

Reporting of Emission to Surface Water for the period from ..1st January 2017 ..to 30th June 2017...

Operator : RWE Generation UK plc

Form: W00001

Location: Aberthaw Quarry Ash Disposal Site

Permit/Variation Number: BP33398H

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		<10 µg/l		31/08/2017	Sampling Assoc/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		603 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		228 mg/l				
Chromium, Dissolved		1.02 µg/l				
Copper, Dissolved		1.46 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		48.1 mg/l				
Manganese, Dissolved		18.1 µg/l				
Molybdenum, Dissolved		1370 µg/l				
Nickel, Dissolved		5.89 µg/l				
Selenium, Dissolved		2.46 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		73 mg/l				
Electrical Conductivity at 20C		3080 mS/cm				
Potassium, Dissolved		38.5 mg/l				
Sodium, Dissolved		380 mg/l				
Sulphate, Dissolved		522 mg/l				
Total Oxidised Nitrogen		3.21 mg/l				
Chloride		705 mg/l				
Fluoride		0.257 mg/l				
Ammoniacal Nitrogen		0.031 mg/l				
Total Organic Carbon		4.2 mg/l				
Nitrate		0 mg/l				
pH		7.71 pH Units				

SW12

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty III
Aluminium, Dissolved		<10 µg/l		08/11/2017	Sampling Amec/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		657 µg/l				
Cadmium, Dissolved		0.436 µg/l				
Calcium, Dissolved		272 mg/l				
Chromium, Dissolved		1.37 µg/l				
Copper, Dissolved		1.44 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		48.6 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		1600 µg/l				
Nickel, Dissolved		5.14 µg/l				
Selenium, Dissolved		3.8 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		135 mg/l				
Electrical Conductivity at 20C		3460 mS/cm				
Potassium, Dissolved		40.3 mg/l				
Sodium, Dissolved		431 mg/l				
Sulphate, Dissolved		557 mg/l				
Total Oxidised Nitrogen		5.98 mg/l				
Chloride		803 mg/l				
Fluoride		0.213 mg/l				
Ammoniacal Nitrogen		<0.03 mg/l				
Total Organic Carbon		3.7 mg/l				
Nitrate		0 mg/l				
pH		8.12 pH Units				

SW12

Substance/ Emission point Parameter	Emission Limit Value	Result (U)	Test Method (U)	Sample Date and Times (U)	Accreditation/ Certification (U)	Uncertainty (U)
Aluminium, Dissolved		81 µg/l		28/08/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		1.36 µg/l				
Arsenic, Dissolved	50	<1 µg/l				
Boron, Dissolved	2000	875 µg/l				
Cadmium, Dissolved	5	0.142 µg/l				
Calcium, Dissolved		348 mg/l				
Chromium, Dissolved	50	7.44 µg/l				
Copper, Dissolved		4.7 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		59.9 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		2830 µg/l				
Nickel, Dissolved		6.1 µg/l				
Selenium, Dissolved		2 µg/l				
Vanadium, Dissolved	80	7.85 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		37 mg/l				
Electrical Conductivity at 20C		5010 mS/cm				
Potassium, Dissolved		58 mg/l				
Sodium, Dissolved		672 mg/l				
Sulphate, Dissolved	400	785 mg/l				
Total Dissolved Nitrogen		24.5 mg/l				
Chloride		1290 mg/l				
Fluoride		0.133 mg/l				
Ammoniacal Nitrogen	0.6	<0.500 mg/l				
Total Organic Carbon		6.5 mg/l				
Nitrate		24 mg/l				
pH	<9	8.57 pH Units				

Settlement
Ponds

Substance/ Emission point Parameter		Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Times (3)	Accreditation/ Certification (4)	Uncertainty (5)
Settlement Ponds	Aluminum, Dissolved		12 µg/l		01/08/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	<1 µg/l				
	Boron, Dissolved	2000	820 µg/l				
	Cadmium, Dissolved	5	0.421 µg/l				
	Calcium, Dissolved		382 mg/l				
	Chromium, Dissolved	50	9.73 µg/l				
	Copper, Dissolved		2.34 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		58.1 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		2970 µg/l				
	Nickel, Dissolved		10.6 µg/l				
	Selenium Dissolved		2.18 µg/l				
	Vanadium, Dissolved	60	5.97 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		72 mg/l				
	Electrical Conductivity at 20C		5220 mS/cm				
	Potassium, Dissolved		80.4 mg/l				
	Sodium, Dissolved		688 mg/l				
	Sulphate, Dissolved	400	721 mg/l				
	Total Oxidised Nitrogen		28.6 mg/l				
	Chloride		1340 mg/l				
	Fluoride		0.122 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		6 mg/l				
	Nitrate		27.4 mg/l				
	pH	<9	8.17 pH Units				

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty (%)
Aluminium, Dissolved		14 µg/l		31/08/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved	50	1.24 µg/l				
Boron, Dissolved	2000	911 µg/l				
Cadmium, Dissolved	5	<0.1 µg/l				
Calcium, Dissolved		338 mg/l				
Chromium, Dissolved	50	8.55 µg/l				
Copper, Dissolved		1.48 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		52.8 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		2880 µg/l				
Nickel, Dissolved		11.3 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved	60	8.01 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO ₃		57 mg/l				
Electrical Conductivity at 20C		5010 mS/cm				
Potassium, Dissolved		60.2 mg/l				
Sodium, Dissolved		677 mg/l				
Sulphate, Dissolved	400	680 mg/l				
Total Oxidised Nitrogen		25 mg/l				
Chloride		1300 mg/l				
Fluoride		0.133 mg/l				
Ammoniacal Nitrogen	0.6	<0.500 mg/l				
Total Organic Carbon		2.4 mg/l				
Nitrate		23.8 mg/l				
pH	<9	8.56 pH Units				

