Reporting of Emission to Surface Water for the period from .....1st July 2018.....to....31st December 2018.

Operator : RWE Generation UK plc **Form:** Water1

Location: Aberthaw Ash Disposal Site

Permit/Variation Number: DP3432SW

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S1 (Group Five Spring)	Aluminium, Dissolved		135 µg/l		30/08/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		14.30 µg/l				
	Boron, Dissolved		10600 µg/l				
	Cadmium, Dissolved		0.385 µg/l				
	Calcium, Dissolved		856 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		11.000 µg/l				
	Magnesium, Dissolved		58.0 mg/l				
	Manganese, Dissolved		718.0 µg/l				
	Molybdenum, Dissolved		2990 µg/l				
	Nickel, Dissolved		1.21 µg/l				
	Selenium Dissolved		9.75 µg/l				
	Vanadium, Dissolved		22 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		74 mg/l				
	Conductivity at 20C		14500 µS/cm				
	Potassium, Dissolved		185 mg/l				
	Sodium, Dissolved		2340 mg/l				
	Sulphate, Dissolved as SO4		1340 mg/l				
	Nitrogen : Total Oxidised as N		2.39 mg/l				
	Chloride		4880 mg/l				
	Fluoride		0.135 mg/l				
	Ammoniacal Nitrogen as N		2.830 mg/l				
	Carbon, Organic : Total as C :- {TOC}		6.70 mg/l				
	pH		6.92 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
S1 (Group Five Spring)	Aluminium, Dissolved		67 µg/l		15/11/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		17.80 µg/l				
	Boron, Dissolved		11300 µg/l				
	Cadmium, Dissolved		0.57 µg/l				
	Calcium, Dissolved		956 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		20.800 µg/l				
	Magnesium, Dissolved		65 mg/l				
	Manganese, Dissolved		540.0 µg/l				
	Molybdenum, Dissolved		4110 µg/l				
	Nickel, Dissolved		0.59 µg/l				
	Selenium Dissolved		10 µg/l				
	Vanadium, Dissolved		36 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		89.00 mg/l				
	Conductivity at 20C		15100 uS/cm				
	Potassium, Dissolved		216 mg/l				
	Sodium, Dissolved		2770 mg/l				
	Sulphate, Dissolved as SO4		1510 mg/l				
	Nitrogen : Total Oxidised as N		11.50 mg/l				
	Chloride		5150 mg/l				
	Fluoride		0.07 mg/l				
	Ammoniacal Nitrogen as N		4.430 mg/l				
	Carbon, Organic : Total as C :- {TOC}		6.50 mg/l				
	pH		7.15 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Eastern Perimeter Drain	Aluminium, Dissolved		90 µg/l		30/08/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.66 µg/l				
	Boron, Dissolved		1970 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		158 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.776 µg/l				
	Magnesium, Dissolved		14.7 mg/l				
	Manganese, Dissolved		313.0 µg/l				
	Molybdenum, Dissolved		418 µg/l				
	Nickel, Dissolved		1.19 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 mg/l				
	Conductivity at 20C		1370 uS/cm				
	Potassium, Dissolved		18 mg/l				
	Sodium, Dissolved		137 mg/l				
	Sulphate, Dissolved as SO4		208 mg/l				
	Nitrogen : Total Oxidised as N		2.64 mg/l				
	Chloride		198 mg/l				
	Fluoride		0.184 mg/l				
	Ammoniacal Nitrogen as N		0.014 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.70 mg/l				
	pH		8.20 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
Eastern Perimeter Drain	Aluminium, Dissolved		79 µg/l		15/11/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		1.50 µg/l				
	Boron, Dissolved		2360 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		171 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.020 µg/l				
	Magnesium, Dissolved		16 mg/l				
	Manganese, Dissolved		187.0 µg/l				
	Molybdenum, Dissolved		440 µg/l				
	Nickel, Dissolved		0.70 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		268.00 mg/l				
	Conductivity at 20C		1460 uS/cm				
	Potassium, Dissolved		21 mg/l				
