

Reporting of Emission to Groundwater for the period from 1st January 2021 to 30th June 2021

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		27/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		96 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		6.3 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		6.2 mg/l				
	Manganese, Dissolved		0.31 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		292 mg/l				
	Electrical Conductivity at 20C		616 uS/cm				
	Potassium, Dissolved		1.6 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		24 mg/l				
	Total Oxidised Nitrogen		3.3 mg/l				
	Chloride		29.6 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2 mg/l				
	pH		7.6 pH Units				
	Nitrate		3.3 mg/l				
	Ionic Balance		7.7 %				
	Electrical Conductivity		442 µS/cm	Field Measurements			
	Temperature		14.4 deg C				
	Dissolved Oxygen		3.7 mg/l				
	pH		7.3 pH Units				
	Groundwater Level		25.93 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.21 ug/l				
	Boron, Dissolved		120 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		<2.0 ug/l				
	Magnesium, Dissolved		5.8 mg/l				
	Manganese, Dissolved		0.47 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		279 mg/l				
	Electrical Conductivity at 25C		607 uS/cm				
	Potassium, Dissolved		1.8 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		25.8 mg/l				
	Total Oxidised Nitrogen		2.4 mg/l				
	Chloride		28.7 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.7 mg/l				
	pH		7.4 pH Units				
	Nitrate		2.4 mg/l				
	Ionic Balance		6.2 %				
	Electrical Conductivity		645 µS/cm	Field Measurements			
Temperature		13.4 deg C					
Dissolved Oxygen		2.9 mg/l					
pH		6.9 pH Units					
Groundwater Level		26.33 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		27/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		169 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		6.2 mg/l				
	Manganese, Dissolved		1.5 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		623 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		18 mg/l				
	Sulphate, Dissolved		25.5 mg/l				
	Total Oxidised Nitrogen		3.1 mg/l				
	Chloride		30 mg/l				
	Fluoride		0.3 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.9 mg/l				
	pH		7.5 pH Units				
	Nitrate		3.1 mg/l				
	Ionic Balance		4.6 %				
	Electrical Conductivity		434 µS/cm	Field Measurements			
Temperature		13.4 deg C					
Dissolved Oxygen		3.3 mg/l					
pH		7.3 pH Units					
Groundwater Level		24.58 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		99 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		<0.003 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		5.9 mg/l				
	Manganese, Dissolved		1.6 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		287 mg/l				
	Electrical Conductivity at 25C		613 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		17 mg/l				
	Sulphate, Dissolved		28.3 mg/l				
	Total Oxidised Nitrogen		2.3 mg/l				
	Chloride		29.6 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		7.5 pH Units				
	Nitrate		2.4 mg/l				
	Ionic Balance		3.9 %				
	Electrical Conductivity		649 µS/cm	Field Measurements			
	Temperature		12.7 deg C				
	Dissolved Oxygen		2.4 mg/l				
	pH		7.0 pH Units				
	Groundwater Level		24.50 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		27/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.45 ug/l				
	Boron, Dissolved		80 ug/l				
	Cadmium, Dissolved		0.03 ug/l				
	Calcium, Dissolved		200 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		17 mg/l				
	Manganese, Dissolved		21 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		2.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.29 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		403 mg/l				
	Electrical Conductivity at 25C		953 uS/cm				
	Potassium, Dissolved		1.1 mg/l				
	Sodium, Dissolved		26 mg/l				
	Sulphate, Dissolved		76.4 mg/l				
	Total Oxidised Nitrogen		18.3 mg/l				
	Chloride		36.4 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		5.3 mg/l				
	pH		7 pH Units				
	Nitrate		18.3 mg/l				
	Ionic Balance		8.0 %				
	Electrical Conductivity		689 µS/cm	Field Measurements			
Temperature		12.6 deg C					
Dissolved Oxygen		0.3 mg/l					
pH		6.9 pH Units					