Settlement
Ponds

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		02/10/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved	50	<1 µg/l				
Boron, Dissolved	2000	882 µg/l				
Cadmium, Dissolved	5	<0.1 µg/l				
Calcium, Dissolved		342 mg/l				
Chromium, Dissolved	50	8.93 µg/l				
Copper, Dissolved		1.8 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		48.9 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		2860 µg/l				
Nickel, Dissolved		10.2 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved	80	5.15 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO ₃		151 mg/l				
Electrical Conductivity at 20°C		4590 mS/cm				
Potassium, Dissolved		58.2 mg/l				
Sodium, Dissolved		608 mg/l				
Sulphate, Dissolved	400	699 mg/l				
Total Oxidised Nitrogen		22.5 mg/l				
Chloride		1080 mg/l				
Fluoride		0.138 mg/l				
Ammoniacal Nitrogen	0.6	<0.500 mg/l				
Total Organic Carbon		2.8 mg/l				
Nitrate		21.6 mg/l				
pH	<9	8.15 pH Units				

Settlement
Ponds

Substance/ Emission point Parameter	Emission Limit Value	Result (U)	Test Method (U)	Sample Date and Time (U)	Accreditation/ Certification (U)	Uncertainty (U)
Aluminium, Dissolved		<10 µg/l		02/11/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved	50	<1 µg/l				
Boron, Dissolved	2000	764 µg/l				
Cadmium, Dissolved	5	<0.1 µg/l				
Calcium, Dissolved		353 mg/l				
Chromium, Dissolved	50	8.88 µg/l				
Copper, Dissolved		2.73 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		48.4 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		2670 µg/l				
Nickel, Dissolved		8.11 µg/l				
Selenium, Dissolved		1.98 µg/l				
Vanadium, Dissolved	60	4.78 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		150 mg/l				
Electrical Conductivity at 20C		4550 mS/cm				
Potassium, Dissolved		59.2 mg/l				
Sodium, Dissolved		848 mg/l				
Sulphate, Dissolved	400	643 mg/l				
Total Dissolved Nitrogen		24.4 mg/l				
Chloride		1120 mg/l				
Fluoride		0.139 mg/l				
Ammoniacal Nitrogen	0.8	<0.500 mg/l				
Total Organic Carbon		3.5 mg/l				
Nitrate		23.6 mg/l				
pH	<9	8.10 pH Units				

Settlement
Ponds

Emission point	Substance/ Parameter	Emission Limit Value	Result	Test Method	Sample Date and Times	Accreditation/ Certification	Uncertainty
Settlement Ponds	Aluminium, Dissolved		<10 µg/l		05/12/2017	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<2 µg/l				
	Arsenic, Dissolved	50	1.21 µg/l				
	Boron, Dissolved	2000	722 µg/l				
	Cadmium, Dissolved	5	0.938 µg/l				
	Calcium, Dissolved		300 mg/l				
	Chromium, Dissolved	50	7.88 µg/l				
	Copper, Dissolved		1.28 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		45.8 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		2280 µg/l				
	Nickel, Dissolved		13.1 µg/l				
	Selenium Dissolved		1.68 µg/l				
	Vanadium, Dissolved	60	<4 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		217 mg/l				
	Electrical Conductivity at 20C		3780 mS/cm				
	Potassium, Dissolved		44.9 mg/l				
	Sodium, Dissolved		475 mg/l				
	Sulphate, Dissolved	400	601 mg/l				
	Total Oxidised Nitrogen		20.7 mg/l				
	Chloride		853 mg/l				
	Fluoride		0.158 mg/l				
	Ammoniacal Nitrogen	0.6	0.67 mg/l				
	Total Organic Carbon		1.3 mg/l				
	Nitrate		20 mg/l				
	pH	<9	7.87 pH Units				

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty M
Aluminium, Dissolved		10.7 µg/l		28/08/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		1.61 µg/l				
Boron, Dissolved		786 µg/l				
Cadmium, Dissolved		0.163 µg/l				
Calcium, Dissolved		440 mg/l				
Chromium, Dissolved		2.65 µg/l				
Copper, Dissolved		4.96 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		58.4 mg/l				
Manganese, Dissolved		42.5 µg/l				
Molybdenum, Dissolved		2800 µg/l				
Nickel, Dissolved		20.8 µg/l				
Selenium, Dissolved		1.16 µg/l				
Vanadium, Dissolved		3.64 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		251 mg/l				
Electrical Conductivity at 20C		5180 mS/cm				
Potassium, Dissolved		40.1 mg/l				
Sodium, Dissolved		646 mg/l				
Sulphate, Dissolved		765 mg/l				
Total Oxidised Nitrogen		36 mg/l				
Chloride		1260 mg/l				
Fluoride		0.15 mg/l				
Ammoniacal Nitrogen		3.32 mg/l				
Total Organic Carbon		1.80 mg/l				
Nitrate		34.4 mg/l				
pH		7.16 pH Units				

DP2

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		11.2 µg/l		01/08/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		2.36 µg/l				
Boron, Dissolved		952 µg/l				
Cadmium, Dissolved		0.515 µg/l				
Calcium, Dissolved		388 mg/l				
Chromium, Dissolved		2.72 µg/l				
Copper, Dissolved		2.35 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		66.6 mg/l				
Manganese, Dissolved		53.2 µg/l				
Molybdenum, Dissolved		2990 µg/l				
Nickel, Dissolved		20.9 µg/l				
Selenium, Dissolved		1.41 µg/l				
Vanadium, Dissolved		4.53 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		238 mg/l				
Electrical Conductivity at 20C		4580 mS/cm				
Potassium, Dissolved		44.8 mg/l				
Sodium, Dissolved		572 mg/l				
Sulphate, Dissolved		748 mg/l				
Total Oxidised Nitrogen		29.8 mg/l				
Chloride		1020 mg/l				
Fluoride		0.221 mg/l				
Ammoniacal Nitrogen		3.77 mg/l				
Total Organic Carbon		1.10 mg/l				
Nitrate		27.8 mg/l				
pH		7.36 pH Units				