	Sodium, Dissolved		150 mg/l				
	Sulphate, Dissolved as SO4		259 mg/l				
	Nitrogen : Total Oxidised as N		2.11 mg/l				
	Chloride		213 mg/l				
	Fluoride		0.13 mg/l				
	Ammoniacal Nitrogen as N		<0.0100 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.20 mg/l				
	pH		8.04 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		102 µg/l		30/08/2018	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		129 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.300 µg/l				
	Magnesium, Dissolved		57.2 mg/l				
	Manganese, Dissolved		24.7 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		300 mg/l				
	Conductivity at 20C		2720 uS/cm				
	Potassium, Dissolved		18 mg/l				
	Sodium, Dissolved		423 mg/l				
	Sulphate, Dissolved as SO4		130 mg/l				
	Nitrogen : Total Oxidised as N		4.06 mg/l				
	Chloride		727 mg/l				
	Fluoride		0.212 mg/l				
	Ammoniacal Nitrogen as N		0.013 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.50 mg/l				
	pH		8.09 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		110 µg/l		15/11/2018	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		120 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.520 µg/l				
	Magnesium, Dissolved		13.0 mg/l				
	Manganese, Dissolved		<20 µg/l				
	Molybdenum, Dissolved		<30 µg/l				
	Nickel, Dissolved		0.73 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		292 mg/l				
	Conductivity at 20C		731 uS/cm				
	Potassium, Dissolved		3.60 mg/l				
	Sodium, Dissolved		38.5 mg/l				
	Sulphate, Dissolved as SO4		34.7 mg/l				
	Nitrogen : Total Oxidised as N		4.64 mg/l				
	Chloride		64.0 mg/l				
	Fluoride		0.088 mg/l				
	Ammoniacal Nitrogen as N		0.011 mg/l				
	Carbon, Organic : Total as C :- {TOC}		2.90 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]
Brackish Lagoon	Aluminium, Dissolved		47 µg/l		30/08/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		2.41 µg/l				
	Boron, Dissolved		1430 µg/l				
	Cadmium, Dissolved		0 µg/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.250 µg/l				
	Magnesium, Dissolved		48.9 mg/l				
	Manganese, Dissolved		132.0 µg/l				
	Molybdenum, Dissolved		229 µg/l				
	Nickel, Dissolved		0.41 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		258 mg/l				
	Conductivity at 20C		2430 uS/cm				
	Potassium, Dissolved		23 mg/l				
	Sodium, Dissolved		351 mg/l				
	Sulphate, Dissolved as SO4		215 mg/l				
	Nitrogen : Total Oxidised as N		2.79 mg/l				
	Chloride		613 mg/l				
	Fluoride		0.147 mg/l				
	Ammoniacal Nitrogen as N		0.020 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.70 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]
Brackish Lagoon	Aluminium, Dissolved		47 µg/l		15/11/2018	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		2.41 µg/l				
	Boron, Dissolved		1430 µg/l				
	Cadmium, Dissolved		0.031 µg/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.250 µg/l				
	Magnesium, Dissolved		49 mg/l				
	Manganese, Dissolved		132.0 µg/l				
	Molybdenum, Dissolved		229 µg/l				
	Nickel, Dissolved		0.41 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		258 mg/l				
	Conductivity at 20C		2430 uS/cm				
	Potassium, Dissolved		23 mg/l				
	Sodium, Dissolved		351 mg/l				
	Sulphate, Dissolved as SO4		215 mg/l				
	Nitrogen : Total Oxdised as N		2.79 mg/l				
	Chloride		613 mg/l				
	Fluoride		0.15 mg/l				
	Ammoniacal Nitrogen as N		0.02 mg/l				
	Carbon, Organic : Total as C :- {TOC}		1.70 mg/l				
	pH		8.15 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 .... R T. Powell ..... Date 22/1/19 (authorised to sign as representative of the Operator)

Reporting of Emission to Groundwater for the period from ...1st July 2018..to...31st December 2018.

