

Reporting of Emission to Groundwater for the period from 1st July 2023 to 31st December 2023.

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 ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_01A	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		32 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		124 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		4.8 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		293 mg/l				
	Electrical Conductivity at 20C		631 uS/cm				
	Potassium, Dissolved		1.4 mg/l				
	Sodium, Dissolved		14.8 mg/l				
	Sulphate, Dissolved		28 mg/l				
	Total Oxidised Nitrogen		5.4 mg/l				
	Chloride		32.7 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		1.6 mg/l				
	pH		8.1 pH Units				
	Nitrate		5.4 mg/l				
	Ionic Balance		-3.1 %				
	Electrical Conductivity		557 µS/cm	Field Measurements			
	Temperature		16.1 deg C				
	Dissolved Oxygen		3.4 mg/l				
pH		7.4 pH Units					
Groundwater Level		27.14 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_01A	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		43 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		134 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.5 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		4.6 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		287 mg/l				
	Electrical Conductivity at 25C		690 uS/cm				
	Potassium, Dissolved		1.3 mg/l				
	Sodium, Dissolved		13.2 mg/l				
	Sulphate, Dissolved		25 mg/l				
	Total Oxidised Nitrogen		10.1 mg/l				
	Chloride		27.2 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.4 pH Units				
	Nitrate		10.1 mg/l				
	Ionic Balance		-0.5 %				
	Electrical Conductivity		557 µS/cm	Field Measurements			
Temperature		14.8 deg C					
Dissolved Oxygen		3.5 mg/l					
pH		7.3 pH Units					
Groundwater Level		28.48 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_01B	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		40 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		125 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.9 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		6.2 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		295 mg/l				
	Electrical Conductivity at 25C		647 uS/cm				
	Potassium, Dissolved		1.2 mg/l				
	Sodium, Dissolved		15.6 mg/l				
	Sulphate, Dissolved		33 mg/l				
	Total Oxidised Nitrogen		4.3 mg/l				
	Chloride		34.4 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		8.0 pH Units				
	Nitrate		4.3 mg/l				
	Ionic Balance		-2.7 %				
	Electrical Conductivity		546 µS/cm	Field Measurements			
Temperature		16.2 deg C					
Dissolved Oxygen		2.5 mg/l					
pH		7.2 pH Units					
Groundwater Level		26.28 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_01B	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		31 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		132 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.4 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		6.5 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.9 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		294 mg/l				
	Electrical Conductivity at 25C		687 uS/cm				
	Potassium, Dissolved		1.2 mg/l				
	Sodium, Dissolved		15.0 mg/l				
	Sulphate, Dissolved		30 mg/l				
	Total Oxidised Nitrogen		7.2 mg/l				
	Chloride		29.4 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.3 pH Units				
	Nitrate		7.2 mg/l				
	Ionic Balance		-0.2 %				
	Electrical Conductivity		542 µS/cm	Field Measurements			
Temperature		14.9 deg C					
Dissolved Oxygen		2.3 mg/l					
pH		7.0 pH Units					
Groundwater Level		27.19 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_02A	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		2.0 ug/l				
	Boron, Dissolved		207 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		173 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.2 ug/l				
	Iron, Dissolved		990 ug/l				
	Magnesium, Dissolved		26.7 mg/l				
	Manganese, Dissolved		95.3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.1 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		988 uS/cm				
	Potassium, Dissolved		2.6 mg/l				
	Sodium, Dissolved		26.1 mg/l				
	Sulphate, Dissolved		57 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		36.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		3.7 mg/l				
	Total Organic Carbon		6.0 mg/l				
	pH		7.6 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-2.5 %				
	Electrical Conductivity		973 µS/cm	Field Measurements			
Temperature		15.9 deg C					
Dissolved Oxygen		1.4 mg/l					
pH		7.1 pH Units					