DP2

Substance/ Emission point Parameter	Emission Limit Value	Result (3)	Test Method (4)	Sample Date and Time (5)	Accreditation/ Certification (6)	Uncertainty (%)
Aluminum, Dissolved		11.3 µg/l		31/08/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		<1 µg/l				
Boron, Dissolved		537 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Cobalt, Dissolved		330 mg/l				
Cromium, Dissolved		2.6 µg/l				
Copper, Dissolved		1.42 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		34.6 mg/l				
Manganese, Dissolved		53.1 µg/l				
Molybdenum, Dissolved		1820 µg/l				
Nickel, Dissolved		11.1 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		254 mg/l				
Electrical Conductivity at 20C		4280 mS/cm				
Potassium, Dissolved		45.3 mg/l				
Sodium, Dissolved		535 mg/l				
Sulphate, Dissolved		479 mg/l				
Total Oxidized Nitrogen		22.1 mg/l				
Chloride		1080 mg/l				
Fluoride		0.174 mg/l				
Ammoniacal Nitrogen		2.85 mg/l				
Total Organic Carbon		1.00 mg/l				
Nitrate		21.2 mg/l				
pH		7.21 pH Units				

DP2

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty IN
Aluminium, Dissolved		11.3 µg/l		02/10/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic, Dissolved		2.01 µg/l				
Boron, Dissolved		970 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		358 mg/l				
Chromium, Dissolved		3.22 µg/l				
Copper, Dissolved		1.47 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		61.2 mg/l				
Manganese, Dissolved		32.5 µg/l				
Molybdenum, Dissolved		2850 µg/l				
Nickel, Dissolved		19.2 µg/l				
Selenium, Dissolved		<1 µg/l				
Vanadium, Dissolved		4.85 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO ₃		254 mg/l				
Electrical Conductivity at 20C		4180 mS/cm				
Potassium, Dissolved		45 mg/l				
Sodium, Dissolved		487 mg/l				
Sulphate, Dissolved		745 mg/l				
Total Oxidised Nitrogen		28.2 mg/l				
Chloride		970 mg/l				
Fluoride		0.203 mg/l				
Ammoniacal Nitrogen		3.73 mg/l				
Total Organic Carbon		0.70 mg/l				
Nitrate		26.1 mg/l				
pH		7.39 pH Units				

DP2

Substance/ Emission point Parameter	Emission Limit Value	Result (g)	Test Method (f)	Sample Date and Times (f)	Accreditation/ Certification (f)	Uncertainty (f)
Aluminum, Dissolved		15.1 µg/l		02/11/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic Dissolved		3.02 µg/l				
Boron, Dissolved		861 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		402 mg/l				
Chromium, Dissolved		2.89 µg/l				
Copper, Dissolved		1.53 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		68.8 mg/l				
Manganese, Dissolved		20.5 µg/l				
Molybdenum, Dissolved		3220 µg/l				
Nickel, Dissolved		19.8 µg/l				
Selenium Dissolved		1.99 µg/l				
Vanadium, Dissolved		7.45 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		268 mg/l				
Electrical Conductivity at 20C		4700 mS/cm				
Potassium, Dissolved		57.1 mg/l				
Sodium, Dissolved		598 mg/l				
Sulphate, Dissolved		687 mg/l				
Total Oxidised Nitrogen		31.1 mg/l				
Chloride		1070 mg/l				
Fluoride		0.213 mg/l				
Ammoniacal Nitrogen		5.91 mg/l				
Total Organic Carbon		0.70 mg/l				
Nitrates		27.7 mg/l				
pH		7.43 pH Units				

DP2

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Ammonium, Dissolved		<10 µg/l		05/12/2017	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<2 µg/l				
Arsenic, Dissolved		1.08 µg/l				
Boron, Dissolved		587 µg/l				
Cadmium, Dissolved		0.791 µg/l				
Calcium, Dissolved		258 mg/l				
Chromium, Dissolved		2.07 µg/l				
Copper, Dissolved		1.03 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		41.3 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		1880 µg/l				
Nickel, Dissolved		14 µg/l				
Selenium, Dissolved		1.47 µg/l				
Vanadium, Dissolved		<4 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO ₃		275 mg/l				
Electrical Conductivity at 20C		2880 mS/cm				
Potassium, Dissolved		34.3 mg/l				
Sodium, Dissolved		338 mg/l				
Sulphate, Dissolved		468 mg/l				
Total Oxidised Nitrogen		19.2 mg/l				
Chloride		595 mg/l				
Fluoride		0.185 mg/l				
Ammoniacal Nitrogen		2.08 mg/l				
Total Organic Carbon		0.70 mg/l				
Nitrates		18.1 mg/l				
pH		7.40 pH Units				

DP2

- (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 reference number is used.
- (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 method is given.
- (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 date and time of the sample 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)

Reporting of Emission to Groundwater for the period from ...1st July 2017...to...31st December 2017...

Operator : NWE Generation UK plc

Form: Groundwater1

Location: Aberthaw Quarry Ash Disposal Site

Permit/Variation Number: BP33392H

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 ug/l		01/08/2017	Sampling Assoc/Testing EA NLS	
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		<1 ug/l				
Cadmium, Dissolved		<100 ug/l				
Calcium, Dissolved		124 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<80 ug/l				
Magnesium, Dissolved		6.57 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		1.08 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		278 mg/l				
Electrical Conductivity at 20C		625 uS/cm				
Potassium, Dissolved		1.51 mg/l				
Sodium, Dissolved		15.2 mg/l				
Sulphate, Dissolved		27.2 mg/l				
Total Oxidised Nitrogen		3.78 mg/l				
Chloride		28.8 mg/l				
Fluoride		0.062 mg/l				
Ammoniacal Nitrogen		0.03 mg/l				
Total Organic Carbon		1.4 mg/l				
pH		7.24 pH Units				
Nitrate		<3.78 mg/l				
Ionic Balance		0.708 %				
Electrical Conductivity		588 uS/cm				
Temperature		14.90 deg C				
Dissolved Oxygen		4.74 mg/l				
pH		7.09 pH Units				
Groundwater Level		28.41 mAOOD				