Operator : RWE Generation UK plc **Form: Groundwater1**

Location: Aberthaw Ash Disposal Site

Permit/Variation Number: DP3432SW

Emission point	Substance/ Parameter	Emission Limit Value	Result [3]	Test Method [3]	Sample Date and Times [3]	Accreditation/ Certification [3]	Uncertainty [3]
BH3	Aluminium, Dissolved		<40 µg/l		30/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved	310	96 µg/l				
	Boron, Dissolved	60000	27700 µg/l				
	Cadmium, Dissolved	15	0.61 µg/l				
	Calcium, Dissolved		854 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		6 µg/l				
	Magnesium, Dissolved		222 mg/l				
	Manganese, Dissolved		1070 µg/l				
	Molybdenum, Dissolved	9000	4760 µg/l				
	Nickel, Dissolved		1.6 µg/l				
	Selenium Dissolved	350	2.31 µg/l				
	Vanadium, Dissolved		30 µg/l				
	Mercury, Dissolved	20	<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		185 mg/l				
	Conductivity at 20C		16500 uS/cm				
	Potassium, Dissolved		280 mg/l				
	Sodium, Dissolved		2930 mg/l				
	Sulphate, Dissolved as SO4		2040 mg/l				
	Nitrogen : Total Oxidised as N		0.04 mg/l				
	Chloride		5320 mg/l				
	Fluoride		0.39 mg/l				
	Ammoniacal Nitrogen as N	6.6	2.54 mg/l				
	Carbon, Organic : Total as C :- (TOC)		0 mg/l				
	pH		7.34 pH Units				
	Ionic Balance		0.22 %				
	Electrical Conductivity		9880 µS/cm	Field Measurements			
	Temperature		13.2 deg C				
	Dissolved Oxygen		1.32 mg/l				
	pH		7.28 pH Units				
	Groundwater Level		5.96 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [3]	Test Method [3]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [4]
BH3	Aluminium, Dissolved		<40 µg/l		13/11/2018	Sampling Arrec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved	310	143 µg/l				
	Boron, Dissolved	60000	31700 µg/l				
	Cadmium, Dissolved	15	0.43 µg/l				
	Calcium, Dissolved		483 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		0.52 µg/l				
	Magnesium, Dissolved		238 mg/l				
	Manganese, Dissolved		144 µg/l				
	Molybdenum, Dissolved	9000	3220 µg/l				
	Nickel, Dissolved		<0.3 µg/l				
	Selenium Dissolved	350	7.42 µg/l				
	Vanadium, Dissolved		51 µg/l				
	Mercury, Dissolved	20	<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		158 mg/l				
	Conductivity at 20C		6160 uS/cm				
	Potassium, Dissolved		128 mg/l				
	Sodium, Dissolved		813 mg/l				
	Sulphate, Dissolved as SO4		2030 mg/l				
	Nitrogen : Total Oxidised as N		1.63 mg/l				
	Chloride		1140 mg/l				
	Fluoride		<0.05 mg/l				
	Ammoniacal Nitrogen as N	6.6	0.09 mg/l				
	Carbon, Organic : Total as C :- (TOC)		<0.7 mg/l				
	pH		7.50 pH Units				
	Ionic Balance		2.93 %				
	Electrical Conductivity		4663 µS/cm	Field Measurements			
	Temperature		12.6 deg C				
	Dissolved Oxygen		3.96 mg/l				
	pH		7.28 pH Units				
	Groundwater Level		6.25 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH5	Aluminium, Dissolved		<10 µg/l		30/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		794 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		260 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.49 µg/l				
	Magnesium, Dissolved		18 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		<3 µg/l				
	Nickel, Dissolved		1.3 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		332 mg/l				
	Conductivity at 20C		1360 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		51 mg/l				
	Sulphate, Dissolved as SO4		392 mg/l				
	Nitrogen : Total Oxidised as N		0.64 mg/l				
	Chloride		79 mg/l				
