

Reporting of Emission to Groundwater for the period from 1st July 2020 to 31st December 2020.

Operator : RWE Generation UK plc

Form: Groundwater1

Location: Aberthaw Quarry Ash Disposal Site

Permit/Variation Number: BP3339BH

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_01A	Aluminium, Dissolved		<3.5 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.35 ug/l				
	Boron, Dissolved		<56 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		120 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		5.4 mg/l				
	Manganese, Dissolved		0.78 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.18 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		285 mg/l				
	Electrical Conductivity at 20C		606 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		17 mg/l				
	Sulphate, Dissolved		28.1 mg/l				
	Total Oxidised Nitrogen		3.3 mg/l				
	Chloride		29.7 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2.9 mg/l				
	pH		8.1 pH Units				
	Nitrate		3.3 mg/l				
	Ionic Balance		0.6 %				
	Electrical Conductivity		619 µS/cm	Field Measurements			
Temperature		12.9 deg C					
Dissolved Oxygen		4.2 mg/l					
pH		7.2 pH Units					
Groundwater Level		26.41 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_01A	Aluminium, Dissolved		<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.21 ug/l				
	Boron, Dissolved		125 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		6.1 mg/l				
	Manganese, Dissolved		<0.20 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		288 mg/l				
	Electrical Conductivity at 25C		624 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		18.8 mg/l				
	Total Oxidised Nitrogen		5 mg/l				
	Chloride		25.4 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.8 mg/l				
	pH		7.5 pH Units				
	Nitrate		5.0 mg/l				
	Ionic Balance		9.8 %				
	Electrical Conductivity		727 µS/cm	Field Measurements			
Temperature		12.2 deg C					
Dissolved Oxygen		6.0 mg/l					
pH		8.7 pH Units					
Groundwater Level		27.07 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_01B	Aluminium, Dissolved		<3.5 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		<56 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		120 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		6.1 mg/l				
	Manganese, Dissolved		0.25 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		276 mg/l				
	Electrical Conductivity at 25C		613 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		18 mg/l				
	Sulphate, Dissolved		30.2 mg/l				
	Total Oxidised Nitrogen		3 mg/l				
	Chloride		30.2 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.9 mg/l				
	pH		8.1 pH Units				
	Nitrate		3.0 mg/l				
	Ionic Balance		2.2 %				
	Electrical Conductivity		640 µS/cm	Field Measurements			
Temperature		13.9 deg C					
Dissolved Oxygen		4.1 mg/l					
pH		7.1 pH Units					
Groundwater Level		24.96 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_01B	Aluminium, Dissolved		<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		64 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		24 ug/l				
	Magnesium, Dissolved		7.3 mg/l				
	Manganese, Dissolved		<0.20 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		291 mg/l				
	Electrical Conductivity at 25C		627 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		22.2 mg/l				
	Total Oxidised Nitrogen		4.4 mg/l				
	Chloride		25 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.2 mg/l				
	pH		7.4 pH Units				
	Nitrate		4.4 mg/l				
	Ionic Balance		9.5 %				
	Electrical Conductivity		729 µS/cm	Field Measurements			
Temperature		12.3 deg C					
Dissolved Oxygen		5.4 mg/l					
pH		7.3 pH Units					
Groundwater Level		25.85 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_02A	Aluminium, Dissolved		<3.5 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.59 ug/l				
	Boron, Dissolved		175 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		160 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		32 mg/l				
	Manganese, Dissolved		56 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		1.8 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.31 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		434 mg/l				
	Electrical Conductivity at 25C		901 uS/cm				
	Potassium, Dissolved		2.5 mg/l				
	Sodium, Dissolved		27 mg/l				
	Sulphate, Dissolved		59.7 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		36.1 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		3.65 mg/l				
	Total Organic Carbon		4.6 mg/l				
	pH		7.8 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		4.0 %				
	Electrical Conductivity		915 µS/cm	Field Measurements			
Temperature		12.6 deg C					
Dissolved Oxygen		1.2 mg/l					
pH		6.9 pH Units					
Groundwater Level		27.54 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_02A	Aluminium, Dissolved		<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.52 ug/l				
	Boron, Dissolved		146 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		240 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		19 mg/l				
	Manganese, Dissolved		31 ug/l				
	Molybdenum, Dissolved		3.52 ug/l				
	Nickel, Dissolved		2.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.44 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		486 mg/l				
	Electrical Conductivity at 25C		1040 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		27 mg/l				
	Sulphate, Dissolved		60.8 mg/l				
	Total Oxidised Nitrogen		10.6 mg/l				
	Chloride		30.4 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		0.18 mg/l				
	Total Organic Carbon		3.9 mg/l				
	pH		7.1 pH Units				
	Nitrate		10.6 mg/l				
Ionic Balance		10.9 %					
Electrical Conductivity		1220 µS/cm	Field Measurements				
Temperature		12.5 deg C					
Dissolved Oxygen		2.4 mg/l					
pH		8.4 pH Units					
Groundwater Level		27.95 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_02B	Aluminium, Dissolved		27 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		2.8 ug/l				
	Arsenic Dissolved		1.2 ug/l				
	Boron, Dissolved		133 ug/l				
	Cadmium, Dissolved		0.05 ug/l				
	Calcium, Dissolved		200 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		86 ug/l				
	Magnesium, Dissolved		19 mg/l				
	Manganese, Dissolved		41 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		3.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.54 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		404 mg/l				
	Electrical Conductivity at 25C		1050 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		35 mg/l				
	Sulphate, Dissolved		97.2 mg/l				
	Total Oxidised Nitrogen		27 mg/l				
	Chloride		40.2 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		0.06 mg/l				
	Total Organic Carbon		4.3 mg/l				
	pH		8 pH Units				
	Nitrate		1.4 mg/l				
	Ionic Balance		7.7 %				
	Electrical Conductivity		1062 µS/cm	Field Measurements			
Temperature		12.6 deg C					
Dissolved Oxygen		1.7 mg/l					
pH		6.9 pH Units					
Groundwater Level		27.69 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_02B	Aluminium, Dissolved		<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.55 ug/l				
	Boron, Dissolved		209 ug/l				
	Cadmium, Dissolved		0.03 ug/l				
	Calcium, Dissolved		230 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		23 mg/l				
	Manganese, Dissolved		3.7 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		6.8 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		2.2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		436 mg/l				
	Electrical Conductivity at 25C		1070 uS/cm				
	Potassium, Dissolved		2 mg/l				
	Sodium, Dissolved		42 mg/l				
	Sulphate, Dissolved		98 mg/l				
	Total Oxidised Nitrogen		18.5 mg/l				
	Chloride		30.2 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2.8 mg/l				
	pH		7.2 pH Units				
	Nitrate		0.0 mg/l				
	Ionic Balance		13.5 %				
	Electrical Conductivity		1243 µS/cm	Field Measurements			
Temperature		12.5 deg C					
Dissolved Oxygen		4.9 mg/l					
pH		7.7 pH Units					
Groundwater Level		28.11 mAOD					



Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E05_03	Aluminium, Dissolved	50	<3.5 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		2.6 ug/l				
	Arsenic Dissolved	10	0.54 ug/l				
	Boron, Dissolved	2800	1730 ug/l				
	Cadmium, Dissolved	0.4	0.13 ug/l				
	Calcium, Dissolved		390 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		256 mg/l				
	Manganese, Dissolved		43 ug/l				
	Molybdenum, Dissolved	50	1160 ug/l				
	Nickel, Dissolved		1.4 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.48 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		217 mg/l				
	Electrical Conductivity at 25C		6050 uS/cm				
	Potassium, Dissolved		10 mg/l				
	Sodium, Dissolved		650 mg/l				
	Sulphate, Dissolved	400	497 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		1910 mg/l				
	Fluoride		0.8 mg/l				
	Ammoniacal Nitrogen	1.6	<0.7 mg/l				
	Total Organic Carbon		<0.06 mg/l				
	pH		0 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.3 %				
	Electrical Conductivity		6695 µS/cm	Field Measurements			
	Temperature		17.5 deg C				
	Dissolved Oxygen		4.4 mg/l				
	pH		7.3 pH Units				
	Groundwater Level		18.80 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E05_03	Aluminium, Dissolved	50	<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	<0.20 ug/l				
	Boron, Dissolved	2800	1730 ug/l				
	Cadmium, Dissolved	0.4	<0.20 ug/l				
	Calcium, Dissolved		480 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		277 mg/l				
	Manganese, Dissolved		56 ug/l				
	Molybdenum, Dissolved	50	1310 ug/l				
	Nickel, Dissolved		1.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	<0.15 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		181 mg/l				
	Electrical Conductivity at 25C		6100 uS/cm				
	Potassium, Dissolved		10 mg/l				
	Sodium, Dissolved		740 mg/l				
	Sulphate, Dissolved	400	522 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		1930 mg/l				
	Fluoride		0.8 mg/l				
	Ammoniacal Nitrogen	1.6	<0.7 mg/l				
	Total Organic Carbon		<0.06 mg/l				
	pH		0 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		6.9 %				
	Electrical Conductivity		7290 µS/cm	Field Measurements			
	Temperature		13.6 deg C				
	Dissolved Oxygen		1.9 mg/l				
	pH		11.7 pH Units				
	Groundwater Level		18.82 mAOD				