EQ00_01A

Substance/ Emission point Parameter	Enmission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		<10 ug/l		08/11/2017	Sampling Area/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		<100 ug/l				
Calcium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		124 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		5.77 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		<1 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		282 mg/l				
Electrical Conductivity at 25C		630 uS/cm				
Potassium, Dissolved		1.5 mg/l				
Sodium, Dissolved		16.2 mg/l				
Sulphate, Dissolved		31.1 mg/l				
Total Oxidised Nitrogen		3.4 mg/l				
Chloride		28.7 mg/l				
Fluoride		0.1 mg/l				
Ammoniacal Nitrogen		<0.03 mg/l				
Total Organic Carbon		1.3 mg/l				
pH		7.28 pH Units				
Nitrate		<3.4 mg/l				
Ionic Balance		0.492 %				
Electrical Conductivity		647 uS/cm				
Temperature		11.30 deg C				
Dissolved Oxygen		2.92 mg/l				
pH		7.35 pH Units				
Groundwater Level		25.07 m AOD	Field Measurements			

EB9_01A

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 ug/l		01/09/2017	Sampling Area/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		<1 ug/l				
Barium, Dissolved		<100 ug/l				
Calcium, Dissolved		<0.1 ug/l				
Chromium, Dissolved		124 mg/l				
Copper, Dissolved		<0.5 ug/l				
Iron, Dissolved		<1 ug/l				
Magnesium, Dissolved		<30 ug/l				
Manganese, Dissolved		5.8 mg/l				
Molybdenum, Dissolved		<10 ug/l				
Nickel, Dissolved		<3 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<1 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		280 mg/l				
Electrical Conductivity at 25C		631 uS/cm				
Potassium, Dissolved		1.43 mg/l				
Sodium, Dissolved		15.3 mg/l				
Sulphate, Dissolved		28.7 mg/l				
Total Oxidised Nitrogen		3.38 mg/l				
Chloride		28.3 mg/l				
Fluoride		0.068 mg/l				
Ammoniacal Nitrogen		0.192 mg/l				
Total Organic Carbon		1.8 mg/l				
pH		7.18 pH Units				
Nitrate		3.37 mg/l				
Ionic Balance		0.885 %				
Electrical Conductivity		604 uS/cm				
Temperature		16.10 deg C				
Dissolved Oxygen		3.99 mg/l				
pH		6.81 pH Units				
Groundwater Level		25.06 mAO	Field Measurements			

EQ0_01B

Substance/ Emulsion point Parameter	Enforce Limit Value	Result (1)	Test Method (2)	Sample Date and Time (3)	Accreditation Certification (4)	Uncertainty (5)
Aluminum, Dissolved		<10 ug/l				
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		<100 ug/l				
Barium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		124 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		5.76 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		<1 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		280 mg/l				
Electrical Conductivity at 25C		832 uS/cm				
Potassium, Dissolved		1.38 mg/l				
Sodium, Dissolved		16.2 mg/l				
Sulfate, Dissolved		31.8 mg/l				
Total Oxidized Nitrogen		3.12 mg/l				
Chloride		28.7 mg/l				
Fluoride		0.097 mg/l				
Ammoniacal Nitrogen		<0.03 mg/l				
Total Organic Carbon		1.3 mg/l				
pH		7.24 pH Units				
Nitrates		<3.12 mg/l				
Ionic Balance		0.738 %				
Electrical Conductivity		847 uS/cm				
Temperature		11.20 deg C				
Dissolved Oxygen		2.84 mg/l				
pH		7.15 pH Units				
Groundwater Level		24.80 mASCD				

ED8_018

Sampling Area/Testing
EA NLS

08/11/2017

Field Measurements

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method (1)	Sample Date and Times (1)	Accreditation/ Certification (5)	Uncertainty (1)
Aluminum, Dissolved		<10 ug/l		01/02/2017	Sampling Area/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		<100 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		147 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		20.3 mg/l				
Manganese, Dissolved		81 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		2.2 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		431 mg/l				
Electrical Conductivity at 25C		866 uS/cm				
Potassium, Dissolved		1.54 mg/l				
Sodium, Dissolved		20.2 mg/l				
Sulphate, Dissolved		51.8 mg/l				
Total Oxidised Nitrogen (Nitrate)		<0.2 mg/l				
Fluoride		37.9 mg/l				
Ammoniacal Nitrogen		<0.05 mg/l				
Total Organic Carbon		0.881 mg/l				
pH		2.6				
Nitrate		6.67 pH Units				
Ionic Balance		<0.18 mg/l				
Electrical Conductivity temperature		-0.473 %				
Electrical Conductivity		773 µS/cm				
Temperature		13.30 deg C				
Dissolved Oxygen		0.67 mg/l				
pH		6.68 pH Units				
Groundwater Level		27.52 m/OD				

ED8_D2A

Field Measurements

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Time (3)	Accreditation/ Certification (4)	Uncertainty (5)
ED0_02A				08/11/2017	Sampling Assoc/Testing EA NUS	
Aluminium, Dissolved		<10 ug/l				
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		2.75 ug/l				
Boron, Dissolved		<100 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		194 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		58.6 ug/l				
Magnesium, Dissolved		94.5 mg/l				
Manganese, Dissolved		67.2 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		1.87 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		426 mg/l				
Electrical Conductivity at 25C		880 uS/cm				
Potassium, Dissolved		1.9 mg/l				
Sodium, Dissolved		21.2 mg/l				
Sulphate, Dissolved		54 mg/l				
Total Oxidised Nitrogen		<0.2 mg/l				
Chlorine		35.9 mg/l				
Fluoride		0.33 mg/l				
Ammoniacal Nitrogen		2.95 mg/l				
Total Organic Carbon		2.5 mg/l				
pH		6.99 pH Units				
Nitrate		<0.2 mg/l				
Ionic Balance		-0.751 %				
Electrical Conductivity		528 uS/cm				
Temperature		12.50 deg C				
Dissolved Oxygen		0.42 mg/l				
pH		7.00 pH Units				
Groundwater Level		27.48 m AOD	Field Measurements			