	Fluoride		0.06 mg/l				
	Ammoniacal Nitrogen as N		<0.03 mg/l				
	Carbon, Organic : Total as C :- (TOC)		2 mg/l				
	pH		7.06 pH Units				
	Ionic Balance		0.95 %				
	Electrical Conductivity		797 µS/cm	Field Measurements			
	Temperature		11.1 deg C				
	Dissolved Oxygen		2.33 mg/l				
	pH		6.94 pH Units				
	Groundwater Level		8.94 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH5	Aluminium, Dissolved		<40 µg/l		15/11/2018	Sampling Arrec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		143 µg/l				
	Boron, Dissolved		31700 µg/l				
	Cadmium, Dissolved		0.43 µg/l				
	Calcium, Dissolved		483 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		0.52 µg/l				
	Magnesium, Dissolved		238 mg/l				
	Manganese, Dissolved		144 µg/l				
	Molybdenum, Dissolved		3220 µg/l				
	Nickel, Dissolved		<0.3 µg/l				
	Selenium Dissolved		7.42 µg/l				
	Vanadium, Dissolved		51 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		158 mg/l				
	Conductivity at 20C		6160 µS/cm				
	Potassium, Dissolved		128 mg/l				
	Sodium, Dissolved		813 mg/l				
	Sulphate, Dissolved as SO4		2030 mg/l				
	Nitrogen : Total Oxidised as N		1.63 mg/l				
	Chloride		1140 mg/l				
	Fluoride		<0.05 mg/l				
	Ammoniacal Nitrogen as N		0.09 mg/l				
	Carbon, Organic : Total as C :- (TOC)		<0.7 mg/l				
	pH		7.50 pH Units				
	Ionic Balance		2.93 %				
	Electrical Conductivity		4863 µS/cm	Field Measurements			
	Temperature		12.8 deg C				
	Dissolved Oxygen		3.96 mg/l				
	pH		7.28 pH Units				
	Groundwater Level		9.11 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [2]	Test Method [3]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH6	Aluminium, Dissolved		104 µg/l		30/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		35 µg/l				
	Boron, Dissolved		23200 µg/l				
	Cadmium, Dissolved		0.41 µg/l				
	Calcium, Dissolved		648 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.49 µg/l				
	Magnesium, Dissolved		211 mg/l				
	Manganese, Dissolved		1550 µg/l				
	Molybdenum, Dissolved		3480 µg/l				
	Nickel, Dissolved		5.8 µg/l				
	Selenium Dissolved		19.30 µg/l				
	Vanadium, Dissolved		47 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		410 mg/l				
	Conductivity at 20C		7710 uS/cm				
	Potassium, Dissolved		91 mg/l				
	Sodium, Dissolved		1010 mg/l				
	Sulphate, Dissolved as SO4		1910 mg/l				
	Nitrogen : Total Oxidised as N		0.04 mg/l				
	Chloride		1640 mg/l				
	Fluoride		17.80 mg/l				
	Ammoniacal Nitrogen as N		0.28 mg/l				
	Carbon, Organic : Total as C :- (TOC)		0 mg/l				
	pH		7.61 pH Units				
	Ionic Balance		0.88 %				
	Electrical Conductivity		5463 µS/cm	Field Measurements			
	Temperature		15.7 deg C				
	Dissolved Oxygen		4.50 mg/l				
	pH		7.51 pH Units				
	Groundwater Level		8.66 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH6	Aluminium, Dissolved		<40 µg/l		13/11/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		41 µg/l				
	Boron, Dissolved		23200 µg/l				
	Cadmium, Dissolved		0.53 µg/l				
	Calcium, Dissolved		692 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.27 µg/l				
	Magnesium, Dissolved		238 mg/l				
	Manganese, Dissolved		1600 µg/l				
	Molybdenum, Dissolved		4320 µg/l				
	Nickel, Dissolved		5.9 µg/l				
	Selenium Dissolved		21.00 µg/l				
	Vanadium, Dissolved		60 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		385 mg/l				
	Conductivity at 20C		7690 uS/cm				
	Potassium, Dissolved		95 mg/l				