Groundwater Level		28.10 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_02A	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.7 ug/l				
	Boron, Dissolved		56 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		247 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		5.2 ug/l				
	Iron, Dissolved		55 ug/l				
	Magnesium, Dissolved		14.1 mg/l				
	Manganese, Dissolved		16.1 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		3.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		531 mg/l				
	Electrical Conductivity at 25C		1260 uS/cm				
	Potassium, Dissolved		0.9 mg/l				
	Sodium, Dissolved		23.5 mg/l				
	Sulphate, Dissolved		82 mg/l				
	Total Oxidised Nitrogen		27.4 mg/l				
	Chloride		33.3 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		5.8 mg/l				
	pH		6.9 pH Units				
	Nitrate		27.4 mg/l				
	Ionic Balance		-2.3 %				
	Electrical Conductivity		911 µS/cm	Field Measurements			
Temperature		15.1 deg C					
Dissolved Oxygen		1.5 mg/l					
pH		7.3 pH Units					
Groundwater Level		29.11 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_02B	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		37 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		232 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.8 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		12.0 mg/l				
	Manganese, Dissolved		4.5 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		7.7 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		441 mg/l				
	Electrical Conductivity at 25C		1110 uS/cm				
	Potassium, Dissolved		0.9 mg/l				
	Sodium, Dissolved		27.3 mg/l				
	Sulphate, Dissolved		158 mg/l				
	Total Oxidised Nitrogen		17.5 mg/l				
	Chloride		33.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.3 mg/l				
	Total Organic Carbon		3.1 mg/l				
	pH		7.2 pH Units				
	Nitrate		17.5 mg/l				
	Ionic Balance		-1.8 %				
	Electrical Conductivity		934 µS/cm	Field Measurements			
Temperature		16.1 deg C					
Dissolved Oxygen		3.3 mg/l					
pH		7.2 pH Units					
Groundwater Level		28.32 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_02B	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS.	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		41 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		325 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.1 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		11.2 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		4.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		481 mg/l				
	Electrical Conductivity at 25C		1330 uS/cm				
	Potassium, Dissolved		0.7 mg/l				
	Sodium, Dissolved		23.8 mg/l				
	Sulphate, Dissolved		106 mg/l				
	Total Oxidised Nitrogen		40.5 mg/l				
	Chloride		34.6 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		6.6 mg/l				
	pH		6.9 pH Units				
	Nitrate		40.5 mg/l				
	Ionic Balance		7.3 %				
	Electrical Conductivity		908 µS/cm	Field Measurements			
Temperature		15.0 deg C					
Dissolved Oxygen		2.9 mg/l					
pH		7.2 pH Units					
Groundwater Level		29.99 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E05_03	Aluminium, Dissolved	50	<10 ug/l		19/08/2023	Sampling RPS / Testing ALS.	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.0 ug/l				
	Boron, Dissolved	2800	1790 ug/l				
	Cadmium, Dissolved	0.4	2.1 ug/l				
	Calcium, Dissolved		351 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		820 ug/l				
	Magnesium, Dissolved		206 mg/l				
	Manganese, Dissolved		117 ug/l				
	Molybdenum, Dissolved	50	1600 ug/l				
	Nickel, Dissolved		1.3 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		209 mg/l				
	Electrical Conductivity at 25C		6870 uS/cm				
	Potassium, Dissolved		14.2 mg/l				
	Sodium, Dissolved		892.0 mg/l				
	Sulphate, Dissolved	400	832 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		2120.0 mg/l				
	Fluoride		1.0 mg/l				
	Ammoniacal Nitrogen	1.6	1.0 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		7.8 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-4.8 %				
	Electrical Conductivity		1872 µS/cm	Field Measurements			
	Temperature		16.1 deg C				
	Dissolved Oxygen		6.9 mg/l				
	pH		7.8 pH Units				
	Groundwater Level		18.82 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E23_03	Aluminium, Dissolved	50	<10 ug/l		08/11/2023	New Borehole (replacement for E05/03). Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	1290 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		320 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		180 mg/l				
	Manganese, Dissolved		141 ug/l				
