

Reporting of Emission to Groundwater for the period from 1st January 2023 to 30th June 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 <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		14/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		48.5 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		131 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		2.5 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		4.77 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.7 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		299 mg/l				
	Electrical Conductivity at 20C		731 uS/cm				
	Potassium, Dissolved		1.13 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		25.3 mg/l				
	Total Oxidised Nitrogen		10.9 mg/l				
	Chloride		50.2 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.58 pH Units				
	Nitrate		10.9 mg/l				
	Ionic Balance		-3.7 %				
	Electrical Conductivity		847 µS/cm	Field Measurements			
	Temperature		12.7 deg C				
	Dissolved Oxygen		n/s mg/l				
	pH		7.3 pH Units				
	Groundwater Level		28.34 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		13/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		44.2 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		126 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		4.05 ug/l				
	Iron, Dissolved		19 ug/l				
	Magnesium, Dissolved		5.19 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<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		290 mg/l				
	Electrical Conductivity at 25C		647 uS/cm				
	Potassium, Dissolved		1.48 mg/l				
	Sodium, Dissolved		15 mg/l				
	Sulphate, Dissolved		26.8 mg/l				
	Total Oxidised Nitrogen		3.35 mg/l				
	Chloride		34.2 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.39 pH Units				
	Nitrate		3.4 mg/l				
	Ionic Balance		-1.0 %				
	Electrical Conductivity		760 µS/cm	Field Measurements			
Temperature		17.1 deg C					
Dissolved Oxygen		3.6 mg/l					
pH		7.2 pH Units					
Groundwater Level		26.19 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		14/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		36.1 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		125 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		6.4 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		0.9 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		289 mg/l				
	Electrical Conductivity at 25C		700 uS/cm				
	Potassium, Dissolved		1.18 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		31.2 mg/l				
	Total Oxidised Nitrogen		7.71 mg/l				
	Chloride		42.5 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		7.7 mg/l				
	Ionic Balance		-3.9 %				
	Electrical Conductivity		825 µS/cm	Field Measurements			
Temperature		12.6 deg C					
Dissolved Oxygen		n/s mg/l					
pH		7.3 pH Units					
Groundwater Level		27.05 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_01B	Aluminium, Dissolved		<10 ug/l		15/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		37.8 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		131 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.742 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		6.87 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		3.92 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		287 mg/l				
	Electrical Conductivity at 25C		661 uS/cm				
	Potassium, Dissolved		1.35 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		31.3 mg/l				
	Total Oxidised Nitrogen		3.35 mg/l				
	Chloride		36.9 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.13 pH Units				
	Nitrate		3.4 mg/l				
	Ionic Balance		1.1 %				
	Electrical Conductivity		774 µS/cm	Field Measurements			
Temperature		17.9 deg C					
Dissolved Oxygen		3.5 mg/l					
pH		6.8 pH Units					
Groundwater Level		24.48 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		14/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.68 ug/l				
	Boron, Dissolved		56.4 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		234 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		2.44 ug/l				
	Iron, Dissolved		154 ug/l				
	Magnesium, Dissolved		13.1 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.8 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		485 mg/l				
	Electrical Conductivity at 25C		1240 uS/cm				
	Potassium, Dissolved		0.717 mg/l				
	Sodium, Dissolved		21 mg/l				