	Sodium, Dissolved		1060 mg/l				
	Sulphate, Dissolved as SO4		2070 mg/l				
	Nitrogen : Total Oxidised as N		19.80 mg/l				
	Chloride		1650 mg/l				
	Fluoride		0.14 mg/l				
	Ammoniacal Nitrogen as N		0.25 mg/l				
	Carbon, Organic : Total as C :- (TOC)		1 mg/l				
	pH		7.54 pH Units				
	Ionic Balance		2.62 %				
	Electrical Conductivity		6180 µS/cm	Field Measurements			
	Temperature		12.5 deg C				
	Dissolved Oxygen		6.64 mg/l				
	pH		7.40 pH Units				
	Groundwater Level		6.55 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [3]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH7	Aluminium, Dissolved		<40 µg/l		28/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved	310	7 µg/l				
	Boron, Dissolved	60000	24100 µg/l				
	Cadmium, Dissolved	15	0.44 µg/l				
	Calcium, Dissolved		883 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.69 µg/l				
	Magnesium, Dissolved		129 mg/l				
	Manganese, Dissolved		1330 µg/l				
	Molybdenum, Dissolved	9000	4150 µg/l				
	Nickel, Dissolved		0.5 µg/l				
	Selenium Dissolved	350	<1 µg/l				
	Vanadium, Dissolved		<20 µg/l				
	Mercury, Dissolved	20	0 µg/l				
	Alkalinity to pH 4.5 as CaCO3		265 mg/l				
	Conductivity at 20C		14500 uS/cm				
	Potassium, Dissolved		283 mg/l				
	Sodium, Dissolved		2470 mg/l				
	Sulphate, Dissolved as SO4		1890 mg/l				
	Nitrogen : Total Oxidised as N		<0.004 mg/l				
	Chloride		4420 mg/l				
	Fluoride		<0.2 mg/l				
	Ammoniacal Nitrogen as N	6.8	3.32 mg/l				
	Carbon, Organic : Total as C :- {TOC}		0 mg/l				
	pH		7.25 pH Units				
	Ionic Balance		0.31 %				
	Electrical Conductivity		9986 µS/cm	Field Measurements			
	Temperature		16.5 deg C				
	Dissolved Oxygen		0.50 mg/l				
	pH		7.19 pH Units				
	Groundwater Level		3.98 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH7	Aluminium, Dissolved		<40 µg/l		13/11/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic, Dissolved	310	6 µg/l				
	Boron, Dissolved	60000	20700 µg/l				
	Cadmium, Dissolved	15	0.54 µg/l				
	Calcium, Dissolved		899 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.70 µg/l				
	Magnesium, Dissolved		118 mg/l				
	Manganese, Dissolved		1400 µg/l				
	Molybdenum, Dissolved	9000	3890 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		227 mg/l				
	Conductivity at 20C		15000 uS/cm				
	Potassium, Dissolved		297 mg/l				
	Sodium, Dissolved		2620 mg/l				
	Sulphate, Dissolved as SO4		1930 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		4740 mg/l				
	Fluoride		0.42 mg/l				
	Ammoniacal Nitrogen as N	6.6	3.56 mg/l				
	Carbon, Organic : Total as C :- (TOC)		1 mg/l				
	pH		7.16 pH Units				
	Ionic Balance		0.67 %				
	Electrical Conductivity		11485 µS/cm	Field Measurements			
	Temperature		12.7 deg C				
	Dissolved Oxygen		0.70 mg/l				
	pH		7.15 pH Units				
	Groundwater Level		3.63 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH8	Aluminium, Dissolved		µg/l		Borehole not sampled due to damage	Sampling Amec/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 CaCO3		mg/l				
	Conductivity at 20C		uS/cm				
	Potassium, Dissolved		mg/l				
	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				
	Ionic Balance		%				
	Electrical Conductivity		µS/cm	Field Measurements			
	Temperature		deg C				
	Dissolved Oxygen		mg/l				
	pH		pH Units				
	Groundwater Level		mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH8	Aluminium, Dissolved		µg/l		Borehole not sampled due to damage	Sampling Amec/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 CaCO3		mg/l				