	Molybdenum, Dissolved	50	922 ug/l				
	Nickel, Dissolved		4.5 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		163 mg/l				
	Electrical Conductivity at 25C		5870 uS/cm				
	Potassium, Dissolved		15.4 mg/l				
	Sodium, Dissolved		791.0 mg/l				
	Sulphate, Dissolved	400	660 mg/l				
	Total Oxidised Nitrogen		0.1 mg/l				
	Chloride		1690 mg/l				
	Fluoride		0.6 mg/l				
	Ammoniacal Nitrogen	1.6	1.1 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.7 pH Units				
	Nitrate		0.1 mg/l				
	Ionic Balance		0.8 %				
	Electrical Conductivity		1543 µS/cm	Field Measurements			
Temperature		14.2 deg C					
Dissolved Oxygen		5.8 mg/l					
pH		7.7 pH Units					
Groundwater Level		18.59 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E05_04	Aluminium, Dissolved	50	<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.2 ug/l				
	Arsenic Dissolved	10	0.9 ug/l				
	Boron, Dissolved	2800	2180 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		11.9 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		10.8 mg/l				
	Manganese, Dissolved		3.7 ug/l				
	Molybdenum, Dissolved	50	56.6 ug/l				
	Nickel, Dissolved		0.5 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	2.2 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		353 mg/l				
	Electrical Conductivity at 25C		1360 uS/cm				
	Potassium, Dissolved		3.2 mg/l				
	Sodium, Dissolved		268 mg/l				
	Sulphate, Dissolved	400	121 mg/l				
	Total Oxidised Nitrogen		0.5 mg/l				
	Chloride		193 mg/l				
	Fluoride		5.2 mg/l				
	Ammoniacal Nitrogen	1.6	0.7 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		8.42 pH Units				
	Nitrate		0.3 mg/l				
	Ionic Balance		-6.2 %				
	Electrical Conductivity		1291 μS/cm	Field Measurements			
	Temperature		16.2 deg C				
	Dissolved Oxygen		6.8 mg/l				
	pH		8.1 pH Units				
	Groundwater Level		19.26 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E05_04	Aluminium, Dissolved	50	<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	0.9 ug/l				
	Boron, Dissolved	2800	1860 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		11.7 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		9.7 mg/l				
	Manganese, Dissolved		5.0 ug/l				
	Molybdenum, Dissolved	50	53.8 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 mg/l				
	Electrical Conductivity at 25C		1430 uS/cm				
	Potassium, Dissolved		3 mg/l				
	Sodium, Dissolved		281 mg/l				
	Sulphate, Dissolved	400	137 mg/l				
	Total Oxidised Nitrogen		0.6 mg/l				
	Chloride		187 mg/l				
	Fluoride		5.3 mg/l				
	Ammoniacal Nitrogen	1.6	0.6 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.4 pH Units				
	Nitrate		0.3 mg/l				
	Ionic Balance		-4.9 %				
	Electrical Conductivity		1090 µS/cm	Field Measurements			
	Temperature		13.9 deg C				
	Dissolved Oxygen		6.6 mg/l				
	pH		8.1 pH Units				
	Groundwater Level		19.26 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_01	Aluminium, Dissolved	50	<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	1810 ug/l				
	Cadmium, Dissolved	0.4	0.3 ug/l				
	Calcium, Dissolved		12 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		8 mg/l				
	Manganese, Dissolved		18.4 ug/l				
	Molybdenum, Dissolved	50	216.0 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		364 mg/l				
	Electrical Conductivity at 25C		1260 uS/cm				
	Potassium, Dissolved		2.8 mg/l				
	Sodium, Dissolved		243 mg/l				
	Sulphate, Dissolved	400	182 mg/l				
	Total Oxidised Nitrogen		1.2 mg/l				
	Chloride		120 mg/l				
	Fluoride		2.6 mg/l				
	Ammoniacal Nitrogen	1.6	0.8 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		8.6 pH Units				
	Nitrate		1.1 mg/l				
	Ionic Balance		-9.7 %				
	Electrical Conductivity		989 µS/cm	Field Measurements			
Temperature		15.7 deg C					
Dissolved Oxygen		2.6 mg/l					
pH		8.6 pH Units					
Groundwater Level		19.15 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_01	Aluminium, Dissolved	50	<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	1670.0 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		2.7 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		3.2 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		1.9 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved	50	8.5 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		376.0 mg/l				
	Electrical Conductivity at 25C		981.0 uS/cm				
	Potassium, Dissolved		1.8 mg/l				
	Sodium, Dissolved		219.0 mg/l				
	Sulphate, Dissolved	400	98.3 mg/l				
	Total Oxidised Nitrogen		0.3 mg/l				
	Chloride		47.0 mg/l				
	Fluoride		2.8 mg/l				
	Ammoniacal Nitrogen	1.6	0.5 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.7 pH Units				
