper, Dissolved		µg/l				
Magnesium, Dissolved		mg/l				
Manganese, Dissolved		µg/l				
Molybdenum, Dissolved		µg/l				
Nickel, Dissolved		µg/l				
Selenium, Dissolved		µg/l				
Vanadium, Dissolved		µg/l				
Mercury, Dissolved		µg/l				
Acidity to pH 4.5 as CaCO3		mg/l				
Conductivity at 25C		uS/cm				
Potassium, Dissolved		mg/l				
Sodium, Dissolved		mg/l				
Sulfate, Dissolved as SO4		mg/l				
Nitrogen : Total Oxidized as N		mg/l				
Chloride		mg/l				
Fluoride		mg/l				
Ammoniacal Nitrogen as N		mg/l				
Carbon, Organic : Total as C :- (TOC)		mg/l				
pH		pH Units	Field Measurements			
Ionic Balance		%				
Electrical Conductivity		µS/cm				
Temperature		deg C				
Dissolved Oxygen		mg/l				
pH		pH Units				
Groundwater Level		m AOD				

BH8

Substance/ Parameter	Emulsion Limit Value	Result	Test Method	Sample Date and Time	Accreditation/ Certification	Uncertainty µ
Ammonium, Dissolved		µg/l		Borehole not sampled November 2017 due to damage	Sampling Area/Testing EA NLS	
Antimony, Dissolved		µg/l				
Arsenic, Dissolved		µg/l				
Boron, Dissolved		µg/l				
Cadmium, Dissolved		µg/l				
Calcium, Dissolved		mg/l				
Chromium, Dissolved		µg/l				
Copper, Dissolved		µg/l				
Magnesium, Dissolved		mg/l				
Manganese, Dissolved		µg/l				
Molybdenum, Dissolved		µg/l				
Nickel, Dissolved		µg/l				
Selenium, Dissolved		µg/l				
Vanadium, Dissolved		µg/l				
Mercury, Dissolved		µg/l				
Alkalinity to pH 4.5 as CaCO ₃		mg/l				
Conductivity at 25°C		µS/cm				
Potassium, Dissolved		mg/l				
Sodium, Dissolved		mg/l				
Sulphate, Dissolved as SO ₄		mg/l				
Nitrogen : Total Oxidised as N		mg/l				
Chloride		mg/l				
Fluoride		mg/l				
Ammoniacal Nitrogen as N		mg/l				
Carbon, Organic : Total as C :- (TOC)		mg/l				
pH		pH Units				
Ionic Balance		%				
Electrical Conductivity		µS/cm				
Temperature		deg C				
Dissolved Oxygen		mg/l				
pH		pH Units				
Groundwater Level		mAOD				

BH-6

Substance/ Emission point Parameter	Emission Limit Value	Result (i)	Test Method (ii)	Sample Date and Time (iii)	Accreditation/ Certification (iv)	Uncertainty (v)
Aluminium, Dissolved		<10 µg/l				
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		128 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		80 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		1 µg/l				
Magnesium, Dissolved		21 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		0 µg/l				
Nickel, Dissolved		<1 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		0 µg/l				
Alkalinity to pH 4.5 as CaCO ₃		270 mg/l				
Conductivity at 20°C		805 µS/cm				
Potassium, Dissolved		2 mg/l				
Sodium, Dissolved		20 mg/l				
Sulphate, Dissolved as SO ₄		51 mg/l				
Nitrogen : Total Oxidised as N		3 mg/l				
Chloride		28 mg/l				
Fluoride		0.14 mg/l				
Ammoniacal Nitrogen as N		0.21 mg/l				
Carbon, Organic : Total as C :- (TOC)		<0.7 mg/l				
pH		8 pH Units				
Ionic Balance		1 %				
Electrical Conductivity		488 µS/cm				
Temperature		12 deg C				
Dissolved Oxygen		8 mg/l				
pH		7 pH Units				
Groundwater Level		4.29 m AOD				