	Sulphate, Dissolved		86.5 mg/l				
	Total Oxidised Nitrogen		36.8 mg/l				
	Chloride		32.5 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		6.27 mg/l				
	pH		7.21 pH Units				
	Nitrate		36.8 mg/l				
	Ionic Balance		-7.0 %				
	Electrical Conductivity		1161 µS/cm	Field Measurements			
Temperature		10.2 deg C					
Dissolved Oxygen		n/s mg/l					
pH		6.7 pH Units					
Groundwater Level		29.08 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_02A	Aluminium, Dissolved		<10 ug/l		12/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		1.04 ug/l				
	Boron, Dissolved		83.7 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		258 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		3.81 ug/l				
	Iron, Dissolved		19.7 ug/l				
	Magnesium, Dissolved		20.6 mg/l				
	Manganese, Dissolved		40.5 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		3.2 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		540 mg/l				
	Electrical Conductivity at 25C		1240 uS/cm				
	Potassium, Dissolved		1.53 mg/l				
	Sodium, Dissolved		24 mg/l				
	Sulphate, Dissolved		81.7 mg/l				
	Total Oxidised Nitrogen		24.6 mg/l				
	Chloride		36.3 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.592 mg/l				
	Total Organic Carbon		6.44 mg/l				
	pH		6.8 pH Units				
	Nitrate		24.6 mg/l				
	Ionic Balance		1.2 %				
	Electrical Conductivity		989 µS/cm	Field Measurements			
Temperature		16.5 deg C					
Dissolved Oxygen		3.4 mg/l					
pH		6.5 pH Units					
Groundwater Level		27.72 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>
E09_02B	Aluminium, Dissolved		<10 ug/l		15/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		61.1 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		253 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.44 ug/l				
	Iron, Dissolved		19 ug/l				
	Magnesium, Dissolved		10.7 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		3.6 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		437 mg/l				
	Electrical Conductivity at 25C		1270 uS/cm				
	Potassium, Dissolved		0.639 mg/l				
	Sodium, Dissolved		24 mg/l				
	Sulphate, Dissolved		111 mg/l				
	Total Oxidised Nitrogen		51.7 mg/l				
	Chloride		32.8 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		6.64 mg/l				
	pH		7.21 pH Units				
	Nitrate		51.7 mg/l				
	Ionic Balance		-4.3 %				
	Electrical Conductivity		1201 µS/cm	Field Measurements			
Temperature		10.2 deg C					
Dissolved Oxygen		n/s mg/l					
pH		6.8 pH Units					
Groundwater Level		31.93 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E09_02B	Aluminium, Dissolved		<10 ug/l		12/06/2023	Sampling RPS / Testing ALS First Sample taken after borehole un-blocked.	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		0.607 ug/l				
	Boron, Dissolved		52.4 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		279 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1.14 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		14.2 mg/l				
	Manganese, Dissolved		25.1 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		7.2 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		436 mg/l				
	Electrical Conductivity at 25C		1310 uS/cm				
	Potassium, Dissolved		1.01 mg/l				
	Sodium, Dissolved		26 mg/l				
	Sulphate, Dissolved		127 mg/l				
	Total Oxidised Nitrogen		45.1 mg/l				
	Chloride		41.1 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.451 mg/l				
	Total Organic Carbon		5.35 mg/l				
	pH		6.9 pH Units				
	Nitrate		44.9 mg/l				
	Ionic Balance		1.7 %				
	Electrical Conductivity		1002 µS/cm	Field Measurements			
	Temperature		16.9 deg C				
	Dissolved Oxygen		3.3 mg/l				
	pH		6.6 pH Units				
	Groundwater Level		27.79 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	32.6 ug/l		13/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.33 ug/l				
	Boron, Dissolved	2800	1920 ug/l				
	Cadmium, Dissolved	0.4	1.38 ug/l				
	Calcium, Dissolved		344 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		0.912 ug/l				
	Iron, Dissolved		1200 ug/l				
	Magnesium, Dissolved		207 mg/l				
	Manganese, Dissolved		157 ug/l				
	Molybdenum, Dissolved	50	1560 ug/l				
	Nickel, Dissolved		1.5 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		348 mg/l				
	Electrical Conductivity at 25C		6580 uS/cm				
	Potassium, Dissolved		14.7 mg/l				
	Sodium, Dissolved		945 mg/l				
