

Reporting of Emission to Groundwater for the period from 1st July 2022 to 31st December 2022.

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		20/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		57 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		11 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		5.6 mg/l				
	Manganese, Dissolved		0.42 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		293 mg/l				
	Electrical Conductivity at 20C		629 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		27.1 mg/l				
	Total Oxidised Nitrogen		2.1 mg/l				
	Chloride		31.3 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.7 mg/l				
	pH		7.3 pH Units				
	Nitrate		2.1 mg/l				
	Ionic Balance		2.5 %				
	Electrical Conductivity		512 µS/cm	Field Measurements			
Temperature		13.6 deg C					
Dissolved Oxygen		1.0 mg/l					
pH		6.8 pH Units					
Groundwater Level		25.33 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_01A	Aluminium, Dissolved		<3.5 ug/l		12/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		147 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		14 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		6.5 mg/l				
	Manganese, Dissolved		0.53 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		280 mg/l				
	Electrical Conductivity at 25C		687 uS/cm				
	Potassium, Dissolved		1.6 mg/l				
	Sodium, Dissolved		22 mg/l				
	Sulphate, Dissolved		42.1 mg/l				
	Total Oxidised Nitrogen		2.4 mg/l				
	Chloride		51.7 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.8 mg/l				
	pH		7.7 pH Units				
	Nitrate		2.4 mg/l				
	Ionic Balance		3.5 %				
	Electrical Conductivity		752 µS/cm	Field Measurements			
Temperature		13.4 deg C					
Dissolved Oxygen		1.6 mg/l					
pH		7.0 pH Units					
Groundwater Level		26.02 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		20/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		74 ug/l				
	Cadmium, Dissolved		0.02 ug/l				
	Calcium, Dissolved		120 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		8.9 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		5.9 mg/l				
	Manganese, Dissolved		1.7 ug/l				
	Molybdenum, Dissolved		3.14 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		626 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		29 mg/l				
	Total Oxidised Nitrogen		2 mg/l				
	Chloride		30.2 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		1.6 mg/l				
	pH		7.3 pH Units				
	Nitrate		2.0 mg/l				
	Ionic Balance		0.5 %				
	Electrical Conductivity		535 µS/cm	Field Measurements			
Temperature		13.8 deg C					
Dissolved Oxygen		0.9 mg/l					
pH		6.7 pH Units					
Groundwater Level		24.08 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		12/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		97 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		7.3 mg/l				
	Manganese, Dissolved		6.4 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		290 mg/l				
	Electrical Conductivity at 25C		688 uS/cm				
	Potassium, Dissolved		1.6 mg/l				
	Sodium, Dissolved		21 mg/l				
	Sulphate, Dissolved		40.8 mg/l				
	Total Oxidised Nitrogen		1.9 mg/l				
	Chloride		48.2 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		<0.06 mg/l				
	Total Organic Carbon		2 mg/l				
	pH		7.3 pH Units				
	Nitrate		1.8 mg/l				
	Ionic Balance		3.2 %				
	Electrical Conductivity		729 µS/cm	Field Measurements			
Temperature		13.9 deg C					
Dissolved Oxygen		1.1 mg/l					
pH		7.0 pH Units					
Groundwater Level		24.21 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		20/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.96 ug/l				
	Boron, Dissolved		79 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		949 ug/l				
	Magnesium, Dissolved		21 mg/l				
	Manganese, Dissolved		40 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		456 mg/l				
	Electrical Conductivity at 25C		899 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		21 mg/l				
	Sulphate, Dissolved		50.9 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		29.9 mg/l				
	Fluoride		0.2 mg/l				
	Ammoniacal Nitrogen		6.01 mg/l				
	Total Organic Carbon		5.1 mg/l				
	pH		6.9 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.9 %				
	Electrical Conductivity		771 µS/cm	Field Measurements			
Temperature		13.7 deg C					
Dissolved Oxygen		No result mg/l					
pH		6.4 pH Units					
Groundwater Level		25.20 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		12/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.99 ug/l				
	Boron, Dissolved		339 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		61 ug/l				
	Magnesium, Dissolved		34 mg/l				
	Manganese, Dissolved		142 ug/l				
	Molybdenum, Dissolved		7.25 ug/l				
	Nickel, Dissolved		1.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		475 mg/l				
	Electrical Conductivity at 25C		880 uS/cm				
	Potassium, Dissolved		2.7 mg/l				
	Sodium, Dissolved		31 mg/l				
	Sulphate, Dissolved		45.3 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		31.7 mg/l				
	Fluoride		0.3 mg/l				
	Ammoniacal Nitrogen		2.47 mg/l				
	Total Organic Carbon		4.7 mg/l				
	pH		7.0 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.7 %				
	Electrical Conductivity		983 µS/cm	Field Measurements			
Temperature		12.9 deg C					
Dissolved Oxygen		0.1 mg/l					
pH		6.9 pH Units					
Groundwater Level		26.37 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		n/s ug/l		20/07/2022	Sampling WSP / Testing ALS Sample unable to be taken by sampling contractor due to blockage.	