	Conductivity at 20C		uS/cm				
	Potassium, Dissolved		mg/l				
	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				
	Ionic Balance		%				
	Electrical Conductivity		µS/cm	Field Measurements			
	Temperature		deg C				
	Dissolved Oxygen		mg/l				
	pH		pH Units				
	Groundwater Level		mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [3]	Test Method [5]	Sample Date and Times [6]	Accreditation/ Certification [5]	Uncertainty [8]
BH9	Aluminium, Dissolved		43 µg/l		28/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		185 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		97 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		12 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		268 mg/l				
	Conductivity at 20C		642 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		28 mg/l				
	Sulphate, Dissolved as SO4		40 mg/l				
	Nitrogen : Total Oxidised as N		<0.004 mg/l				
	Chloride		36 mg/l				
	Fluoride		2.68 mg/l				
	Ammoniacal Nitrogen as N		<0.03 mg/l				
	Carbon, Organic : Total as C :- {TOC}		0 mg/l				
	pH		8 pH Units				
	Ionic Balance		1 %				
	Electrical Conductivity		535 µS/cm	Field Measurements			
	Temperature		16 deg C				
	Dissolved Oxygen		5 mg/l				
	pH		7 pH Units				
	Groundwater Level		4.87 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH9	Aluminium, Dissolved		<10 µg/l		13/11/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		104 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		91 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		<3 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		272 mg/l				
	Conductivity at 20C		613 uS/cm				
	Potassium, Dissolved		2.09 mg/l				
	Sodium, Dissolved		22.6 mg/l				
	Sulphate, Dissolved as SO4		35.2 mg/l				
	Nitrogen : Total Oxidised as N		3.24 mg/l				
	Chloride		30.4 mg/l				
	Fluoride		0.18 mg/l				
	Ammoniacal Nitrogen as N		<0.03 mg/l				
	Carbon, Organic : Total as C :- (TOC)		1 mg/l				
	pH		7.55 pH Units				
	Ionic Balance		-0.35 %				
	Electrical Conductivity		492 µS/cm	Field Measurements			
	Temperature		11.6 deg C				
	Dissolved Oxygen		10.43 mg/l				
	pH		7.43 pH Units				
	Groundwater Level		4.70 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH10	Aluminium, Dissolved		<40 µg/l		29/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		26 µg/l				
	Boron, Dissolved		12900 µg/l				
	Cadmium, Dissolved		0.13 µg/l				
	Calcium, Dissolved		383 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		5.15 µg/l				
	Magnesium, Dissolved		312 mg/l				
	Manganese, Dissolved		642 µg/l				
	Molybdenum, Dissolved		1210 µg/l				
	Nickel, Dissolved		0.5 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		745 mg/l				
	Conductivity at 20C		13400 uS/cm				
	Potassium, Dissolved		131 mg/l				
	Sodium, Dissolved		2470 mg/l				
	Sulphate, Dissolved as SO4		1080 mg/l				
	Nitrogen : Total Oxidised as N		<0.004 mg/l				
	Chloride		4150 mg/l				
	Fluoride		<0.2 mg/l				
	Ammoniacal Nitrogen as N		18.00 mg/l				
	Carbon, Organic : Total as C :- (TOC)		0 mg/l				
	pH		7.38 pH Units				
	Ionic Balance		0.34 %				
	Electrical Conductivity		4765 µS/cm	Field Measurements			
	Temperature		13.3 deg C				
	Dissolved Oxygen		0.20 mg/l				
	pH		7.25 pH Units				
	Groundwater Level		2.47 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH10	Aluminium, Dissolved		<40 µg/l		13/11/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		26 µg/l				