	Sulphate, Dissolved	400	742 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		1950 mg/l				
	Fluoride		1.04 mg/l				
	Ammoniacal Nitrogen	1.6	0.67 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.6 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		0.8 %				
	Electrical Conductivity		3271 µS/cm	Field Measurements			
	Temperature		13.1 deg C				
	Dissolved Oxygen		n/s mg/l				
	pH		8.0 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	13 ug/l		12/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.19 ug/l				
	Boron, Dissolved	2800	1750 ug/l				
	Cadmium, Dissolved	0.4	2.0 ug/l				
	Calcium, Dissolved		340 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		578 ug/l				
	Magnesium, Dissolved		195 mg/l				
	Manganese, Dissolved		97.8 ug/l				
	Molybdenum, Dissolved	50	1700 ug/l				
	Nickel, Dissolved		1.2 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		205 mg/l				
	Electrical Conductivity at 25C		6300 uS/cm				
	Potassium, Dissolved		14.3 mg/l				
	Sodium, Dissolved		966 mg/l				
	Sulphate, Dissolved	400	686 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		1810 mg/l				
	Fluoride		1.04 mg/l				
	Ammoniacal Nitrogen	1.6	0.847 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.34 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		4.2 %				
	Electrical Conductivity		1524 μS/cm	Field Measurements			
	Temperature		17.3 deg C				
	Dissolved Oxygen		7.9 mg/l				
	pH		8.2 pH Units				
	Groundwater Level		18.82 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E05_04	Aluminium, Dissolved	50	<10 ug/l		14/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	0.82 ug/l				
	Boron, Dissolved	2800	2300 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		15.7 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		0.351 ug/l				
	Iron, Dissolved		19 ug/l				
	Magnesium, Dissolved		14.3 mg/l				
	Manganese, Dissolved		8.39 ug/l				
	Molybdenum, Dissolved	50	75.1 ug/l				
	Nickel, Dissolved		<0.4 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		348 mg/l				
	Electrical Conductivity at 25C		1560 uS/cm				
	Potassium, Dissolved		5.83 mg/l				
	Sodium, Dissolved		250 mg/l				
	Sulphate, Dissolved	400	130 mg/l				
	Total Oxidised Nitrogen		0.308 mg/l				
	Chloride		263 mg/l				
	Fluoride		4.68 mg/l				
	Ammoniacal Nitrogen	1.6	0.434 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.36 pH Units				
	Nitrate		0.3 mg/l				
	Ionic Balance		-13.5 %				
	Electrical Conductivity		1706 µS/cm	Field Measurements			
	Temperature		12.9 deg C				
	Dissolved Oxygen		n/s mg/l				
	pH		8.0 pH Units				
	Groundwater Level		16.11 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E05_04	Aluminium, Dissolved	50	<10 ug/l		13/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	0.829 ug/l				
	Boron, Dissolved	2800	2090 ug/l				
	Cadmium, Dissolved	0.4	0.10 ug/l				
	Calcium, Dissolved		17.9 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		23 ug/l				
	Magnesium, Dissolved		16.4 mg/l				
	Manganese, Dissolved		7.59 ug/l				
	Molybdenum, Dissolved	50	74.9 ug/l				
	Nickel, Dissolved		0.6 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved	20	1.24 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		328 mg/l				
	Electrical Conductivity at 25C		1530 uS/cm				
	Potassium, Dissolved		4.09 mg/l				
	Sodium, Dissolved		320 mg/l				
	Sulphate, Dissolved	400	149 mg/l				
	Total Oxidised Nitrogen		0.756 mg/l				
	Chloride		229 mg/l				
	Fluoride		4.74 mg/l				
	Ammoniacal Nitrogen	1.6	0.743 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.28 pH Units				
	Nitrate		0.7 mg/l				
	Ionic Balance		0.5 %				
	Electrical Conductivity		1644 µS/cm	Field Measurements			
	Temperature		17.3 deg C				
	Dissolved Oxygen		8.56 mg/l				
	pH		8.6 pH Units				
	Groundwater Level		18.88 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Accreditation/ Certification <sup>[4]</sup>	Uncertainty <sup>[5]</sup>
E06_01	Aluminium, Dissolved	50	13 ug/l		13/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	0.8 ug/l				
	Boron, Dissolved	2800	2110 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		5 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		0 ug/l				
	Iron, Dissolved		19 ug/l				
	Magnesium, Dissolved		4 mg/l				
	Manganese, Dissolved		12.4 ug/l				
	Molybdenum, Dissolved	50	6.2 ug/l				
