

Reporting of Emission to Groundwater for the period from 1st January 2024 to 30th June 2024.

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		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		30 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		139 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.732 ug/l				
	Iron, Dissolved		19.0 ug/l				
	Magnesium, Dissolved		4.57 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.506 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		301 mg/l				
	Electrical Conductivity at 20C		738 uS/cm				
	Potassium, Dissolved		1.09 mg/l				
	Sodium, Dissolved		18.6 mg/l				
	Sulphate, Dissolved		30.3 mg/l				
	Total Oxidised Nitrogen		7.85 mg/l				
	Chloride		49.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.87 pH Units				
	Nitrate		7.85 mg/l				
Ionic Balance		-2.71 %					
Electrical Conductivity		757 µS/cm					
Temperature		13.6 deg C	Field Measurements				
Dissolved Oxygen		3.4 mg/l					
pH		7.3 pH Units					
Groundwater Level		28.80 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>
E09_01A	Aluminium, Dissolved		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		34 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		119 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		5.3 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		1.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		303 mg/l				
	Electrical Conductivity at 25C		649 uS/cm				
	Potassium, Dissolved		1.3 mg/l				
	Sodium, Dissolved		14.4 mg/l				
	Sulphate, Dissolved		26 mg/l				
	Total Oxidised Nitrogen		2.8 mg/l				
	Chloride		26.6 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.0 pH Units				
	Nitrate		2.8 mg/l				
	Ionic Balance		-3.5 %				
	Electrical Conductivity		649 µS/cm	Field Measurements			
Temperature		n/t deg C					
Dissolved Oxygen		3.1 mg/l					
pH		7.0 pH Units					
Groundwater Level		25.08 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		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		27 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		134 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.56 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		6.59 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.941 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		298 mg/l				
	Electrical Conductivity at 25C		704 uS/cm				
	Potassium, Dissolved		1.25 mg/l				
	Sodium, Dissolved		15.6 mg/l				
	Sulphate, Dissolved		32.9 mg/l				
	Total Oxidised Nitrogen		7.02 mg/l				
	Chloride		37.7 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.93 pH Units				
	Nitrate		7.02 mg/l				
Ionic Balance		-1.57 %					
Electrical Conductivity		769 µS/cm	Field Measurements				
Temperature		13.5 deg C					
Dissolved Oxygen		3.1 mg/l					
pH		7.3 pH Units					
Groundwater Level		27.53 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		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		49 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		121 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.1 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		4.9 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.8 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		299 mg/l				
	Electrical Conductivity at 25C		627 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		14.6 mg/l				
	Sulphate, Dissolved		22 mg/l				
	Total Oxidised Nitrogen		2.9 mg/l				
	Chloride		24.5 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.5 pH Units				
Nitrate		2.9 mg/l					
Ionic Balance		-1.4 %					
Electrical Conductivity		627 µS/cm	Field Measurements				
Temperature		n/t deg C					
Dissolved Oxygen		3.0 mg/l					
pH		7.5 pH Units					
Groundwater Level		26.84 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>
E09_02A	Aluminium, Dissolved		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.539 ug/l				
	Boron, Dissolved		50 ug/l				
	Cadmium, Dissolved		0.0922 ug/l				
	Calcium, Dissolved		259 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		884 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		11 mg/l				
	Manganese, Dissolved		5.33 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		7.41 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		534 mg/l				
	Electrical Conductivity at 25C		1240 uS/cm				
	Potassium, Dissolved		0.668 mg/l				
	Sodium, Dissolved		20.1 mg/l				
	Sulphate, Dissolved		63.9 mg/l				
	Total Oxidised Nitrogen		28.6 mg/l				
	Chloride		36.7 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		7.78 mg/l				
	pH		7.01 pH Units				
	Nitrate		28.6 mg/l				
	Ionic Balance		-1.17 %				
	Electrical Conductivity		945 µS/cm	Field Measurements			