BH-9

Sampling Area/Testing
EA NLS

30/08/2017

Field Measurements

Substance/ Emission point/Parameter	Emission Limit Value	Result (ii)	Test Method (ii)	Sample Date and Time (ii)	Accreditation/ Certification (i)	Uncertainty (ii)
Aluminum, Dissolved		<1 µg/l				
Arsenite, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		140 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		88 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		<1 µg/l				
Magnesium, Dissolved		20 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		4 µg/l				
Nickel, Dissolved		<1 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Availability to pH 4.5 as CaCO ₃		278 mg/l				
Conductivity at 20C		558 µS/cm				
Potassium, Dissolved		1.85 mg/l				
Sodium, Dissolved		21.2 mg/l				
Sulphate, Dissolved as SO ₄		32.2 mg/l				
Nitrogen : Total Oxidized as N		2.82 mg/l				
Chloride		27.5 mg/l				
Fluoride		0.16 mg/l				
Ammoniacal Nitrogen as N		<0.03 mg/l				
Carbon : Organic : Total as C :- (TOC)		1 mg/l				
pH		7.52 pH Units				
Ionic Balance		-0.49 %				
Electrical Conductivity		829 µS/cm				
Temperature		11.8 deg C				
Dissolved Oxygen		7.54 mg/l				
pH		7.61 pH Units				
Groundwater Level		4.85 mASD				

BH9

Sampling Area/Testing
EA NLS

07/11/2017

Field Measurements

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Times (3)	Accreditation/ Certification (4)	Uncertainty (5)
Aluminium, Dissolved		<40 µg/l				
Ammonia, Dissolved		<10 µg/l				
Aspartic Dissolved		2 µg/l				
Boron, Dissolved		17400 µg/l				
Cadmium, Dissolved		0.24 µg/l				
Calcium, Dissolved		588 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		<0.2 µg/l				
Magnesium, Dissolved		247 mg/l				
Manganese, Dissolved		1060 µg/l				
Molybdenum, Dissolved		2230 µg/l				
Nickel, Dissolved		<0.3 µg/l				
Selenium Dissolved		<1 µg/l				
Vanadium Dissolved		<20 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO3		516 mg/l				
Conductivity at 20C		9800 uS/cm		30/09/2017	Sampling Assoc/Testing EA NLS	
Potassium, Dissolved		131 mg/l				
Sodium, Dissolved		1510 mg/l				
Sulphates, Dissolved as SO4		1410 mg/l				
Nitrogen : Total Oxidised as N		<0.2 mg/l				
Chlorides		2750 mg/l				
Fluoride		0.22 mg/l				
Ammonia Nitrogen as N		6.39 mg/l				
Carbon, Organic : Total as C :- (TOC)		1 mg/l				
pH		7.19 pH Units				
Ionic Balance		0.17 %				
Electrical Conductivity		8853 µS/cm				
Temperature		15.9 deg C				
Dissolved Oxygen		0.44 mg/l				
pH		7.08 pH Units				
Groundwater Level		1.08 m AOD	Field Measurements			

BH10

Substance/ Emission point Parameter	Emission Limit Value	Result (9)	Test Method (9)	Sample Date and Time (9)	Accreditation/ Certification (9)	Uncertainty (9)
Aluminum, Dissolved		<40 µg/l				
Antimony, Dissolved		<10 µg/l				
Arsenic, Dissolved		12 µg/l				
Boron, Dissolved		16700 µg/l				
Cadmium, Dissolved		0.28 µg/l				
Calcium, Dissolved		588 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		<0.2 µg/l				
Magnesium, Dissolved		284 mg/l				
Manganese, Dissolved		1100 µg/l				
Molybdenum, Dissolved		2240 µg/l				
Nickel, Dissolved		<0.3 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<20 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Alkalinity to pH 4.5 as CaCO3		510 mg/l		07/11/2017	Sampling Assoc/Testing EA NLS	
Conductivity at 20C		11900 µS/cm				
Potassium, Dissolved		148 mg/l				
Sodium, Dissolved		1930 mg/l				
Sulphate, Dissolved as SO4		1480 mg/l				
Nitrogen : Total Oxidised as N		2.83 mg/l				
Chloride		3570 mg/l				
Fluoride		0.23 mg/l				
Ammoniacal Nitrogen as N		<0.01 mg/l				
Carbon, Organic : Total as C :- (TOC)		1 mg/l				
pH		7.20 pH Units				
Ionic Balance		1.09 %				
Electrical Conductivity		12088 µS/cm				
Temperature		11.8 deg C				
Dissolved Oxygen		0.82 mg/l				
pH		7.14 pH Units				
Groundwater Level		2.48 mAOD				