	Antimony, Dissolved		n/s ug/l				
	Arsenic Dissolved		n/s ug/l				
	Boron, Dissolved		n/s ug/l				
	Cadmium, Dissolved		n/s ug/l				
	Calcium, Dissolved		n/s mg/l				
	Chromium, Dissolved		n/s ug/l				
	Copper, Dissolved		n/s ug/l				
	Iron, Dissolved		n/s ug/l				
	Magnesium, Dissolved		n/s mg/l				
	Manganese, Dissolved		n/s ug/l				
	Molybdenum, Dissolved		n/s ug/l				
	Nickel, Dissolved		n/s ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		n/s ug/l				
	Mercury, Dissolved		n/s ug/l				
	Total Alkalinity as CaCO3		n/s mg/l				
	Electrical Conductivity at 25C		n/s uS/cm				
	Potassium, Dissolved		n/s mg/l				
	Sodium, Dissolved		n/s mg/l				
	Sulphate, Dissolved		n/s mg/l				
	Total Oxidised Nitrogen		n/s mg/l				
	Chloride		n/s mg/l				
	Fluoride		n/s mg/l				
	Ammoniacal Nitrogen		n/s mg/l				
	Total Organic Carbon		n/s mg/l				
	pH		n/s pH Units				
	Nitrate		n/s mg/l				
	Ionic Balance		n/s %				
	Electrical Conductivity		n/s µS/cm	Field Measurements			
Temperature		n/s deg C					
Dissolved Oxygen		n/s mg/l					
pH		n/s pH Units					
Groundwater Level		n/a 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		n/s ug/l		12/10/2022	Sampling WSP / Testing ALS Sample unable to be taken by sampling contractor due to blockage. This was later confirmed as being the folded sample tube line which has been subsequently corrected by RWE lifting out the pump and sample line. The borehole is believed to be still serviceable and will be reviewed during the next monitoring round.	