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (5)	Sample Date and Time (3)	Accreditation/ Certification (4)	Uncertainty (6)
Aluminium, Dissolved		<10 ug/l				
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		110 ug/l				
Barium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		205 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		1.66 ug/l				
Iron, Dissolved		<50 ug/l				
Magnesium, Dissolved		34 mg/l				
Manganese, Dissolved		20.8 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		3.36 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		453 mg/l				
Electrical Conductivity at 25C		1200 uS/cm		01/08/2017	Sampling Assoc/Testing EA NLS	
Potassium, Dissolved		2.22 mg/l				
Sodium, Dissolved		30.5 mg/l				
Sulphate, Dissolved		104 mg/l				
Total Dissolved Nitrogen		28.1 mg/l				
Chloride		46.9 mg/l				
Fluoride		0.134 mg/l				
Ammoniacal Nitrogen		0.062 mg/l				
Total Organic Carbon		4.4 mg/l				
pH		7.04 pH Units				
Nitrates		28 mg/l				
Ionic Balance		-0.468 %				
Electrical Conductivity		1018 uS/cm				
Temperature		12.00 deg C				
Dissolved Oxygen		0.78 mg/l				
pH		18.24 pH Units				
Groundwater Level		27.49 mADD				

EQ0_028

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽¹⁾	Sample Date and Time ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁴⁾
Aluminium, Dissolved		<10 ug/l				
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		141 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium		184 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		122 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		31.5 mg/l				
Manganese, Dissolved		33.9 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		3.21 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		431 mg/l				
Electrical Conductivity at 25C		1120 uS/cm				
Potassium, Dissolved		2.18 mg/l				
Sodium, Dissolved		30.8 mg/l				
Sulphate, Dissolved		107 mg/l				
Total Oxidised Nitrogen Chloride		18.2 mg/l				
Fluoride		45.8 mg/l				
Ammoniacal Nitrogen		0.141 mg/l				
Total Organic Carbon		0.041 mg/l				
pH		4.6				
Nitrates		7.15 pH Units				
Ionic Balance		18.2 mg/l				
Electrical Conductivity		0.854 %				
Temperature		1180 µS/cm				
Dissolved Oxygen		11.80 deg C				
pH		0.74 mg/l				
Groundwater Level		6.57 pH Units				
		27.98 mACD				

ES08_028

08/11/2017
Sampling Area/Testing
SA NLS

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Time (3)	Accredited/ Certification (4)	Uncertainty (5)
Aluminum, Dissolved	50	<1 ug/l				
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved	10	<1 ug/l				
Boron, Dissolved	2000	1840 ug/l				
Cadmium, Dissolved	0.4	<0.1 ug/l				
Cerium, Dissolved		383 mg/l				
Chromium, Dissolved	50	<0.5 ug/l				
Copper, Dissolved		2.39 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		268 mg/l				
Manganese, Dissolved		47.1 ug/l				
Molybdenum, Dissolved	50	1810 ug/l				
Nickel, Dissolved		2.14 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved	20	<2 ug/l				
Mercury, Dissolved	0.05	<0.01 ug/l				
Total Alkalinity as CaCO3		160 mg/l				
Electrical Conductivity at 25C		8430 uS/cm				
Potassium, Dissolved		10.6 mg/l				
Sodium, Dissolved		638 mg/l				
Sulfate, Dissolved	400	546 mg/l				
Total Dissolved Nitrogen		1.8 mg/l				
Chloride		1850 mg/l				
Fluoride		0.863 mg/l				
Ammoniacal Nitrogen	1.8	0.458 mg/l				
Total Organic Carbon		<0.7 mg/l				
pH		7.46 pH Units				
Nitrate		1.51 mg/l				
Ionic Balance		-0.678 %				
Electrical Conductivity		8156 uS/cm				
Temperature		17.00 deg C				
Dissolved Oxygen		5.88 mg/l				
pH		7.13 pH Units				
Groundwater Level		18.84 mAGL				

ED5_03

31/08/2017

Sampling Area/Testing
EA NLS

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty (%)
Aluminium, Dissolved	57	<10 ug/l		08/11/2017	Sampling Area/Testing EA NLS	
Ammonia, Dissolved		<1 ug/l				
Arsonic Dissolved	10	<1 ug/l				
Boron, Dissolved	2800	1680 ug/l				
Calcium, Dissolved	0.4	0.425 ug/l				
Calcium, Dissolved		394 mg/l				
Chromium, Dissolved	50	<0.5 ug/l				
Copper, Dissolved		1.16 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		216 mg/l				
Manganese, Dissolved		44.9 ug/l				
Molybdenum, Dissolved	60	1180 ug/l				
Nickel, Dissolved		<1 ug/l				
Selenium Dissolved		<1 ug/l				
Vanadium, Dissolved	20	<2 ug/l				
Mercury, Dissolved	0.03	<0.01 ug/l				
Total Alkalinity as CaCO3		167 mg/l				
Electrical Conductivity at 25C		5780 uS/cm				
Potassium, Dissolved		13.5 mg/l				
Sodium, Dissolved		643 mg/l				
Sulphate, Dissolved	400	438 mg/l				
Total Oxidised Nitrogen		<0.2 mg/l				
Chloride		1780 mg/l				
Fluoride		1.2 mg/l				
Ammoniacal Nitrogen	1.8	0.839 mg/l				
Total Organic Carbon		<0.7 mg/l				
pH		7.4 pH Units				
Nitrate		<0.182 mg/l				
Ionic Balance		0.542 %				
Electrical Conductivity		6108 uS/cm				
Temperature		13.30 deg C				
Dissolved Oxygen		3.26 mg/l				
pH		6.85 pH Units				
Groundwater Level		17.64 m AOD				