	Nitrate		0.2 mg/l				
	Ionic Balance		-4.9 %				
	Electrical Conductivity		894.0 µS/cm	Field Measurements			
	Temperature		14.6 deg C				
	Dissolved Oxygen		2.8 mg/l				
	pH		8.5 pH Units				
	Groundwater Level		19.10 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_02	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.4 ug/l				
	Arsenic Dissolved		2.9 ug/l				
	Boron, Dissolved		471 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		124 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		40.3 ug/l				
	Magnesium, Dissolved		45.9 mg/l				
	Manganese, Dissolved		39.1 ug/l				
	Molybdenum, Dissolved		6.4 ug/l				
	Nickel, Dissolved		1.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		3.4 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		299 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		9.9 mg/l				
	Sodium, Dissolved		83.3 mg/l				
	Sulphate, Dissolved		365 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		61.1 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		2.1 mg/l				
	Total Organic Carbon		2.8 mg/l				
	pH		7.4 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-4.6 %				
	Electrical Conductivity		1122 µS/cm	Field Measurements			
	Temperature		16.3 deg C				
	Dissolved Oxygen		1.8 mg/l				
	pH		7.9 pH Units				
	Groundwater Level		21.08 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_02	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		1.5 ug/l				
	Boron, Dissolved		403 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		66 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		173.0 ug/l				
	Magnesium, Dissolved		38.7 mg/l				
	Manganese, Dissolved		18.1 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		2.1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		369 mg/l				
	Electrical Conductivity at 25C		1020 uS/cm				
	Potassium, Dissolved		7.5 mg/l				
	Sodium, Dissolved		109.0 mg/l				
	Sulphate, Dissolved		169 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		42.3 mg/l				
	Fluoride		0.5 mg/l				
	Ammoniacal Nitrogen		1.0 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.7 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-2.5 %				
	Electrical Conductivity		1109 µS/cm	Field Measurements			
	Temperature		14.4 deg C				
	Dissolved Oxygen		1.8 mg/l				
	pH		7.9 pH Units				
	Groundwater Level		20.90 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_03	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		1.1 ug/l				
	Boron, Dissolved		357 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		108 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.3 ug/l				
	Iron, Dissolved		95.0 ug/l				
	Magnesium, Dissolved		65.0 mg/l				
	Manganese, Dissolved		82.9 ug/l				
	Molybdenum, Dissolved		8.8 ug/l				
	Nickel, Dissolved		2.1 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		168 mg/l				
	Electrical Conductivity at 25C		1040 uS/cm				
	Potassium, Dissolved		7.2 mg/l				
	Sodium, Dissolved		35.8 mg/l				
	Sulphate, Dissolved		424 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		39.0 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		1.2 mg/l				
	pH		8.1 pH Units				
	Nitrate		0.1 mg/l				
	Ionic Balance		-3.1 %				
	Electrical Conductivity		966 µS/cm	Field Measurements			
	Temperature		15.9 deg C				
	Dissolved Oxygen		3.8 mg/l				
	pH		7.7 pH Units				
	Groundwater Level		21.60 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_03	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.4 ug/l				
	Arsenic Dissolved		1.0 ug/l				
	Boron, Dissolved		271 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		106 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		45.8 ug/l				
	Magnesium, Dissolved		63.9 mg/l				
	Manganese, Dissolved		33.4 ug/l				
	Molybdenum, Dissolved		10.0 ug/l				
	Nickel, Dissolved		4.0 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		160 mg/l				
	Electrical Conductivity at 25C		971 uS/cm				
	Potassium, Dissolved		7.5 mg/l				
	Sodium, Dissolved		30.4 mg/l				
	Sulphate, Dissolved		383 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		26.5 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		0.1 mg/l				
	Ionic Balance		0.5 %				
	Electrical Conductivity		954 µS/cm	Field Measurements			
	Temperature		14.7 deg C				
	Dissolved Oxygen		3.7 mg/l				
	pH		7.6 pH Units				
	Groundwater Level		22.00 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_04	Aluminium, Dissolved		n/a ug/l		n/a	No sample - borehole damaged	
	Antimony, Dissolved		n/a ug/l				