	Boron, Dissolved		12700 µg/l				
	Cadmium, Dissolved		0.15 µg/l				
	Calcium, Dissolved		446 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		0.36 µg/l				
	Magnesium, Dissolved		345 mg/l				
	Manganese, Dissolved		769 µg/l				
	Molybdenum, Dissolved		1340 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		745 mg/l				
	Conductivity at 20C		8850 uS/cm				
	Potassium, Dissolved		148 mg/l				
	Sodium, Dissolved		2880 mg/l				
	Sulphate, Dissolved as SO4		1160 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		2320 mg/l				
	Fluoride		0.25 mg/l				
	Ammoniacal Nitrogen as N		6.34 mg/l				
	Carbon, Organic : Total as C :- (TOC)		2 mg/l				
	pH		7.22 pH Units				
	Ionic Balance		23.87 %				
	Electrical Conductivity		6679 µS/cm	Field Measurements			
	Temperature		12.7 deg C				
	Dissolved Oxygen		0.92 mg/l				
	pH		7.16 pH Units				
	Groundwater Level		2.12 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH11	Aluminium, Dissolved		151 µg/l		28/08/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		34.5 µg/l				
	Boron, Dissolved		12300 µg/l				
	Cadmium, Dissolved		0.11 µg/l				
	Calcium, Dissolved		379 mg/l				
	Chromium, Dissolved		1 µg/l				
	Copper, Dissolved		9.97 µg/l				
	Magnesium, Dissolved		196 mg/l				
	Manganese, Dissolved		1150 µg/l				
	Molybdenum, Dissolved		462 µg/l				
	Nickel, Dissolved		1.7 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		725 mg/l				
	Conductivity at 20C		7740 uS/cm				
	Potassium, Dissolved		110 mg/l				
	Sodium, Dissolved		1250 mg/l				
	Sulphate, Dissolved as SO4		1010 mg/l				
	Nitrogen : Total Oxidised as N		<0.004 mg/l				
	Chloride		1950 mg/l				
	Fluoride		<0.2 mg/l				
	Ammoniacal Nitrogen as N		8.50 mg/l				
	Carbon, Organic : Total as C :- (TOC)		0.6 mg/l				
	pH		7.36 pH Units				
	Ionic Balance		0.99 %				
	Electrical Conductivity		4990 µS/cm	Field Measurements			
	Temperature		14.2 deg C				
	Dissolved Oxygen		0.20 mg/l				
	pH		7.38 pH Units				
	Groundwater Level		4.16 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result [1]	Test Method [2]	Sample Date and Times [3]	Accreditation/ Certification [4]	Uncertainty [5]
BH11	Aluminium, Dissolved		<40 µg/l		13/11/2018	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<10 µg/l				
	Arsenic Dissolved		23 µg/l				
	Boron, Dissolved		12700 µg/l				
	Cadmium, Dissolved		0.10 µg/l				
	Calcium, Dissolved		353 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		3.94 µg/l				
	Magnesium, Dissolved		194 mg/l				
	Manganese, Dissolved		1010 µg/l				
	Molybdenum, Dissolved		708 µg/l				
	Nickel, Dissolved		3.7 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		883 mg/l				
	Conductivity at 20C		7690 uS/cm				
	Potassium, Dissolved		124.0 mg/l				
	Sodium, Dissolved		1340 mg/l				
	Sulphate, Dissolved as SO4		1120 mg/l				
	Nitrogen : Total Oxidised as N		<0.2 mg/l				
	Chloride		2030 mg/l				
	Fluoride		0.65 mg/l				
	Ammoniacal Nitrogen as N		7.87 mg/l				
	Carbon, Organic : Total as C :- (TOC)		5.2 mg/l				
	pH		7.40 pH Units				
	Ionic Balance		1.60 %				
	Electrical Conductivity		6447 µS/cm	Field Measurements			
	Temperature		12.8 deg C				
	Dissolved Oxygen		0.60 mg/l				
	pH		7.34 pH Units				
	Groundwater Level		4.42 mAOD				

[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.

R T. Powell

Signed ..... Date.....

(authorised to sign as representative of the Operator)