EDS_03

Substance/ Enthalpy point Parameter	Enthalpy Limit Value	Result (U)	Test Method (U)	Sample Date and Times (U)	Accreditation/ Certification (U)	Uncertainty (U)
Ammonium, Dissolved	50	<10 ug/l		31/08/2017	Sampling Area/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arctic Dissolved	10	1.35 ug/l				
Boron, Dissolved	2000	2000 ug/l				
Cadmium, Dissolved	0.4	<0.1 ug/l				
Calcium, Dissolved		9.30 mg/l				
Chromium, Dissolved	50	<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		8.88 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved	50	31.00 ug/l				
Nickel, Dissolved		<1 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved	20	<2 ug/l				
Mercury, Dissolved	0.03	<0.01 ug/l				
Total Alkalinity as CaCO3		382 mg/l				
Electrical Conductivity at 25C		1080 uS/cm				
Potassium, Dissolved		2.76 mg/l				
Sodium, Dissolved		248 mg/l				
Sulfate, Dissolved	400	88.30 mg/l				
Total Oxidized Nitrogen		<0.2 mg/l				
Chloride		100.00 mg/l				
Fluoride		4.98 mg/l				
Ammonia Nitrogen	1.6	0.48 mg/l				
Total Organic Carbon		<0.7 mg/l				
pH		8.47 pH Units				
Nitrate		0.03 mg/l				
Ionic Balance		-1.77 %				
Electrical Conductivity		1019 uS/cm				
Temperature		18.90 deg C				
Dissolved Oxygen		0.35 mg/l				
pH		8.42 pH Units				
Groundwater Level		18.58 mADOO	Field Measurements			

BU6_04

Substance/ Emission point Parameter	Enforcement Limit Value	Result's	Test Method m	Sample Date and Time s	Accreditation Certification f5	Uncertainty m
Aluminium, Dissolved	52	<10	ug/l	09/11/2017	Sampling Area/Testing EA NLS	
Ammonia, Dissolved		<1	ug/l			
Arsenic, Dissolved	10	1.20	ug/l			
Boron, Dissolved	2800	2140	ug/l			
Calcium, Dissolved	0.4	<0.1	ug/l			
Calcium, Dissolved		6.66	mg/l			
Chromium, Dissolved	50	<0.5	ug/l			
Copper, Dissolved		<1	ug/l			
Iron, Dissolved		<50	ug/l			
Magnesium, Dissolved		5.33	mg/l			
Manganese, Dissolved		<10	ug/l			
Molybdenum, Dissolved	60	22.10	ug/l			
Nickel, Dissolved		<1	ug/l			
Selenium, Dissolved		<1	ug/l			
Vanadium, Dissolved	20	<2	ug/l			
Mercury, Dissolved	0.03	<0.01	ug/l			
Total Alkalinity as CaCO3		378	mg/l			
Electrical Conductivity at 25C		1010	uS/cm			
Potassium, Dissolved		2.60	mg/l			
Sodium, Dissolved		248	mg/l			
Sulphate, Dissolved	400	78.70	mg/l			
Total Oxidised Nitrogen		<0.2	mg/l			
Chloride		75.30	mg/l			
Fluoride		6.21	mg/l			
Ammoniacal Nitrogen	1.6	0.54	mg/l			
Total Organic Carbon		<0.7	mg/l			
pH		8.96	pH Units			
Nitrate		<0.2	mg/l			
Ionic Balance		1.52	%			
Electrical Conductivity		1067	uS/cm			
Temperature		12.50	deg C			
Dissolved Oxygen		0.62	mg/l			
pH		8.49	pH Units			
Groundwater Level		19.31	mAOD			

ED6_04

Substance/ Emission point: Parameter	Emission Limit Value	Result U	Test Method (U)	Sample Date and Time (U)	Accreditation Certification (U)	Uncertainty %
Aluminium, Dissolved	50	12.50 ug/l				
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved	10	1.40 ug/l				
Boron, Dissolved	2000	1780 ug/l				
Cadmium, Dissolved	0.4	<0.1 ug/l				
Calcium, Dissolved		8.18 mg/l				
Chromium, Dissolved	50	<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		4.60 mg/l				
Manganese, Dissolved		<10 ug/l				
Nickel, Dissolved	50	<3 ug/l				
Nitrate, Dissolved		<1 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved	20	<2 ug/l				
Mercury, Dissolved	0.03	<0.01 ug/l				
Total Alkalinity as CaCO3		370 mg/l				
Electrical Conductivity at 25C		867 uS/cm				
Potassium, Dissolved		2.23 mg/l				
Sodium, Dissolved		209 mg/l				
Sulphate, Dissolved	400	84.30 mg/l				
Total Oxidised Nitrogen		<0.2 mg/l				
Chloride		31.50 mg/l				
Fluoride		2.71 mg/l				
Ammoniacal Nitrogen		0.45 mg/l				
Total Organic Carbon	1.6	<0.7 mg/l				
pH		8.72 pH Units				
Nitrate		<0.181 mg/l				
Ionic Balance		-1.94 %				
Electrical Conductivity		809 uS/cm				
Temperature		14.80 deg C				
Dissolved Oxygen		3.46 mg/l				
pH		8.71 pH Units				
Groundwater Level		18.55 m AOD				