	Antimony, Dissolved		n/s ug/l				
	Arsenic Dissolved		n/s ug/l				
	Boron, Dissolved		n/s ug/l				
	Cadmium, Dissolved		n/s ug/l				
	Calcium, Dissolved		n/s mg/l				
	Chromium, Dissolved		n/s ug/l				
	Copper, Dissolved		n/s ug/l				
	Iron, Dissolved		n/s ug/l				
	Magnesium, Dissolved		n/s mg/l				
	Manganese, Dissolved		n/s ug/l				
	Molybdenum, Dissolved		n/s ug/l				
	Nickel, Dissolved		n/s ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		n/s ug/l				
	Mercury, Dissolved		n/s ug/l				
	Total Alkalinity as CaCO3		n/s mg/l				
	Electrical Conductivity at 25C		n/s uS/cm				
	Potassium, Dissolved		n/s mg/l				
	Sodium, Dissolved		n/s mg/l				
	Sulphate, Dissolved		n/s mg/l				
	Total Oxidised Nitrogen		n/s mg/l				
	Chloride		n/s mg/l				
	Fluoride		n/s mg/l				
	Ammoniacal Nitrogen		n/s mg/l				
	Total Organic Carbon		n/s mg/l				
	pH		n/s pH Units				
	Nitrate		n/s mg/l				
	Ionic Balance		n/s %				
	Electrical Conductivity		n/s µS/cm	Field Measurements			
Temperature		n/s deg C					
Dissolved Oxygen		n/s mg/l					
pH		n/s pH Units					
Groundwater Level		n/a 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		20/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		2.2 ug/l				
	Arsenic Dissolved	10	0.25 ug/l				
	Boron, Dissolved	2800	1610 ug/l				
	Cadmium, Dissolved	0.4	0.16 ug/l				
	Calcium, Dissolved		400 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		239 mg/l				
	Manganese, Dissolved		72 ug/l				
	Molybdenum, Dissolved	50	1260 ug/l				
	Nickel, Dissolved		3.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.6 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		212 mg/l				
	Electrical Conductivity at 25C		6250 uS/cm				
	Potassium, Dissolved		12 mg/l				
	Sodium, Dissolved		710 mg/l				
	Sulphate, Dissolved	400	607 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		1900 mg/l				
	Fluoride		0.9 mg/l				
	Ammoniacal Nitrogen	1.6	0.8 mg/l				
	Total Organic Carbon		1.2 mg/l				
	pH		7.3 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.2 %				
	Electrical Conductivity		5673 µS/cm	Field Measurements			
	Temperature		15.5 deg C				
	Dissolved Oxygen		4.0 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_03	Aluminium, Dissolved	50	<3.5 ug/l		14/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.45 ug/l				
	Boron, Dissolved	2800	1800 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		450 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<200 ug/l				
	Magnesium, Dissolved		275 mg/l				
	Manganese, Dissolved		97 ug/l				
	Molybdenum, Dissolved	50	1630 ug/l				
	Nickel, Dissolved		2.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.47 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		215 mg/l				
	Electrical Conductivity at 25C		7290 uS/cm				
	Potassium, Dissolved		16 mg/l				
	Sodium, Dissolved		960 mg/l				
	Sulphate, Dissolved	400	808 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		2180 mg/l				
	Fluoride		1.1 mg/l				
	Ammoniacal Nitrogen	1.6	0.85 mg/l				
	Total Organic Carbon		1.3 mg/l				
	pH		7.1 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.2 %				
	Electrical Conductivity		Inst. error µS/cm	Field Measurements			
	Temperature		Inst. error deg C				
	Dissolved Oxygen		Inst. error mg/l				
	pH		Inst. error pH Units				
	Groundwater Level		18.72 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	3.6 ug/l		19/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	1.1 ug/l				
	Boron, Dissolved	2800	2150 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 mg/l				
	Manganese, Dissolved		3 ug/l				
	Molybdenum, Dissolved	50	44 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.76 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		368 mg/l				
	Electrical Conductivity at 25C		1530 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		270 mg/l				
	Sulphate, Dissolved	400	92.9 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		143 mg/l				
	Fluoride		5.5 mg/l				
	Ammoniacal Nitrogen	1.6	<0.06 mg/l				
	Total Organic Carbon		1.3 mg/l				
	pH		8.3 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		1.2 %				
	Electrical Conductivity		1010 µS/cm	Field Measurements			
	Temperature		15.4 deg C				
	Dissolved Oxygen		No result mg/l				
	pH		8.2 pH Units				