	Substance/ Emission point	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E05_04	Aluminium, Dissolved	50	19 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	1.1 ug/l				
	Boron, Dissolved	2800	2390 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		14 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		11 mg/l				
	Manganese, Dissolved		6.1 ug/l				
	Molybdenum, Dissolved	50	50.3 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.36 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		337 mg/l				
	Electrical Conductivity at 25C		1240 uS/cm				
	Potassium, Dissolved		3.5 mg/l				
	Sodium, Dissolved		280 mg/l				
	Sulphate, Dissolved	400	104 mg/l				
	Total Oxidised Nitrogen		<0.07 mg/l				
	Chloride		173 mg/l				
	Fluoride		5.3 mg/l				
	Ammoniacal Nitrogen	1.6	<0.06 mg/l				
	Total Organic Carbon		0.7 mg/l				
	pH		8.4 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		1.0 %				
	Electrical Conductivity		1331 µS/cm	Field Measurements			
	Temperature		15.3 deg C				
	Dissolved Oxygen		1.4 mg/l				
	pH		8.3 pH Units				
	Groundwater Level		18.07 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E05_04	Aluminium, Dissolved	50	<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	1.3 ug/l				
	Boron, Dissolved	2800	2390 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		11 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		8.4 mg/l				
	Manganese, Dissolved		5.4 ug/l				
	Molybdenum, Dissolved	50	38.5 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.29 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		359 mg/l				
	Electrical Conductivity at 25C		1060 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		260 mg/l				
	Sulphate, Dissolved	400	70.2 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		96.9 mg/l				
	Fluoride		5.7 mg/l				
	Ammoniacal Nitrogen	1.6	<0.06 mg/l				
	Total Organic Carbon		0.7 mg/l				
	pH		8.5 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		5.2 %				
	Electrical Conductivity		1308 µS/cm	Field Measurements			
	Temperature		13.8 deg C				
	Dissolved Oxygen		4.5 mg/l				
	pH		6.4 pH Units				
	Groundwater Level		18.78 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_01	Aluminium, Dissolved	50	7 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.59 ug/l				
	Boron, Dissolved	2800	2120 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		4.9 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		3 mg/l				
	Manganese, Dissolved		6.2 ug/l				
	Molybdenum, Dissolved	50	10.5 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.77 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		388 mg/l				
	Electrical Conductivity at 25C		868 uS/cm				
	Potassium, Dissolved		2.1 mg/l				
	Sodium, Dissolved		230 mg/l				
	Sulphate, Dissolved	400	82.2 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		32.8 mg/l				
	Fluoride		3.3 mg/l				
	Ammoniacal Nitrogen	1.6	0.08 mg/l				
	Total Organic Carbon		0.7 mg/l				
	pH		8.8 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.7 %				
	Electrical Conductivity		909 µS/cm	Field Measurements			
	Temperature		14.2 deg C				
	Dissolved Oxygen		2.2 mg/l				
	pH		8.7 pH Units				
	Groundwater Level		18.79 mAOD				