Groundwater Level		27.11 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>
E09_02A	Aluminium, Dissolved		<3.5 ug/l		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		1.7 ug/l				
	Arsenic Dissolved		0.44 ug/l				
	Boron, Dissolved		191 ug/l				
	Cadmium, Dissolved		0.04 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		16 mg/l				
	Manganese, Dissolved		13 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		2.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.42 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		485 mg/l				
	Electrical Conductivity at 25C		1070 uS/cm				
	Potassium, Dissolved		1.1 mg/l				
	Sodium, Dissolved		27 mg/l				
	Sulphate, Dissolved		79.4 mg/l				
	Total Oxidised Nitrogen		16.5 mg/l				
	Chloride		35.3 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		4.9 mg/l				
	pH		7.0 pH Units				
	Nitrate		16.5 mg/l				
	Ionic Balance		6.2 %				
	Electrical Conductivity		1160 µS/cm	Field Measurements			
Temperature		13.9 deg C					
Dissolved Oxygen		0.0 mg/l					
pH		6.3 pH Units					
Groundwater Level		27.42 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		27/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.85 ug/l				
	Boron, Dissolved		76 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		18 mg/l				
	Manganese, Dissolved		10 ug/l				
	Molybdenum, Dissolved		23.2 ug/l				
	Nickel, Dissolved		8.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.8 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		412 mg/l				
	Electrical Conductivity at 25C		1110 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		30 mg/l				
	Sulphate, Dissolved		111 mg/l				
	Total Oxidised Nitrogen		29 mg/l				
	Chloride		37.5 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		5.7 mg/l				
	pH		7.1 pH Units				
	Nitrate		29.0 mg/l				
	Ionic Balance		10.4 %				
	Electrical Conductivity		752 µS/cm	Field Measurements			
Temperature		12.2 deg C					
Dissolved Oxygen		1.7 mg/l					
pH		7.1 pH Units					
Groundwater Level		27.33 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		1.8 ug/l				
	Arsenic Dissolved		0.41 ug/l				
	Boron, Dissolved		152 ug/l				
	Cadmium, Dissolved		0.02 ug/l				
	Calcium, Dissolved		220 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		13 mg/l				
	Manganese, Dissolved		1.9 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		7.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.69 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		409 mg/l				
	Electrical Conductivity at 25C		1070 uS/cm				
	Potassium, Dissolved		1.1 mg/l				
	Sodium, Dissolved		28 mg/l				
	Sulphate, Dissolved		128 mg/l				
	Total Oxidised Nitrogen		21.9 mg/l				
	Chloride		35.7 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		3.8 mg/l				
	pH		7.0 pH Units				
	Nitrate		21.9 mg/l				
	Ionic Balance		5.7 %				
	Electrical Conductivity		1142 µS/cm	Field Measurements			
	Temperature		13.6 deg C				
	Dissolved Oxygen		2.5 mg/l				
	pH		6.3 pH Units				
	Groundwater Level		27.41 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>
E05_03	Aluminium, Dissolved	50	<3.5 ug/l		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.49 ug/l				
	Boron, Dissolved	2800	1460 ug/l				
	Cadmium, Dissolved	0.4	0.31 ug/l				
	Calcium, Dissolved		410 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		264 mg/l				
	Manganese, Dissolved		55 ug/l				
	Molybdenum, Dissolved	50	1330 ug/l				
	Nickel, Dissolved		4.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	1.2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		865 mg/l				
	Electrical Conductivity at 25C		5890 uS/cm				
	Potassium, Dissolved		11 mg/l				
	Sodium, Dissolved		680 mg/l				
	Sulphate, Dissolved	400	497 mg/l				
	Total Oxidised Nitrogen		0.9 mg/l				
	Chloride		1880 mg/l				
	Fluoride		0.9 mg/l				
	Ammoniacal Nitrogen	1.6	0.26 mg/l				
	Total Organic Carbon		1.6 mg/l				
	pH		7.6 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		5.7 %				
	Electrical Conductivity		3767 µS/cm	Field Measurements			
	Temperature		12.2 deg C				
	Dissolved Oxygen		9.0 mg/l				
	pH		7.9 pH Units				
	Groundwater Level		7.39 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.51 ug/l				