BH10

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (1)	Sample Date and Time (1)	Accreditation/ Certification (1)	Uncertainty (1)
Aluminium, Dissolved		<40 µg/l		30/06/2017	Sampling Area/Testing EA NLS	
Antimony, Dissolved		<10 µg/l				
Arsenic, Dissolved		13.9 µg/l				
Boron, Dissolved		11500 µg/l				
Cadmium, Dissolved		0.04 µg/l				
Calcium, Dissolved		338 mg/l				
Chromium, Dissolved		<0.5 µg/l				
Copper, Dissolved		0.29 µg/l				
Magnesium, Dissolved		215 mg/l				
Manganese, Dissolved		978 µg/l				
Molybdenum, Dissolved		391 µg/l				
Nickel, Dissolved		0.3 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<20 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Acidity to pH 4.5 as CaCO3		725 mg/l				
Conductivity at 20C		8120 µS/cm				
Potassium, Dissolved		119 mg/l				
Sodium, Dissolved		1320 mg/l				
Sulphate, Dissolved as SO4		1040 mg/l				
Nitrogen : Total Oxidised as N		<0.2 mg/l				
Chloride		2150 mg/l				
Fluoride		0.61 mg/l				
Ammoniacal Nitrogen as N		8.08 mg/l				
Carbon, Organic : Total as C :- (TOC)		6.9 mg/l				
pH		7.32 pH Units				
Ionic Balance		1.01 %				
Electrical Conductivity		7918 µS/cm				
Temperature		18.8 deg C				
Dissolved Oxygen		0.35 mg/l				
pH		7.14 pH Units				
Ultraviolet Level		4.15 mAU	Field Measurements			

BH11

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		<10 µg/l				
Ammonia, Dissolved		21 µg/l				
Boron, Dissolved		11700 µg/l				
Calcium, Dissolved		<0.03 µg/l				
Chromium, Dissolved		334 mg/l				
Copper, Dissolved		<0.5 µg/l				
Cobalt, Dissolved		<0.2 µg/l				
Manganese, Dissolved		238 mg/l				
Magnesium, Dissolved		1030 µg/l				
Molybdenum, Dissolved		238 µg/l				
Nickel, Dissolved		0.6 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<20 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Availability to pH 4.5 as CaCO ₃		740 mg/l		09/11/2017	Sampling Assoc/Testing EA NLS	
Conductivity at 20°C		8020 µS/cm				
Potassium, Dissolved		111.0 mg/l				
Sodium, Dissolved		1320 mg/l				
Sulphate, Dissolved as SO ₄		1080 mg/l				
Nitrogen : Total Oxidised as N		<0.2 mg/l				
Chloride		2080 mg/l				
Fluoride		0.64 mg/l				
Ammoniacal Nitrogen as N		10.00 mg/l				
Carbon, Organic : Total as C :- (TOC)		8.6 mg/l				
pH		7.51 pH Units				
Ionic Balance		0.88 %				
Electrical Conductivity		8550 µS/cm				
Temperature		12.3 deg C				
Dissolved Oxygen		0.53 mg/l				
pH		7.28 pH Units				
Conductivity Level		4.45 mADC				

BH11

- [1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum - maximum' measured values.
- [2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. colorimetry.
- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements, or flowtime proportional samples, the percentage of the process operating time covered by the monitoring is given.
- [4] The accreditation status of the equipment and/or the monitoring organisation, as appropriate, for the methods used for both sampling and analysis.
- [5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.
- [6] The emission limit values for all substances is expressed as a maximum individual value, unless otherwise stated.

Signed H. Way Date 11/01/18
(authorised to sign as representative of the Operator)