Temperature		13.5 deg C					
Dissolved Oxygen		2.9 mg/l					
pH		7.2 pH Units					
Groundwater Level		30.03 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		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.8 ug/l				
	Boron, Dissolved		65 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		196 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		10.7 ug/l				
	Iron, Dissolved		21 ug/l				
	Magnesium, Dissolved		16.6 mg/l				
	Manganese, Dissolved		15.2 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		550 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		1.1 mg/l				
	Sodium, Dissolved		18.1 mg/l				
	Sulphate, Dissolved		68 mg/l				
	Total Oxidised Nitrogen		15.8 mg/l				
	Chloride		36.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		1.5 mg/l				
	Total Organic Carbon		6.8 mg/l				
	pH		7.0 pH Units				
	Nitrate		15.8 mg/l				
	Ionic Balance		-9.3 %				
	Electrical Conductivity		1200 µS/cm	Field Measurements			
Temperature		n/t deg C					
Dissolved Oxygen		2.8 mg/l					
pH		7.5 pH Units					
Groundwater Level		27.78 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>
E09_02B	Aluminium, Dissolved		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.53 ug/l				
	Boron, Dissolved		83 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		296 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		2.08 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		10.9 mg/l				
	Manganese, Dissolved		4.09 ug/l				
	Molybdenum, Dissolved		5.27 ug/l				
	Nickel, Dissolved		2.31 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		465 mg/l				
	Electrical Conductivity at 25C		1360 uS/cm				
	Potassium, Dissolved		0.644 mg/l				
	Sodium, Dissolved		21.7 mg/l				
	Sulphate, Dissolved		87.3 mg/l				
	Total Oxidised Nitrogen		51.9 mg/l				
	Chloride		54.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		9.72 mg/l				
	pH		7.75 pH Units				
	Nitrate		51.9 mg/l				
	Ionic Balance		0.741 %				
	Electrical Conductivity		925 µS/cm	Field Measurements			
Temperature		13.3 deg C					
Dissolved Oxygen		3.2 mg/l					
pH		7.2 pH Units					
Groundwater Level		31.85 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_02B	Aluminium, Dissolved		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS.	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.6 ug/l				
	Boron, Dissolved		49 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		247 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		12.4 mg/l				
	Manganese, Dissolved		35.5 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		6.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		423 mg/l				
	Electrical Conductivity at 25C		1290 uS/cm				
	Potassium, Dissolved		0.9 mg/l				
	Sodium, Dissolved		25.4 mg/l				
	Sulphate, Dissolved		116 mg/l				
	Total Oxidised Nitrogen		41.1 mg/l				
	Chloride		48.0 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.5 mg/l				
	Total Organic Carbon		5.5 mg/l				
	pH		7.0 pH Units				
	Nitrate		40.9 mg/l				
	Ionic Balance		-2.1 %				
	Electrical Conductivity		1290 µS/cm				
Temperature		n/t deg C		Field Measurements			
Dissolved Oxygen		3.2 mg/l					
pH		7.0 pH Units					
Groundwater Level		28.63 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>
E23_03	Aluminium, Dissolved	50	<10 ug/l		20/02/2024	Sampling RPS / Testing ALS.	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	0.6 ug/l				
	Boron, Dissolved	2800	1630 ug/l				
	Cadmium, Dissolved	0.4	0.1 ug/l				
	Calcium, Dissolved		303 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		0.6 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		188 mg/l				
	Manganese, Dissolved		140 ug/l				
	Molybdenum, Dissolved	50	1230 ug/l				
	Nickel, Dissolved		2.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		176 mg/l				
	Electrical Conductivity at 25C		5750 uS/cm				
	Potassium, Dissolved		12.8 mg/l				
	Sodium, Dissolved		740.0 mg/l				
	Sulphate, Dissolved	400	653 mg/l				
	Total Oxidised Nitrogen		0.2 mg/l				
	Chloride		1720.0 mg/l				
	Fluoride		0.8 mg/l				
	Ammoniacal Nitrogen	1.6	2.0 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.7 pH Units				
	Nitrate		0.2 mg/l				
	Ionic Balance		-1.8 %				
	Electrical Conductivity		1543 µS/cm	Field Measurements			
Temperature		13.7 deg C					
Dissolved Oxygen		6.6 mg/l					
pH		7.5 pH Units					
Groundwater Level		18.71 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>
E23_03	Aluminium, Dissolved	50	<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	979 ug/l				
	Cadmium, Dissolved	0.4	0.3 ug/l				
	Calcium, Dissolved		302 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		2.8 ug/l				
	Iron, Dissolved		42 ug/l				