	Boron, Dissolved	2800	1760 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		380 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		241 mg/l				
	Manganese, Dissolved		27 ug/l				
	Molybdenum, Dissolved	50	1110 ug/l				
	Nickel, Dissolved		2.2 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.86 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		175 mg/l				
	Electrical Conductivity at 25C		5790 uS/cm				
	Potassium, Dissolved		11 mg/l				
	Sodium, Dissolved		650 mg/l				
	Sulphate, Dissolved	400	491 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		1810 mg/l				
	Fluoride		0.9 mg/l				
	Ammoniacal Nitrogen	1.6	0.73 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		7.5 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		1.9 %				
	Electrical Conductivity		6262 µS/cm	Field Measurements			
	Temperature		18.0 deg C				
	Dissolved Oxygen		1.4 mg/l				
	pH		7.0 pH Units				
	Groundwater Level		18.82 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		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	1.0 ug/l				
	Boron, Dissolved	2800	2350 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		16 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		12 mg/l				
	Manganese, Dissolved		4.7 ug/l				
	Molybdenum, Dissolved	50	68.3 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.9 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		355 mg/l				
	Electrical Conductivity at 25C		1370 uS/cm				
	Potassium, Dissolved		3.6 mg/l				
	Sodium, Dissolved		340 mg/l				
	Sulphate, Dissolved	400	109 mg/l				
	Total Oxidised Nitrogen		0.7 mg/l				
	Chloride		207 mg/l				
	Fluoride		4.8 mg/l				
	Ammoniacal Nitrogen	1.6	<0.06 mg/l				
	Total Organic Carbon		1.2 mg/l				
	pH		8.5 pH Units				
	Nitrate		0.7 mg/l				
	Ionic Balance		4.6 %				
	Electrical Conductivity		894 µS/cm	Field Measurements			
	Temperature		11.6 deg C				
	Dissolved Oxygen		0.6 mg/l				
	pH		8.9 pH Units				
	Groundwater Level		17.76 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	1.3 ug/l				
	Boron, Dissolved	2800	2080 ug/l				
	Cadmium, Dissolved	0.4	0.02 ug/l				
	Calcium, Dissolved		18 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		3 ug/l				
	Molybdenum, Dissolved	50	59.3 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	2.1 ug/l				
	Mercury, Dissolved	0.03	0.04 ug/l				
	Total Alkalinity as CaCO3		326 mg/l				
	Electrical Conductivity at 25C		1370 uS/cm				
	Potassium, Dissolved		4.1 mg/l				
	Sodium, Dissolved		310 mg/l				
	Sulphate, Dissolved	400	147 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		190 mg/l				
	Fluoride		5.1 mg/l				
	Ammoniacal Nitrogen	1.6	0.21 mg/l				
	Total Organic Carbon		0.9 mg/l				
	pH		8.5 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		2.0 %				
	Electrical Conductivity		1450 µS/cm	Field Measurements			
	Temperature		13.4 deg C				
	Dissolved Oxygen		0.3 mg/l				
	pH		8.3 pH Units				
	Groundwater Level		18.37 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>
E06_01	Aluminium, Dissolved	50	8 ug/l		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.7 ug/l				
	Boron, Dissolved	2800	2050 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		6 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		4 mg/l				
	Manganese, Dissolved		4.6 ug/l				
	Molybdenum, Dissolved	50	3.8 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		386 mg/l				
	Electrical Conductivity at 25C		884 uS/cm				
	Potassium, Dissolved		2.3 mg/l				
	Sodium, Dissolved		250 mg/l				
	Sulphate, Dissolved	400	85 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		38 mg/l				
	Fluoride		3.1 mg/l				
	Ammoniacal Nitrogen	1.6	0.09 mg/l				
	Total Organic Carbon		0.9 mg/l				
	pH		8.60 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		4.5 %				
	Electrical Conductivity		597 µS/cm	Field Measurements			
	Temperature		11.7 deg C				
	Dissolved Oxygen		1.9 mg/l				
	pH		9.0 pH Units				
	Groundwater Level		18.83 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>
E06_01	Aluminium, Dissolved	50	15 ug/l		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.9 ug/l				
	Boron, Dissolved	2800	1870 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		6.4 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		4.4 mg/l				
	Manganese, Dissolved		0.7 ug/l				