	Groundwater Level		18.29 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		12/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	1.2 ug/l				
	Boron, Dissolved	2800	2370 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		8.6 mg/l				
	Manganese, Dissolved		1.4 ug/l				
	Molybdenum, Dissolved	50	46.8 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.43 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		358 mg/l				
	Electrical Conductivity at 25C		1160 uS/cm				
	Potassium, Dissolved		3.3 mg/l				
	Sodium, Dissolved		290 mg/l				
	Sulphate, Dissolved	400	85.9 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		145 mg/l				
	Fluoride		5.6 mg/l				
	Ammoniacal Nitrogen	1.6	0.22 mg/l				
	Total Organic Carbon		1 mg/l				
	pH		8.4 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.4 %				
	Electrical Conductivity		1290 µS/cm	Field Measurements			
	Temperature		14.7 deg C				
	Dissolved Oxygen		0.03 mg/l				
	pH		8.3 pH Units				
	Groundwater Level		18.68 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		19/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.7 ug/l				
	Boron, Dissolved	2800	1870 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		5 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		5.2 ug/l				
	Molybdenum, Dissolved	50	<2.50 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.4 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		379 mg/l				
	Electrical Conductivity at 25C		917 uS/cm				
	Potassium, Dissolved		2.1 mg/l				
	Sodium, Dissolved		220 mg/l				
	Sulphate, Dissolved	400	82 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		31 mg/l				
	Fluoride		3.2 mg/l				
	Ammoniacal Nitrogen	1.6	0.14 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		8.60 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.1 %				
	Electrical Conductivity		735 µS/cm	Field Measurements			
Temperature		15.2 deg C					
Dissolved Oxygen		0.2 mg/l					
pH		8.6 pH Units					
Groundwater Level		18.69 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>
E06_01	Aluminium, Dissolved	50	<3.5 ug/l		12/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved	10	0.5 ug/l				
	Boron, Dissolved	2800	1900 ug/l				
	Cadmium, Dissolved	0.4	<0.02 ug/l				
	Calcium, Dissolved		3.1 mg/l				
	Chromium, Dissolved	50	<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		2.0 mg/l				
	Manganese, Dissolved		5.3 ug/l				
	Molybdenum, Dissolved	50	16.0 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	0.4 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		386 mg/l				
	Electrical Conductivity at 25C		866 uS/cm				
	Potassium, Dissolved		1.9 mg/l				
	Sodium, Dissolved		230 mg/l				
	Sulphate, Dissolved	400	81 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		31 mg/l				
	Fluoride		3.3 mg/l				
	Ammoniacal Nitrogen	1.6	0.27 mg/l				
	Total Organic Carbon		1.1 mg/l				
	pH		8.70 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.4 %				
	Electrical Conductivity		Inst. Error µS/cm	Field Measurements			
	Temperature		Inst. Error deg C				
	Dissolved Oxygen		Inst. Error mg/l				
	pH		Inst. Error pH Units				
	Groundwater Level		18.17 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		22/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.81 ug/l				
	Boron, Dissolved		1120 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		55 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		35 mg/l				
	Manganese, Dissolved		3.3 ug/l				
	Molybdenum, Dissolved		10.7 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.9 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		276 mg/l				
	Electrical Conductivity at 25C		961 uS/cm				
	Potassium, Dissolved		6 mg/l				
	Sodium, Dissolved		130 mg/l				
	Sulphate, Dissolved		275 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		34.9 mg/l				
	Fluoride		0.7 mg/l				
	Ammoniacal Nitrogen		0.63 mg/l				
	Total Organic Carbon		1.8 mg/l				
	pH		8.00 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		3.4 %				
	Electrical Conductivity		970 µS/cm	Field Measurements			
Temperature		15.4 deg C					
Dissolved Oxygen		4.3 mg/l					
pH		7.3 pH Units					
Groundwater Level		20.35 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		14/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		5 ug/l				
	Boron, Dissolved		1140 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		83 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		91 ug/l				