	Magnesium, Dissolved		141 mg/l				
	Manganese, Dissolved		68 ug/l				
	Molybdenum, Dissolved	50	1320 ug/l				
	Nickel, Dissolved		4.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	0.0 ug/l				
	Total Alkalinity as CaCO3		142 mg/l				
	Electrical Conductivity at 25C		4220 uS/cm				
	Potassium, Dissolved		30.8 mg/l				
	Sodium, Dissolved		428.0 mg/l				
	Sulphate, Dissolved	400	767 mg/l				
	Total Oxidised Nitrogen		1.4 mg/l				
	Chloride		1050 mg/l				
	Fluoride		0.7 mg/l				
	Ammoniacal Nitrogen	1.6	1.1 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.7 pH Units				
	Nitrate		1.3 mg/l				
	Ionic Balance		-3.7 %				
	Electrical Conductivity		4220 µS/cm	Field Measurements			
Temperature		n/t deg C					
Dissolved Oxygen		6.5 mg/l					
pH		7.7 pH Units					
Groundwater Level		18.14 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>
E05_04	Aluminium, Dissolved	50	<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.52 ug/l				
	Boron, Dissolved	2800	1980 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		17.9 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		15.7 mg/l				
	Manganese, Dissolved		13 ug/l				
	Molybdenum, Dissolved	50	105 ug/l				
	Nickel, Dissolved		0.542 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		338 mg/l				
	Electrical Conductivity at 25C		1530 uS/cm				
	Potassium, Dissolved		3.82 mg/l				
	Sodium, Dissolved		302 mg/l				
	Sulphate, Dissolved	400	181 mg/l				
	Total Oxidised Nitrogen		0.119 mg/l				
	Chloride		215 mg/l				
	Fluoride		4.64 mg/l				
	Ammoniacal Nitrogen	1.6	0.966 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.41 pH Units				
	Nitrate		0.119 mg/l				
Ionic Balance		-3.42 %					
Electrical Conductivity		1698 µS/cm	Field Measurements				
Temperature		13.8 deg C					
Dissolved Oxygen		6.6 mg/l					
pH		8.0 pH Units					
Groundwater Level		19.26 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	<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	2.8 ug/l				
	Boron, Dissolved	2800	2070 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		7.86 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		60.4 ug/l				
	Magnesium, Dissolved		5.8 mg/l				
	Manganese, Dissolved		18.8 ug/l				
	Molybdenum, Dissolved	50	92.3 ug/l				
	Nickel, Dissolved		<0.4 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		389 mg/l				
	Electrical Conductivity at 25C		1670 uS/cm				
	Potassium, Dissolved		2.98 mg/l				
	Sodium, Dissolved		313 mg/l				
	Sulphate, Dissolved	400	191 mg/l				
	Total Oxidised Nitrogen		0.4 mg/l				
	Chloride		214 mg/l				
	Fluoride		5.3 mg/l				
	Ammoniacal Nitrogen	1.6	0.6 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.3 pH Units				
	Nitrate		0.4 mg/l				
	Ionic Balance		-9.9 %				
	Electrical Conductivity		1670 µS/cm				
Temperature		n/t deg C		Field Measurements			
Dissolved Oxygen		6.6 mg/l					
pH		8.3 pH Units					
Groundwater Level		19.26 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	<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	1860 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		2.75 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		1.04 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		2.07 mg/l				
	Manganese, Dissolved		4.39 ug/l				
	Molybdenum, Dissolved	50	<3 ug/l				
	Nickel, Dissolved		<0.4 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		389 mg/l				
	Electrical Conductivity at 25C		895 uS/cm				
	Potassium, Dissolved		1.88 mg/l				
	Sodium, Dissolved		222 mg/l				
	Sulphate, Dissolved	400	82.2 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		31.7 mg/l				
	Fluoride		3.11 mg/l				
	Ammoniacal Nitrogen	1.6	0.494 mg/l				
	Total Organic Carbon		3.09 mg/l				
	pH		8.76 pH Units				
	Nitrate		<0.07 mg/l				
Ionic Balance		-1.73 %					
Electrical Conductivity		964 µS/cm	Field Measurements				
Temperature		13.5 deg C					
Dissolved Oxygen		3.3 mg/l					
pH		8.2 pH Units					
Groundwater Level		19.18 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	<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	1640.0 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		20.5 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		12.1 mg/l				
	Manganese, Dissolved		24.4 ug/l				
	Molybdenum, Dissolved	50	248.0 ug/l				
	Nickel, Dissolved		0.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	1.4 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		350.0 mg/l				
	Electrical Conductivity at 25C		1250.0 uS/cm				
	Potassium, Dissolved		3.4 mg/l				
	Sodium, Dissolved		257.0 mg/l				
	Sulphate, Dissolved	400	170.0 mg/l				
	Total Oxidised Nitrogen		1.7 mg/l				
	Chloride		110.0 mg/l				