	Molybdenum, Dissolved	50	<2.50 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	4.0 ug/l				
	Mercury, Dissolved	0.03	0.01 ug/l				
	Total Alkalinity as CaCO3		431 mg/l				
	Electrical Conductivity at 25C		871 uS/cm				
	Potassium, Dissolved		2.4 mg/l				
	Sodium, Dissolved		230 mg/l				
	Sulphate, Dissolved	400	92 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		37 mg/l				
	Fluoride		3.0 mg/l				
	Ammoniacal Nitrogen	1.6	<0.06 mg/l				
	Total Organic Carbon		2.6 mg/l				
	pH		8.60 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.8 %				
	Electrical Conductivity		927 µS/cm	Field Measurements			
	Temperature		14.2 deg C				
	Dissolved Oxygen		1.0 mg/l				
	pH		8.4 pH Units				
	Groundwater Level		18.91 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		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.75 ug/l				
	Boron, Dissolved		755 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		110 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		45 mg/l				
	Manganese, Dissolved		17 ug/l				
	Molybdenum, Dissolved		32.4 ug/l				
	Nickel, Dissolved		1.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.3 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		208 mg/l				
	Electrical Conductivity at 25C		1100 uS/cm				
	Potassium, Dissolved		7.5 mg/l				
	Sodium, Dissolved		110 mg/l				
	Sulphate, Dissolved		382 mg/l				
	Total Oxidised Nitrogen		1.3 mg/l				
	Chloride		46.8 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2.3 mg/l				
	pH		7.90 pH Units				
	Nitrate		1.3 mg/l				
	Ionic Balance		2.6 %				
	Electrical Conductivity		346 µS/cm	Field Measurements			
	Temperature		10.6 deg C				
	Dissolved Oxygen		7.3 mg/l				
	pH		8.3 pH Units				
	Groundwater Level		20.60 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.49 ug/l				
	Boron, Dissolved		919 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		100 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		47 mg/l				
	Manganese, Dissolved		3.7 ug/l				
	Molybdenum, Dissolved		27.1 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.3 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		227 mg/l				
	Electrical Conductivity at 25C		1100 uS/cm				
	Potassium, Dissolved		8.1 mg/l				
	Sodium, Dissolved		130 mg/l				
	Sulphate, Dissolved		377 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		40.7 mg/l				
	Fluoride		0.6 mg/l				
	Ammoniacal Nitrogen		0.3 mg/l				
	Total Organic Carbon		1.2 mg/l				
	pH		7.90 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		4.2 %				
	Electrical Conductivity		1171 µS/cm	Field Measurements			
Temperature		13.0 deg C					
Dissolved Oxygen		1.4 mg/l					
pH		7.2 pH Units					
Groundwater Level		20.67 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		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		1.0 ug/l				
	Boron, Dissolved		477 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		110 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		17 ug/l				
	Molybdenum, Dissolved		10 ug/l				
	Nickel, Dissolved		1.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.9 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		159 mg/l				
	Electrical Conductivity at 25C		899 uS/cm				
	Potassium, Dissolved		7 mg/l				
	Sodium, Dissolved		38 mg/l				
	Sulphate, Dissolved		356 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		27 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		8.0 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		4.8 %				
	Electrical Conductivity		626 µS/cm	Field Measurements			
Temperature		11.2 deg C					
Dissolved Oxygen		3.0 mg/l					
pH		8.0 pH Units					
Groundwater Level		21.58 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		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		1.7 ug/l				
	Arsenic Dissolved		1.0 ug/l				
	Boron, Dissolved		432 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		27 ug/l				
	Molybdenum, Dissolved		12 ug/l				
	Nickel, Dissolved		1.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.6 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		147 mg/l				
	Electrical Conductivity at 25C		911 uS/cm				
	Potassium, Dissolved		7.7 mg/l				
	Sodium, Dissolved		26 mg/l				