	Magnesium, Dissolved		41 mg/l				
	Manganese, Dissolved		35 ug/l				
	Molybdenum, Dissolved		6.95 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.6 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		441 mg/l				
	Electrical Conductivity at 25C		1030 uS/cm				
	Potassium, Dissolved		8.1 mg/l				
	Sodium, Dissolved		120 mg/l				
	Sulphate, Dissolved		164 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		35.9 mg/l				
	Fluoride		0.6 mg/l				
	Ammoniacal Nitrogen		2.81 mg/l				
	Total Organic Carbon		8.5 mg/l				
	pH		7.40 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		1.2 %				
	Electrical Conductivity		Inst. error µS/cm	Field Measurements			
Temperature		Inst. error deg C					
Dissolved Oxygen		Inst. error mg/l					
pH		Inst. error pH Units					
Groundwater Level		20.65 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		22/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		1.0 ug/l				
	Boron, Dissolved		522 ug/l				
	Cadmium, Dissolved		<0.02 ug/l				
	Calcium, Dissolved		96 mg/l				
	Chromium, Dissolved		<0.20 ug/l				
	Copper, Dissolved		<4.0 ug/l				
	Iron, Dissolved		<20 ug/l				
	Magnesium, Dissolved		59 mg/l				
	Manganese, Dissolved		16 ug/l				
	Molybdenum, Dissolved		8 ug/l				
	Nickel, Dissolved		<1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		0.4 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		166 mg/l				
	Electrical Conductivity at 25C		1070 uS/cm				
	Potassium, Dissolved		7 mg/l				
	Sodium, Dissolved		54 mg/l				
	Sulphate, Dissolved		436 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		35 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.4 mg/l				
	Total Organic Carbon		1.3 mg/l				
	pH		7.6 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		4.8 %				
	Electrical Conductivity		996 µS/cm	Field Measurements			
Temperature		15.5 deg C					
Dissolved Oxygen		1.1 mg/l					
pH		7.2 pH Units					
Groundwater Level		21.23 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		12/10/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		1.4 ug/l				
	Arsenic Dissolved		0.7 ug/l				
	Boron, Dissolved		289 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		68 mg/l				
	Manganese, Dissolved		2 ug/l				
	Molybdenum, Dissolved		10 ug/l				
	Nickel, Dissolved		2.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.3 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		111 mg/l				
	Electrical Conductivity at 25C		1110 uS/cm				
	Potassium, Dissolved		8.7 mg/l				
	Sodium, Dissolved		38 mg/l				
	Sulphate, Dissolved		487 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		54 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.1 mg/l				
	Total Organic Carbon		2.6 mg/l				
	pH		8.0 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		0.2 %				
	Electrical Conductivity		Inst. error µS/cm	Field Measurements			
	Temperature		Inst. error deg C				
	Dissolved Oxygen		Inst. error mg/l				
	pH		Inst. error pH Units				
	Groundwater Level		21.37 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		22/07/2022	Sampling WSP / Testing ALS	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		0.4 ug/l				
	Boron, Dissolved		207 ug/l				
	Cadmium, Dissolved		<0.02 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		78 mg/l				
	Manganese, Dissolved		145 ug/l				
	Molybdenum, Dissolved		11 ug/l				
	Nickel, Dissolved		3.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		224 mg/l				
	Electrical Conductivity at 25C		1590 uS/cm				
	Potassium, Dissolved		30 mg/l				
	Sodium, Dissolved		40 mg/l				
	Sulphate, Dissolved		836 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		71 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.26 mg/l				
	Total Organic Carbon		2.6 mg/l				
	pH		7.70 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		7.9 %				
	Electrical Conductivity		1536 µS/cm	Field Measurements			
	Temperature		13.2 deg C				
	Dissolved Oxygen		1.6 mg/l				
	pH		7.1 pH Units				
	Groundwater Level		21.80 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_04	Aluminium, Dissolved		n/s ug/l		14/10/2022	Sampling WSP / Testing ALS. The sampling contractor reported that the borehole could not be safely accessed with their sampling equipment, although a GW level measurement was still taken.	