Ex08_01

Sampling Area/Testing
EA NLS

31/08/2017

Field Measurements

Substance/ Emission point: Parameter	Emission Limit: Value	Result ⁽¹⁾	Test Method (1)	Sample Date and Time (3)	Accreditation/ Certification (5)	Uncertainty (4)
Aluminum, Dissolved	50	10.50 ug/L		08/11/2017	Sampling Area/Testing EA NLS	
Arsenic, Dissolved		<1 ug/L				
Boron, Dissolved	10	1.22 ug/L				
Cadmium, Dissolved	2000	1730 ug/L				
Copper, Dissolved	0.4	<0.1 ug/L				
Calcium, Dissolved		7.72 mg/L				
Chromium, Dissolved	50	<0.5 ug/L				
Cobalt, Dissolved		<1 ug/L				
Iron, Dissolved		<30 ug/L				
Magnesium, Dissolved		5.61 mg/L				
Manganese, Dissolved		11.10 ug/L				
Molybdenum, Dissolved	50	5.06 ug/L				
Nickel, Dissolved		<1 ug/L				
Selenium, Dissolved		<1 ug/L				
Vanadium, Dissolved	20	<2 ug/L				
Mercury, Dissolved	0.03	<0.01 ug/L				
Total Alkalinity as CaCO3		353 mg/L				
Electrical Conductivity at 25C		900 uS/cm				
Potassium, Dissolved		3.32 mg/L				
Sodium, Dissolved		204 mg/L				
Sulphate, Dissolved	400	92.00 mg/L				
Total Dissolved Nitrogen		<0.2 mg/L				
Chloride		38.20 mg/L				
Fluoride		3.64 mg/L				
Ammoniacal Nitrogen	1.6	0.50 mg/L				
Total Organic Carbon		<0.7 mg/L				
pH		8.02 pH Units				
Nitrate		<0.165 mg/L				
Ionic Balance		-1.23 %				
Electrical Conductivity		996 uS/cm				
Temperature		12.50 deg C				
Dissolved Oxygen		2.51 mg/L				
pH		8.70 pH Units				
Groundwater Level		18.58 mAGD				
			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		<10 ug/l		31/08/2017	Sampling Area/Testing EA NLS	
Arsenite, Dissolved		<1 ug/l				
Azanic, Dissolved		1.54 ug/l				
Boron, Dissolved		1130 ug/l				
Caesium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		54.60 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		30.80 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		<1 ug/l				
Seemum Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		273 mg/l				
Electrical Conductivity at 25C		845 uS/cm				
Potassium, Dissolved		6.37 mg/l				
Sodium, Dissolved		116 mg/l				
Sulphate, Dissolved		221.00 mg/l				
Total Dissolved Nitrogen		<0.2 mg/l				
Chloride		30.80 mg/l				
Fluoride		0.54 mg/l				
Ammoniacal Nitrogen		0.72 mg/l				
Total Organic Carbon		1.80 mg/l				
pH		7.58 pH Units				
Nitrate		0.03 mg/l				
Ionic Balance		1.34 %				
Electrical Conductivity		853 uS/cm				
Temperature		14.80 deg C				
Dissolved Oxygen		0.25 mg/l				
pH		7.77 pH Units				
Groundwater Level		20.70 m-ASD				

E06_02

Substance/ Emission point Parameter	Emission Limit Value	Result (d)	Test Method (f)	Sample Date and Time (e)	Accreditation/ Certification (g)	Uncertainty (h)
Aluminium, Dissolved		<10 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		1.24 ug/l				
Cadmium, Dissolved		1110 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		81.99 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		<1 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		43.90 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		4.52 ug/l				
Nickel, Dissolved		<1 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		287 mg/l		08/11/2017	Sampling Assoc/Testing EA NLS	
Electrical Conductivity at 25C		973 uS/cm				
Potassium, Dissolved		7.17 mg/l				
Sodium, Dissolved		116 mg/l				
Sulphate, Dissolved		273.00 mg/l				
Total Oxidised Nitrogen		<0.2 mg/l				
Chloride		30.50 mg/l				
Fluoride		0.81 mg/l				
Ammoniacal Nitrogen		0.81 mg/l				
Total Organic Carbon		1.00 mg/l				
pH		7.76 pH Units				
Peroxide		<0.182 mg/l				
Ionic Balance		0.22 %				
Electrical Conductivity		1037 uS/cm				
Temperature		13.20 deg C				
Dissolved Oxygen		0.88 mg/l				
pH		7.88 pH Units				
Groundwater Level		28.84 m AOD	Field Measurements			

ES6 02

Substance/ Emission point Parameter	Emission Limit Value	Result (U)	Test Method (U)	Sample Date and Time (P)	Accreditation/ Certification (U)	Uncertainty (U)
Aluminium, Dissolved		<10 ug/l				
Arsenic, Dissolved		2.60 ug/l				
Boron, Dissolved		<1 ug/l				
Cadmium, Dissolved		348 ug/l				
Calcium, Dissolved		<0.1 ug/l				
Chromium, Dissolved		191 mg/l				
Copper, Dissolved		<0.5 ug/l				
Iron, Dissolved		1.32 ug/l				
Magnesium, Dissolved		<30 ug/l				
Manganese, Dissolved		65.60 mg/l				
Molybdenum, Dissolved		<10 ug/l				
Nickel, Dissolved		13.40 ug/l				
Selenium, Dissolved		2.57 ug/l				
Vanadium, Dissolved		<1 ug/l				
Mercury, Dissolved		<2 ug/l				
Total Alkalinity as CaCO3		<0.01 ug/l				
Electrical Conductivity at 25C		145 mg/l				
Potassium, Dissolved		1080 ug/l				
Sodium, Dissolved		9.10 mg/l				
Sulphate, Dissolved		28 mg/l				
Total Oxidised Nitrogen		438 mg/l				
Chloride		<0.2 mg/l				
Fluoride		27.20 mg/l				
Ammoniacal Nitrogen		0.49 mg/l				
Total Organic Carbon		0.09 mg/l				
pH		1.70 mg/l				
Nitrate		7.37 pH Units				
Ionic Balance		<0.2 mg/l				
Electrical Conductivity		2.54 %				
Temperature		998 µS/cm				
Dissolved Oxygen		15.80 deg C				
pH		8.55 mg/l				
Groundwater Level		7.88 pH Units				
		21.41 mAOG				

E08_03

31/08/2017

Sampling Area/Testing
EA NLS

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 ug/l				
Ammonia, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		371 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		151 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		1.03 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		74.80 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		11.10 ug/l				
Nickel, Dissolved		1.74 ug/l				
Selenium Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		318 mg/l				
Electrical Conductivity at 25C		1210 uS/cm				
Potassium, Dissolved		8.11 mg/l				
Sodium, Dissolved		32 mg/l				
Sulphate, Dissolved		554 mg/l				
Total Dissolved Nitrogen		<0.2 mg/l				
Chloride		202.00 mg/l				
Fluoride		0.45 mg/l				
Ammoniacal Nitrogen		0.19 mg/l				
Total Organic Carbon		<0.7 mg/l				
pH		7.72 pH Units				
Nitrate		<0.2 mg/l				
Ionic Balance		-21.20 %				
Electrical Conductivity		1304 uS/cm				
Temperature		13.00 deg C				
Dissolved Oxygen		7.21 mg/l				
pH		7.57 pH Units				
Groundwater Level		21.28 mHOD				