	Nickel, Dissolved		<0.4 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved	20	<1 ug/l				
	Mercury, Dissolved	0.03	<0.02 ug/l				
	Total Alkalinity as CaCO3		396 mg/l				
	Electrical Conductivity at 25C		889 uS/cm				
	Potassium, Dissolved		2.86 mg/l				
	Sodium, Dissolved		235 mg/l				
	Sulphate, Dissolved	400	80 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		33 mg/l				
	Fluoride		3.0 mg/l				
	Ammoniacal Nitrogen	1.6	0.431 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.59 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		3.3 %				
	Electrical Conductivity		1014 µS/cm	Field Measurements			
Temperature		12.9 deg C					
Dissolved Oxygen		n/s mg/l					
pH		8.6 pH Units					
Groundwater Level		18.83 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		13/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<0.5 ug/l				
	Boron, Dissolved	2800	1880 ug/l				
	Cadmium, Dissolved	0.4	<0.08 ug/l				
	Calcium, Dissolved		3.0 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		<19 ug/l				
	Magnesium, Dissolved		2.4 mg/l				
	Manganese, Dissolved		6.2 ug/l				
	Molybdenum, Dissolved	50	8.0 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		383 mg/l				
	Electrical Conductivity at 25C		893 uS/cm				
	Potassium, Dissolved		2.01 mg/l				
	Sodium, Dissolved		218 mg/l				
	Sulphate, Dissolved	400	78 mg/l				
	Total Oxidised Nitrogen		0 mg/l				
	Chloride		31 mg/l				
	Fluoride		3.1 mg/l				
	Ammoniacal Nitrogen	1.6	0.486 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.69 pH Units				
	Nitrate		0.2 mg/l				
	Ionic Balance		-1.3 %				
	Electrical Conductivity		1026 µS/cm	Field Measurements			
	Temperature		16.7 deg C				
	Dissolved Oxygen		3.2 mg/l				
	pH		8.5 pH Units				
	Groundwater Level		19.04 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		13/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		1.19 ug/l				
	Boron, Dissolved		178 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		94.3 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		0.792 ug/l				
	Iron, Dissolved		29.2 ug/l				
	Magnesium, Dissolved		24.2 mg/l				
	Manganese, Dissolved		4.15 ug/l				
	Molybdenum, Dissolved		7.5 ug/l				
	Nickel, Dissolved		1.4 ug/l				
	Selenium Dissolved		1.87 ug/l				
	Vanadium, Dissolved		2.39 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		124 mg/l				
	Electrical Conductivity at 25C		722 uS/cm				
	Potassium, Dissolved		6.95 mg/l				
	Sodium, Dissolved		25 mg/l				
	Sulphate, Dissolved		231 mg/l				
	Total Oxidised Nitrogen		1.73 mg/l				
	Chloride		33 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.98 pH Units				
	Nitrate		1.7 mg/l				
	Ionic Balance		-2.1 %				
	Electrical Conductivity		921 µS/cm	Field Measurements			
	Temperature		10.4 deg C				
	Dissolved Oxygen		n/s mg/l				
	pH		8.0 pH Units				
	Groundwater Level		20.34 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		493 ug/l		13/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		2.87 ug/l				
	Boron, Dissolved		1200 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		55.2 mg/l				
	Chromium, Dissolved		1.53 ug/l				
	Copper, Dissolved		6.93 ug/l				
	Iron, Dissolved		481 ug/l				
	Magnesium, Dissolved		37.5 mg/l				
	Manganese, Dissolved		20.6 ug/l				
	Molybdenum, Dissolved		3.57 ug/l				
	Nickel, Dissolved		1.0 ug/l				
	Selenium Dissolved		n/a ug/l				
	Vanadium, Dissolved		5.7 ug/l				
	Mercury, Dissolved		0.0218 ug/l				
	Total Alkalinity as CaCO3		391 mg/l				
	Electrical Conductivity at 25C		993 uS/cm				
	Potassium, Dissolved		7.3 mg/l				
	Sodium, Dissolved		134 mg/l				
	Sulphate, Dissolved		141 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		38.5 mg/l				
	Fluoride		0.503 mg/l				
	Ammoniacal Nitrogen		1.42 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.54 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		0.5 %				
	Electrical Conductivity		1126 µS/cm	Field Measurements			
	Temperature		16.1 deg C				
	Dissolved Oxygen		4.7 mg/l				
	pH		7.9 pH Units				
	Groundwater Level		20.44 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		15/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		186 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		64 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		1 ug/l				
	Iron, Dissolved		19 ug/l				
	Magnesium, Dissolved		37 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		7 ug/l				