	Antimony, Dissolved		n/s ug/l				
	Arsenic Dissolved		n/s ug/l				
	Boron, Dissolved		n/s ug/l				
	Cadmium, Dissolved		n/s ug/l				
	Calcium, Dissolved		n/s mg/l				
	Chromium, Dissolved		n/s ug/l				
	Copper, Dissolved		n/s ug/l				
	Iron, Dissolved		n/s ug/l				
	Magnesium, Dissolved		n/s mg/l				
	Manganese, Dissolved		n/s ug/l				
	Molybdenum, Dissolved		n/s ug/l				
	Nickel, Dissolved		n/s ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		n/s ug/l				
	Mercury, Dissolved		n/s ug/l				
	Total Alkalinity as CaCO3		n/s mg/l				
	Electrical Conductivity at 25C		n/s uS/cm				
	Potassium, Dissolved		n/s mg/l				
	Sodium, Dissolved		n/s mg/l				
	Sulphate, Dissolved		n/s mg/l				
	Total Oxidised Nitrogen		n/s mg/l				
	Chloride		n/s mg/l				
	Fluoride		n/s mg/l				
	Ammoniacal Nitrogen		n/s mg/l				
	Total Organic Carbon		n/s mg/l				
	pH		n/s pH Units				
	Nitrate		n/s mg/l				
	Ionic Balance		n/s %				
	Electrical Conductivity		n/s µS/cm	Field Measurements			
Temperature		n/s deg C					
Dissolved Oxygen		n/s mg/l					
pH		n/s pH Units					
Groundwater Level		22.11 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		22/07/2022	Sampling WSP / Testing ALS.	
	Antimony, Dissolved		<1.3 ug/l				
	Arsenic Dissolved		<0.20 ug/l				
	Boron, Dissolved		396 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		67 mg/l				
	Manganese, Dissolved		33 ug/l				
	Molybdenum, Dissolved		23.2 ug/l				
	Nickel, Dissolved		1.9 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<0.15 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		196 mg/l				
	Electrical Conductivity at 25C		1260 uS/cm				
	Potassium, Dissolved		4 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		583 mg/l				
	Total Oxidised Nitrogen		<0.7 mg/l				
	Chloride		33 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		0.1 mg/l				
	Total Organic Carbon		2.1 mg/l				
	pH		7.30 pH Units				
	Nitrate		<0.7 mg/l				
	Ionic Balance		8.2 %				
	Electrical Conductivity		1219 µS/cm	Field Measurements			
Temperature		13.3 deg C					
Dissolved Oxygen		1.5 mg/l					
pH		7.1 pH Units					
Groundwater Level		24.66 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		n/s ug/l		14/10/2022	Sampling WSP / Testing ALS. The sampling contractor reported that the borehole could not be safely accessed with their sampling equipment, although a GW level measurement was still taken.	
	Antimony, Dissolved		n/s ug/l				
	Arsenic Dissolved		n/s ug/l				
	Boron, Dissolved		n/s ug/l				
	Cadmium, Dissolved		n/s ug/l				
	Calcium, Dissolved		n/s mg/l				
	Chromium, Dissolved		n/s ug/l				
	Copper, Dissolved		n/s ug/l				
	Iron, Dissolved		n/s ug/l				
	Magnesium, Dissolved		n/s mg/l				
	Manganese, Dissolved		n/s ug/l				
	Molybdenum, Dissolved		n/s ug/l				
	Nickel, Dissolved		n/s ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		n/s ug/l				
	Mercury, Dissolved		n/s ug/l				
	Total Alkalinity as CaCO3		n/s mg/l				
	Electrical Conductivity at 25C		n/s uS/cm				
	Potassium, Dissolved		n/s mg/l				
	Sodium, Dissolved		n/s mg/l				
	Sulphate, Dissolved		n/s mg/l				
	Total Oxidised Nitrogen		n/s mg/l				
	Chloride		n/s mg/l				
	Fluoride		n/s mg/l				
	Ammoniacal Nitrogen		n/s mg/l				
	Total Organic Carbon		n/s mg/l				
	pH		n/s pH Units				
	Nitrate		n/s mg/l				
	Ionic Balance		n/s %				
	Electrical Conductivity		n/s µS/cm	Field Measurements			
Temperature		n/s deg C					
Dissolved Oxygen		n/s mg/l					
pH		n/s pH Units					
Groundwater Level		24.89 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>
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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 28/03/2023