E08_03

08/11/2017
Sampling Area/Testing
EA NLS

Field Measurements

Substance/ Parameter	Enfission Limit Value	Result (U)	Test Method (U)	Sample Date and Time (U)	Accreditation/ Certification (U)	Uncertainty (U)
Aluminum, Dissolved		<10 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		<1 ug/l				
Cadmium, Dissolved		220 ug/l				
Calcium, Dissolved		<0.1 ug/l				
Chromium, Dissolved		304 mg/l				
Copper, Dissolved		<0.5 ug/l				
Iron, Dissolved		3.56 ug/l				
Magnesium, Dissolved		<30 ug/l				
Manganese, Dissolved		74.70 mg/l				
Molybdenum, Dissolved		<10 ug/l				
Nickel, Dissolved		7.78 ug/l				
Selenium, Dissolved		4.76 ug/l				
Vanadium, Dissolved		<1 ug/l				
Mercury, Dissolved		<2 ug/l				
Total Alkalinity as CaCO3		<0.01 ug/l				
Electrical Conductivity at 25C		181 ug/l				
Potassium, Dissolved		1880 ug/l				
Sodium, Dissolved		88.50 mg/l				
Sulphate, Dissolved		82 mg/l				
Total Oxidized Nitrogen		864 mg/l				
Chloride		<0.2 mg/l				
Fluoride		128.00 mg/l				
Ammoniacal Nitrogen		0.42 mg/l				
Total Organic Carbon		0.03 mg/l				
pH		2.70 mg/l				
Nitrate		7.57 pH Units				
Ionic Balance		<0.2 mg/l				
Electrical Conductivity		1.27 %				
Temperature		1747 uS/cm				
Dissolved Oxygen		13.70 deg C				
pH		7.70 mg/l				
Groundwater Level		7.20 pH Units				
		21.75 in A.D.G.				

E08_04

31/08/2017

Sampling Area/Testing
EA NLS

Substance/ Emission point Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Time (3)	Accreditation/ Certification (4)	Uncertainty (5)
Antimony, Dissolved		<1 ug/l		08/11/2017	Sampling Arms/Testing EA NLS	
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		203 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		267 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		2.39 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		71.20 mg/l				
Manganese, Dissolved		42.90 ug/l				
Molybdenum, Dissolved		6.85 ug/l				
Nickel, Dissolved		5.18 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		175 mg/l				
Electrical Conductivity at 25C		1820 uS/cm				
Potassium, Dissolved		82.10 mg/l				
Sodium, Dissolved		59 mg/l				
Sulphate, Dissolved		830 mg/l				
Total Oxidised Nitrogen Chloride		<0.2 mg/l				
Fluoride		118.00 mg/l				
Ammoniacal Nitrogen		0.44 mg/l				
Total Organic Carbon		<0.03 mg/l				
pH		2.50 mg/l				
Nitrate		7.47 pH Units				
Ionic Balance		<0.2 mg/l				
Electrical Conductivity		0.48 %				
Temperature		1867 uS/cm				
Dissolved Oxygen		8.80 deg C				
pH		8.98 mg/l				
Groundwater Level		7.39 pH Units				
		21.98 mADC				

EN8_04

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 ug/l		01/08/2017	Sampling Assoc/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		343 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		176 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		1.26 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		74.80 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		4.20 ug/l				
Nickel, Dissolved		1.78 ug/l				
Selenium, Dissolved		<1 ug/l				
Silver, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		183 mg/l				
Electrical Conductivity at 25C		1210 uS/cm				
Potassium, Dissolved		4.85 mg/l				
Sodium, Dissolved		23 mg/l				
Sulphate, Dissolved		540 mg/l				
Total Oxidised Nitrogen		<0.2 mg/l				
Chloride		22.00 mg/l				
Fluoride		0.44 mg/l				
Ammoniacal Nitrogen		0.14 mg/l				
Total Organic Carbon		0.80 mg/l				
pH		7.47 pH Units				
Nitrate		<0.2 mg/l				
Ionic Balance		1.61 %				
Electrical Conductivity		1104 uS/cm				
Temperature		14.90 deg C				
Dissolved Oxygen		3.51 mg/l				
pH		7.03 pH Units				
Groundwater Level		24.96 mADC	Field Measurements			

ENR_05

Substance/ Emission Point Parameter	Result ¹⁴	Test Method ¹⁵	Sample Date and Time ¹⁶	Accredited Certification ¹⁷	Uncertainty 18
Aluminium Dissolved	<1 ug/l				
Antimony Dissolved	<1 ug/l				
Arsenic Dissolved	<1 ug/l				
Boron Dissolved	336 ug/l				
Calcium Dissolved	<0.1 ug/l				
Chromium Dissolved	162 mg/l				
Copper Dissolved	<0.5 ug/l				
Copper Dissolved	1.40 ug/l				
Iron Dissolved	<50 ug/l				
Magnesium Dissolved	74.80 mg/l				
Manganese Dissolved	<10 ug/l				
Molybdenum Dissolved	3.90 ug/l				
Nickel Dissolved	1.45 ug/l				
Selenium Dissolved	<1 ug/l				
Vanadium Dissolved	<2 ug/l				
Mercury Dissolved	<0.01 ug/l				
Total Alkalinity as CaCO ₃	177 mg/l				
Electrical Conductivity at 25C	1280 uS/cm				
Potassium Dissolved	5.62 mg/l				
Sulfate Dissolved	26 mg/l				
Sulfate Dissolved	578 mg/l				
Total Dissolved Nitrogen	<0.2 mg/l				
Chloride	23.80 mg/l				
Fluoride	0.45 mg/l				
Ammoniacal Nitrogen	0.11 mg/l				
Total Organic Carbon	<0.7 mg/l				
pH	7.54 pH Units				
Nitrate	<0.2 mg/l				
Ionic Balance	0.67 %				
Electrical Conductivity	1330 uS/cm				
Temperature	12.00 deg C				
Dissolved Oxygen	4.51 mg/l				
pH	7.43 pH Units				
Conductivity Level	25.01 mS/cm				

EM_05

08/11/2017

Sampling Assoc/Testing
EA NLS

- [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 'maximum - 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 percentages 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)