	Sulphate, Dissolved		374 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		28 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.1 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.9 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.1 %				
	Electrical Conductivity		1024 µS/cm	Field Measurements			
Temperature		12.9 deg C					
Dissolved Oxygen		7.5 mg/l					
pH		7.6 pH Units					
Groundwater Level		18.52 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		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.8 ug/l				
	Boron, Dissolved		213 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		320 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		39 ug/l				
	Magnesium, Dissolved		86 mg/l				
	Manganese, Dissolved		137 ug/l				
	Molybdenum, Dissolved		22 ug/l				
	Nickel, Dissolved		7.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.21 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		181 mg/l				
	Electrical Conductivity at 25C		1820 uS/cm				
	Potassium, Dissolved		55 mg/l				
	Sodium, Dissolved		51 mg/l				
	Sulphate, Dissolved		986 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		63 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2.9 mg/l				
	pH		7.80 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		1.4 %				
	Electrical Conductivity		1037 µS/cm	Field Measurements			
	Temperature		9.7 deg C				
	Dissolved Oxygen		6.1 mg/l				
	pH		8.1 pH Units				
	Groundwater Level		21.87 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		30/06/2021	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		110 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		7.4 mg/l				
	Manganese, Dissolved		2.0 ug/l				
	Molybdenum, Dissolved		<2.50 ug/l				
	Nickel, Dissolved		1.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		144 mg/l				
	Electrical Conductivity at 25C		1610 uS/cm				
	Potassium, Dissolved		3.1 mg/l				
	Sodium, Dissolved		14.0 mg/l				
	Sulphate, Dissolved		798 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		62 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2.1 mg/l				
	pH		7.60 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		51.6 %				
	Electrical Conductivity		1714 µS/cm	Field Measurements			
	Temperature		13.1 deg C				
	Dissolved Oxygen		1.2 mg/l				
	pH		7.2 pH Units				
	Groundwater Level		22.05 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		28/04/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		221 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		200 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		38 ug/l				
	Molybdenum, Dissolved		6.5 ug/l				
	Nickel, Dissolved		1.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		211 mg/l				
	Electrical Conductivity at 25C		1210 uS/cm				
	Potassium, Dissolved		4 mg/l				
	Sodium, Dissolved		21 mg/l				
	Sulphate, Dissolved		573 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		30 mg/l				
	Fluoride		0.4 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		7.90 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.2 %				
	Electrical Conductivity		810 µS/cm	Field Measurements			
Temperature		11.1 deg C					
Dissolved Oxygen		2.7 mg/l					
pH		7.8 pH Units					
Groundwater Level		24.80 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_05	Aluminium, Dissolved		<3.5 ug/l		30/06/2021	Sampling Amec / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		307 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		71 mg/l				
	Manganese, Dissolved		33 ug/l				
	Molybdenum, Dissolved		9.3 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		173 mg/l				
	Electrical Conductivity at 25C		1220 uS/cm				
	Potassium, Dissolved		4.3 mg/l				
	Sodium, Dissolved		21 mg/l				
	Sulphate, Dissolved		575 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		30 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.1 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		7.60 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.2 %				
	Electrical Conductivity		1299 µS/cm	Field Measurements			
	Temperature		12.9 deg C				
	Dissolved Oxygen		0.0 mg/l				
	pH		7.2 pH Units				
	Groundwater Level		24.82 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 .....  .....

(authorised to sign as representative of the Operator)

Date 17/09/2021 (Reissued 26/01/2022)