	Fluoride		2.6 mg/l				
	Ammoniacal Nitrogen	1.6	0.7 mg/l				
	Total Organic Carbon		3.2 mg/l				
	pH		8.4 pH Units				
	Nitrate		1.7 mg/l				
	Ionic Balance		-1.5 %				
	Electrical Conductivity		1250.0 µS/cm				
Temperature		n/t deg C	Field Measurements				
Dissolved Oxygen		3.1 mg/l					
pH		8.4 pH Units					
Groundwater Level		18.90 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		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		4.46 ug/l				
	Arsenic Dissolved		1.59 ug/l				
	Boron, Dissolved		288 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		71.2 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		28.6 mg/l				
	Manganese, Dissolved		22.2 ug/l				
	Molybdenum, Dissolved		4.97 ug/l				
	Nickel, Dissolved		1.15 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		2.62 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		159 mg/l				
	Electrical Conductivity at 25C		727 uS/cm				
	Potassium, Dissolved		7.26 mg/l				
	Sodium, Dissolved		43.6 mg/l				
	Sulphate, Dissolved		202 mg/l				
	Total Oxidised Nitrogen		1.09 mg/l				
	Chloride		29.3 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.532 mg/l				
	Total Organic Carbon		4.32 mg/l				
	pH		8.29 pH Units				
	Nitrate		1.07 mg/l				
	Ionic Balance		-1.57 %				
	Electrical Conductivity		820 µS/cm	Field Measurements			
Temperature		13.6 deg C					
Dissolved Oxygen		2.5 mg/l					
pH		8.0 pH Units					
Groundwater Level		21.08 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>
E06_02	Aluminium, Dissolved		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.6 ug/l				
	Arsenic Dissolved		1.4 ug/l				
	Boron, Dissolved		206 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		112 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.6 ug/l				
	Iron, Dissolved		112.0 ug/l				
	Magnesium, Dissolved		34.5 mg/l				
	Manganese, Dissolved		67.0 ug/l				
	Molybdenum, Dissolved		13.0 ug/l				
	Nickel, Dissolved		2.4 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		3.3 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		199 mg/l				
	Electrical Conductivity at 25C		953 uS/cm				
	Potassium, Dissolved		9.4 mg/l				
	Sodium, Dissolved		36.3 mg/l				
	Sulphate, Dissolved		296 mg/l				
	Total Oxidised Nitrogen		0.1 mg/l				
	Chloride		38.6 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		1.0 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.6 pH Units				
	Nitrate		0.1 mg/l				
	Ionic Balance		-4.2 %				
	Electrical Conductivity		953 µS/cm				
Temperature		n/t deg C		Field Measurements			
Dissolved Oxygen		2.5 mg/l					
pH		7.6 pH Units					
Groundwater Level		20.86 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		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.6 ug/l				
	Arsenic Dissolved		0.7 ug/l				
	Boron, Dissolved		369 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		59 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		38.9 mg/l				
	Manganese, Dissolved		4.47 ug/l				
	Molybdenum, Dissolved		3.5 ug/l				
	Nickel, Dissolved		1.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		154 mg/l				
	Electrical Conductivity at 25C		744 uS/cm				
	Potassium, Dissolved		5.8 mg/l				
	Sodium, Dissolved		46.0 mg/l				
	Sulphate, Dissolved		228 mg/l				
	Total Oxidised Nitrogen		0.4 mg/l				
	Chloride		23.5 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.3 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.3 pH Units				
	Nitrate		0.4 mg/l				
	Ionic Balance		-1.3 %				
	Electrical Conductivity		858 µS/cm	Field Measurements			
Temperature		13.5 deg C					
Dissolved Oxygen		3.7 mg/l					
pH		7.9 pH Units					
Groundwater Level		21.81 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		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.9 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		250 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		82 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.9 ug/l				
	Iron, Dissolved		20.8 ug/l				
	Magnesium, Dissolved		45.8 mg/l				
	Manganese, Dissolved		4.3 ug/l				
	Molybdenum, Dissolved		6.9 ug/l				
	Nickel, Dissolved		1.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		155 mg/l				
	Electrical Conductivity at 25C		720 uS/cm				
	Potassium, Dissolved		6.2 mg/l				
	Sodium, Dissolved		26.8 mg/l				
	Sulphate, Dissolved		227 mg/l				
	Total Oxidised Nitrogen		0.2 mg/l				
	Chloride		20.4 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.9 pH Units				
	Nitrate		0.2 mg/l				
	Ionic Balance		4.3 %				
	Electrical Conductivity		720 µS/cm				
Temperature		n/t deg C		Field Measurements			
Dissolved Oxygen		3.6 mg/l					
pH		7.9 pH Units					