	Substance/ Emission point	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_01	Aluminium, Dissolved	50	4.8 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.81 ug/l				
	Boron, Dissolved	2800	1830 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		21 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		13 mg/l				
	Manganese, Dissolved		14 ug/l				
	Molybdenum, Dissolved	50	137 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	2.4 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		347 mg/l				
	Electrical Conductivity at 25C		1250 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		290 mg/l				
	Sulphate, Dissolved	400	163 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		126 mg/l				
	Fluoride		2.8 mg/l				
	Ammoniacal Nitrogen	1.6	0.29 mg/l				
	Total Organic Carbon		0.9 mg/l				
	pH		8.6 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.2 %				
	Electrical Conductivity		1488 µS/cm	Field Measurements			
	Temperature		13.5 deg C				
	Dissolved Oxygen		4.1 mg/l				
	pH		6.8 pH Units				
	Groundwater Level		18.88 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_02	Aluminium, Dissolved		<3.5 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		1.3 ug/l				
	Boron, Dissolved		785 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		150 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		52 mg/l				
	Manganese, Dissolved		19 ug/l				
	Molybdenum, Dissolved		77 ug/l				
	Nickel, Dissolved		3.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		3.2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		228 mg/l				
	Electrical Conductivity at 25C		1250 uS/cm				
	Potassium, Dissolved		10 mg/l				
	Sodium, Dissolved		91 mg/l				
	Sulphate, Dissolved		439 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		62.5 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		8 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		1.6 %				
	Electrical Conductivity		1291 µS/cm	Field Measurements			
Temperature		13.8 deg C					
Dissolved Oxygen		4.8 mg/l					
pH		8.0 pH Units					
Groundwater Level		20.64 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_02	Aluminium, Dissolved		<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.66 ug/l				
	Boron, Dissolved		463 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		41 mg/l				
	Manganese, Dissolved		16 ug/l				
	Molybdenum, Dissolved		37.4 ug/l				
	Nickel, Dissolved		1.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.6 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		195 mg/l				
	Electrical Conductivity at 25C		1000 uS/cm				
	Potassium, Dissolved		7.9 mg/l				
	Sodium, Dissolved		72 mg/l				
	Sulphate, Dissolved		334 mg/l				
	Total Oxidised Nitrogen		1.6 mg/l				
	Chloride		43.6 mg/l				
	Fluoride		0.4 mg/l				
	Ammoniacal Nitrogen		0.07 mg/l				
	Total Organic Carbon		1.2 mg/l				
	pH		8 pH Units				
	Nitrate		1.6 mg/l				
	Ionic Balance		4.4 %				
	Electrical Conductivity		1200 µS/cm	Field Measurements			
Temperature		13.5 deg C					
Dissolved Oxygen		6.5 mg/l					
pH		7.2 pH Units					
Groundwater Level		20.80 mAOD					



Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_03	Aluminium, Dissolved		<3.5 ug/l		29/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		2 ug/l				
	Arsenic Dissolved		1.6 ug/l				
	Boron, Dissolved		350 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		120 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		60 mg/l				
	Manganese, Dissolved		3.3 ug/l				
	Molybdenum, Dissolved		12 ug/l				
	Nickel, Dissolved		2.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		2.2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		143 mg/l				
	Electrical Conductivity at 25C		962 uS/cm				
	Potassium, Dissolved		8.9 mg/l				
	Sodium, Dissolved		26 mg/l				
	Sulphate, Dissolved		410 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		32.8 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.1 mg/l				
	Total Organic Carbon		2 mg/l				
	pH		8.2 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.2 %				
	Electrical Conductivity		1066 µS/cm	Field Measurements			
Temperature		16.0 deg C					
Dissolved Oxygen		7.1 mg/l					
pH		7.6 pH Units					
Groundwater Level		20.84 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_03	Aluminium, Dissolved		<3.5 ug/l		14/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		2.3 ug/l				
	Arsenic Dissolved		1.3 ug/l				
	Boron, Dissolved		324 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		63 mg/l				
	Manganese, Dissolved		5 ug/l				
	Molybdenum, Dissolved		13.2 ug/l				
	Nickel, Dissolved		2.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		2.7 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		135 mg/l				
	Electrical Conductivity at 25C		951 uS/cm				
	Potassium, Dissolved		8.3 mg/l				
	Sodium, Dissolved		26 mg/l				
	Sulphate, Dissolved		425 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		23.5 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.6 mg/l				
	pH		8 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.2 %				
	Electrical Conductivity		1140 µS/cm	Field Measurements			
Temperature		13.3 deg C					
Dissolved Oxygen		8.8 mg/l					
pH		6.8 pH Units					
Groundwater Level		21.32 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_04	Aluminium, Dissolved		<3.5 ug/l		30/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.42 ug/l				
	Boron, Dissolved		181 ug/l				
	Cadmium, Dissolved		0.04 ug/l				
	Calcium, Dissolved		340 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		74 mg/l				
	Manganese, Dissolved		18 ug/l				
	Molybdenum, Dissolved		13.5 ug/l				
	Nickel, Dissolved		6.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.73 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		156 mg/l				
	Electrical Conductivity at 25C		1940 uS/cm				
	Potassium, Dissolved		66 mg/l				
	Sodium, Dissolved		47 mg/l				
	Sulphate, Dissolved		1080 mg/l				
	Total Oxidised Nitrogen		2.9 mg/l				
	Chloride		68.4 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		5.9 mg/l				
	pH		8 pH Units				
	Nitrate		2.7 mg/l				
	Ionic Balance		1.4 %				
	Electrical Conductivity		2137 µS/cm	Field Measurements			
Temperature		15.6 deg C					
Dissolved Oxygen		1.0 mg/l					
pH		7.3 pH Units					
Groundwater Level		22.01 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_04	Aluminium, Dissolved		<3.5 ug/l		15/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.43 ug/l				
	Boron, Dissolved		283 ug/l				
	Cadmium, Dissolved		0.05 ug/l				
	Calcium, Dissolved		470 mg/l				
	Chromium, Dissolved		0.57 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		95 mg/l				
	Manganese, Dissolved		15 ug/l				
	Molybdenum, Dissolved		17.4 ug/l				
	Nickel, Dissolved		6.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.68 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		162 mg/l				
	Electrical Conductivity at 25C		2220 uS/cm				
	Potassium, Dissolved		74 mg/l				
	Sodium, Dissolved		55 mg/l				
	Sulphate, Dissolved		1230 mg/l				
	Total Oxidised Nitrogen		1.7 mg/l				
	Chloride		74.2 mg/l				
	Fluoride		0.4 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		3.8 mg/l				
	pH		7.5 pH Units				
	Nitrate		1.7 mg/l				
	Ionic Balance		6.9 %				
	Electrical Conductivity		2687 µS/cm	Field Measurements			
Temperature		13.3 deg C					
Dissolved Oxygen		1.7 mg/l					
pH		8.1 pH Units					
Groundwater Level		22.14 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_05	Aluminium, Dissolved		<3.5 ug/l		30/07/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		342 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		190 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		73 mg/l				
	Manganese, Dissolved		28 ug/l				
	Molybdenum, Dissolved		4.7 ug/l				
	Nickel, Dissolved		1.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		177 mg/l				
	Electrical Conductivity at 25C		1240 uS/cm				
	Potassium, Dissolved		4.6 mg/l				
	Sodium, Dissolved		22 mg/l				
	Sulphate, Dissolved		591 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		28.6 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.15 mg/l				
	Total Organic Carbon		3 mg/l				
	pH		8.1 pH Units				
	Nitrate		0.2 mg/l				
	Ionic Balance		0.3 %				
	Electrical Conductivity		1353 µS/cm	Field Measurements			
Temperature		15.8 deg C					
Dissolved Oxygen		0.5 mg/l					
pH		7.2 pH Units					
Groundwater Level		25.11 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_05	Aluminium, Dissolved		<3.5 ug/l		15/10/2020	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		306 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		250 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		26 ug/l				
	Magnesium, Dissolved		88 mg/l				
	Manganese, Dissolved		27 ug/l				
	Molybdenum, Dissolved		4.71 ug/l				
	Nickel, Dissolved		2.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		179 mg/l				
	Electrical Conductivity at 25C		1340 uS/cm				
	Potassium, Dissolved		5.4 mg/l				
	Sodium, Dissolved		23 mg/l				
	Sulphate, Dissolved		646 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		28.2 mg/l				
	Fluoride		0.4 mg/l				
	Ammoniacal Nitrogen		0.08 mg/l				
	Total Organic Carbon		0.9 mg/l				
	pH		7.6 pH Units				
	Nitrate		0.1 mg/l				
	Ionic Balance		7.8 %				
	Electrical Conductivity		1654 µS/cm	Field Measurements			
Temperature		14.8 deg C					
Dissolved Oxygen		2.0 mg/l					
pH		8.6 pH Units					
Groundwater Level		25.43 mAOD					

Substance/ Emission point Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
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[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 .....  ..... Date 05/03/2021  
(authorised to sign as representative of the Operator)

*Please note - the Selenium Parameter appears to have been missed off the analysis parameter list in error by our external contractor. This has been highlighted and should be included in any future works.*