	Arsenic Dissolved		n/a ug/l				
	Boron, Dissolved		n/a ug/l				
	Cadmium, Dissolved		n/a ug/l				
	Calcium, Dissolved		n/a mg/l				
	Chromium, Dissolved		n/a ug/l				
	Copper, Dissolved		n/a ug/l				
	Iron, Dissolved		n/a ug/l				
	Magnesium, Dissolved		n/a mg/l				
	Manganese, Dissolved		n/a ug/l				
	Molybdenum, Dissolved		n/a ug/l				
	Nickel, Dissolved		n/a ug/l				
	Selenium Dissolved		n/a ug/l				
	Vanadium, Dissolved		n/a ug/l				
	Mercury, Dissolved		n/a ug/l				
	Total Alkalinity as CaCO3		n/a mg/l				
	Electrical Conductivity at 25C		n/a uS/cm				
	Potassium, Dissolved		n/a mg/l				
	Sodium, Dissolved		n/a mg/l				
	Sulphate, Dissolved		n/a mg/l				
	Total Oxidised Nitrogen		n/a mg/l				
	Chloride		n/a mg/l				
	Fluoride		n/a mg/l				
	Ammoniacal Nitrogen		n/a mg/l				
	Total Organic Carbon		n/a mg/l				
	pH		n/a pH Units				
	Nitrate		n/a mg/l				
	Ionic Balance		n/a %				
	Electrical Conductivity		n/a µS/cm	Field Measurements			
	Temperature		n/a deg C				
	Dissolved Oxygen		n/a mg/l				
	pH		n/a pH Units				
	Groundwater Level		n/s mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E23_04B	Aluminium, Dissolved		<10 ug/l		08/11/2023	New Borehole (replacement for E06/04). Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.3 ug/l				
	Arsenic Dissolved		0.6 ug/l				
	Boron, Dissolved		1550 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		91 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.6 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		53.0 mg/l				
	Manganese, Dissolved		76.9 ug/l				
	Molybdenum, Dissolved		3.1 ug/l				
	Nickel, Dissolved		6.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		0.0 ug/l				
	Total Alkalinity as CaCO3		213 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		7.7 mg/l				
	Sodium, Dissolved		106.0 mg/l				
	Sulphate, Dissolved		451 mg/l				
	Total Oxidised Nitrogen		0.7 mg/l				
	Chloride		31.7 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.8 mg/l				
	Total Organic Carbon		5.4 mg/l				
	pH		7.8 pH Units				
	Nitrate		0.6 mg/l				
	Ionic Balance		-3.0 %				
	Electrical Conductivity		947 µS/cm	Field Measurements			
Temperature		14.6 deg C					
Dissolved Oxygen		3.3 mg/l					
pH		7.6 pH Units					
Groundwater Level		22.76 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_05	Aluminium, Dissolved		<10 ug/l		19/08/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		228 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		207 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.4 ug/l				
	Iron, Dissolved		58.8 ug/l				
	Magnesium, Dissolved		71.3 mg/l				
	Manganese, Dissolved		12.9 ug/l				
	Molybdenum, Dissolved		4.9 ug/l				
	Nickel, Dissolved		1.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		179 mg/l				
	Electrical Conductivity at 25C		1290 uS/cm				
	Potassium, Dissolved		4.3 mg/l				
	Sodium, Dissolved		18.5 mg/l				
	Sulphate, Dissolved		610 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		35.3 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		8.0 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-0.5 %				
	Electrical Conductivity		1254 µS/cm	Field Measurements			
	Temperature		15.5 deg C				
	Dissolved Oxygen		3.7 mg/l				
	pH		7.6 pH Units				
	Groundwater Level		25.88 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_05	Aluminium, Dissolved		<10 ug/l		08/11/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		155 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		198 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		66.4 ug/l				
	Magnesium, Dissolved		64.0 mg/l				
	Manganese, Dissolved		11.6 ug/l				
	Molybdenum, Dissolved		4.8 ug/l				
	Nickel, Dissolved		1.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		161 mg/l				
	Electrical Conductivity at 25C		1270 uS/cm				
	Potassium, Dissolved		4.4 mg/l				
	Sodium, Dissolved		16.5 mg/l				
	Sulphate, Dissolved		582 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		25.7 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		-0.3 %				
	Electrical Conductivity		765 µS/cm	Field Measurements			
Temperature		14.6 deg C					
Dissolved Oxygen		3.6 mg/l					
pH		7.5 pH Units					
Groundwater Level		26.16 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
----------------	-------------------------	-------------------------	-----------------------	-------------------------------	---	--	-------------------------------

[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

[Redacted Signature]

.....

Date 02/02/2024

(authorised to sign as representative of the Operator)