Groundwater Level		21.67 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>
E23_04B	Aluminium, Dissolved		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		1030 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		114 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.378 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		71.4 mg/l				
	Manganese, Dissolved		70.5 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		5.31 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		0.0226 ug/l				
	Total Alkalinity as CaCO3		250 mg/l				
	Electrical Conductivity at 25C		1300 uS/cm				
	Potassium, Dissolved		7.46 mg/l				
	Sodium, Dissolved		89.3 mg/l				
	Sulphate, Dissolved		513 mg/l				
	Total Oxidised Nitrogen		1.47 mg/l				
	Chloride		30.2 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.659 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.17 pH Units				
	Nitrate		1.25 mg/l				
	Ionic Balance		-2.87 %				
	Electrical Conductivity		947 µS/cm	Field Measurements			
Temperature		13.6 deg C					
Dissolved Oxygen		4.1 mg/l					
pH		7.5 pH Units					
Groundwater Level		22.89 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>
E23_04B	Aluminium, Dissolved		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.0 ug/l				
	Arsenic Dissolved		1.0 ug/l				
	Boron, Dissolved		1030 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		98 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.8 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		65.3 mg/l				
	Manganese, Dissolved		31.4 ug/l				
	Molybdenum, Dissolved		6.7 ug/l				
	Nickel, Dissolved		11.4 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		251 mg/l				
	Electrical Conductivity at 25C		1260 uS/cm				
	Potassium, Dissolved		7.3 mg/l				
	Sodium, Dissolved		94.8 mg/l				
	Sulphate, Dissolved		479 mg/l				
	Total Oxidised Nitrogen		1.4 mg/l				
	Chloride		30.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.6 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.8 pH Units				
	Nitrate		1.4 mg/l				
	Ionic Balance		-4.2 %				
	Electrical Conductivity		1270 µS/cm		Field Measurements		
Temperature		n/t deg C					
Dissolved Oxygen		4.0 mg/l					
pH		7.1 pH Units					
Groundwater Level		23.00 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		<10 ug/l		20/02/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		100 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		183 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		54.9 mg/l				
	Manganese, Dissolved		4.47 ug/l				
	Molybdenum, Dissolved		3.55 ug/l				
	Nickel, Dissolved		1.07 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		143 mg/l				
	Electrical Conductivity at 25C		1130 uS/cm				
	Potassium, Dissolved		3.64 mg/l				
	Sodium, Dissolved		14.8 mg/l				
	Sulphate, Dissolved		534 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		24 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.96 pH Units				
	Nitrate		0.0946 mg/l				
	Ionic Balance		-0.0567 %				
	Electrical Conductivity		947 µS/cm	Field Measurements			
Temperature		13.6 deg C					
Dissolved Oxygen		4.1 mg/l					
pH		7.5 pH Units					
Groundwater Level		25.98 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		<10 ug/l		07/05/2024	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		115 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		164 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.4 ug/l				
	Iron, Dissolved		48.6 ug/l				
	Magnesium, Dissolved		49.6 mg/l				
	Manganese, Dissolved		8.1 ug/l				
	Molybdenum, Dissolved		6.3 ug/l				
	Nickel, Dissolved		1.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		147 mg/l				
	Electrical Conductivity at 25C		1080 uS/cm				
	Potassium, Dissolved		3.7 mg/l				
	Sodium, Dissolved		13.5 mg/l				
	Sulphate, Dissolved		487 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		28.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.6 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-3.6 %				
	Electrical Conductivity		1080 µS/cm	Field Measurements			
Temperature		n/t deg C					
Dissolved Oxygen		4.1 mg/l					
pH		7.6 pH Units					
Groundwater Level		25.57 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>
----------------	-------------------------	-------------------------	-----------------------	-------------------------------	---	--	-------------------------------

[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.

\_\_\_\_\_ 

Date 02/08/2024

(authorised to sign as representative of the Operator)

**Please note:** The GW sampling contractor had an issue with their temperature probe during the 2nd monitoring round, so temperature readings were unable to be recorded.