	Nickel, Dissolved		1.8 ug/l				
	Selenium Dissolved		1 ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		116 mg/l				
	Electrical Conductivity at 25C		652 uS/cm				
	Potassium, Dissolved		6 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		212 mg/l				
	Total Oxidised Nitrogen		0 mg/l				
	Chloride		25 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		8.0 pH Units				
	Nitrate		0.2 mg/l				
	Ionic Balance		-3.0 %				
	Electrical Conductivity		790 µS/cm	Field Measurements			
Temperature		9.9 deg C					
Dissolved Oxygen		n/s mg/l					
pH		8.0 pH Units					
Groundwater Level		21.59 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		15/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		1.8 ug/l				
	Arsenic Dissolved		0.6 ug/l				
	Boron, Dissolved		348 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		<19 ug/l				
	Magnesium, Dissolved		61 mg/l				
	Manganese, Dissolved		<3 ug/l				
	Molybdenum, Dissolved		11 ug/l				
	Nickel, Dissolved		2.3 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		1.1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		157 mg/l				
	Electrical Conductivity at 25C		1070 uS/cm				
	Potassium, Dissolved		7.6 mg/l				
	Sodium, Dissolved		36 mg/l				
	Sulphate, Dissolved		443 mg/l				
	Total Oxidised Nitrogen		0.4 mg/l				
	Chloride		46 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.3 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.8 pH Units				
	Nitrate		0.4 mg/l				
	Ionic Balance		-5.6 %				
	Electrical Conductivity		1175 µS/cm	Field Measurements			
Temperature		16.5 deg C					
Dissolved Oxygen		8.8 mg/l					
pH		7.5 pH Units					
Groundwater Level		21.38 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		N/A	Borehole damaged by heavy machinery.	
	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/s 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		N/A	Borehole damaged by heavy machinery.	
	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/s 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		15/03/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		147 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		197 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		58 ug/l				
	Magnesium, Dissolved		67 mg/l				
	Manganese, Dissolved		9 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		1.1 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		158 mg/l				
	Electrical Conductivity at 25C		1310 uS/cm				
	Potassium, Dissolved		4 mg/l				
	Sodium, Dissolved		17 mg/l				
	Sulphate, Dissolved		610 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		35 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		<0.2 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.85 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-3.2 %				
	Electrical Conductivity		1260 µS/cm	Field Measurements			
	Temperature		10.1 deg C				
	Dissolved Oxygen		n/s mg/l				
	pH		7.6 pH Units				
	Groundwater Level		25.27 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		15/06/2023	Sampling RPS / Testing ALS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<0.5 ug/l				
	Boron, Dissolved		200 ug/l				
	Cadmium, Dissolved		<0.08 ug/l				
	Calcium, Dissolved		214 mg/l				
	Chromium, Dissolved		<1 ug/l				
	Copper, Dissolved		<0.3 ug/l				
	Iron, Dissolved		215 ug/l				
	Magnesium, Dissolved		71 mg/l				
	Manganese, Dissolved		25 ug/l				
	Molybdenum, Dissolved		4.6 ug/l				
	Nickel, Dissolved		1.8 ug/l				
	Selenium Dissolved		n/s ug/l				
	Vanadium, Dissolved		<1 ug/l				
	Mercury, Dissolved		<0.02 ug/l				
	Total Alkalinity as CaCO3		171 mg/l				
	Electrical Conductivity at 25C		1320 uS/cm				
	Potassium, Dissolved		4.4 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		631 mg/l				
	Total Oxidised Nitrogen		<0.1 mg/l				
	Chloride		35 mg/l				
	Fluoride		<0.5 mg/l				
	Ammoniacal Nitrogen		0.3 mg/l				
	Total Organic Carbon		<3 mg/l				
	pH		7.54 pH Units				
	Nitrate		<0.07 mg/l				
	Ionic Balance		-0.4 %				
	Electrical Conductivity		1412 µS/cm	Field Measurements			
Temperature		16.9 deg C					
Dissolved Oxygen		4.5 mg/l					
pH		7.2 pH Units					
Groundwater Level		24.71 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>
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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 22/08/2023