

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

Operator : RWE Generation UK plc

Form: Water1

Location: Aberthaw Ash Disposal Site

Permit/Variation Number: DP3432SW

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>
S1 (Group Five Spring)	Aluminium, Dissolved		<75 µg/l		17/08/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		<16 µg/l				
	Arsenic Dissolved		11.0 µg/l				
	Boron, Dissolved		11000 µg/l				
	Cadmium, Dissolved		<0.7 µg/l				
	Calcium, Dissolved		1200 mg/l				
	Chromium, Dissolved		<5.1 µg/l				
	Copper, Dissolved		<18 µg/l				
	Magnesium, Dissolved		86 mg/l				
	Manganese, Dissolved		320 µg/l				
	Molybdenum, Dissolved		3900 µg/l				
	Nickel, Dissolved		<10 µg/l				
	Selenium Dissolved		9.6 µg/l				
	Vanadium, Dissolved		19.0 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		90 mg/l				
	Conductivity at 20C		19400 µS/cm				
	Potassium, Dissolved		247 mg/l				
	Sodium, Dissolved		3760 mg/l				
	Sulphate, Dissolved as SO4		1540 mg/l				
	Nitrogen : Total Oxidised as N		2.4 mg/l				
Chloride		6840 mg/l					
Fluoride		0.1 mg/l					
Ammoniacal Nitrogen as N		0.6 mg/l					
Carbon, Organic : Total as C :- {TOC}		8.3 mg/l					
pH			7.5 pH Units				

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>
S1 (Group Five Spring)	Aluminium, Dissolved		<75 µg/l		18/10/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		<16 µg/l				
	Arsenic Dissolved		13.0 µg/l				
	Boron, Dissolved		13000 µg/l				
	Cadmium, Dissolved		<0.7 µg/l				
	Calcium, Dissolved		1300 mg/l				
	Chromium, Dissolved		<5.1 µg/l				
	Copper, Dissolved		<18 µg/l				
	Magnesium, Dissolved		80 mg/l				
	Manganese, Dissolved		1000 µg/l				
	Molybdenum, Dissolved		3400 µg/l				
	Nickel, Dissolved		<10 µg/l				
	Selenium Dissolved		<6 µg/l				
	Vanadium, Dissolved		19.0 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		115 mg/l				
	Conductivity at 20C		17500 uS/cm				
	Potassium, Dissolved		256 mg/l				
	Sodium, Dissolved		3740 mg/l				
	Sulphate, Dissolved as SO4		1600 mg/l				
Nitrogen : Total Oxidised as N		6.5 mg/l					
Chloride		6480 mg/l					
Fluoride		0.1 mg/l					
Ammoniacal Nitrogen as N		5.15 mg/l					
Carbon, Organic : Total as C :- {TOC}		9.2 mg/l					
pH		7.3 pH Units					

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>
Eastern Perimeter Drain	Aluminium, Dissolved		n/s µg/l		17/08/2022	Sampling Station / Testing ALS <b>Unable to obtain a representative sample due to dry/drought conditions</b>	
	Antimony, Dissolved		n/s µg/l				
	Arsenic Dissolved		n/s µg/l				
	Boron, Dissolved		n/s µg/l				
	Cadmium, Dissolved		n/s µg/l				
	Calcium, Dissolved		n/s mg/l				
	Chromium, Dissolved		n/s µg/l				
	Copper, Dissolved		n/s µg/l				
	Magnesium, Dissolved		n/s mg/l				
	Manganese, Dissolved		n/s µg/l				
	Molybdenum, Dissolved		n/s µg/l				
	Nickel, Dissolved		n/s µg/l				
	Selenium Dissolved		n/s µg/l				
	Vanadium, Dissolved		n/s µg/l				
	Mercury, Dissolved		n/s µg/l				
	Alkalinity to pH 4.5 as CaCO3		n/s mg/l				
	Conductivity at 20C		n/s uS/cm				
	Potassium, Dissolved		n/s mg/l				
	Sodium, Dissolved		n/s mg/l				
	Sulphate, Dissolved as SO4		n/s mg/l				
Nitrogen : Total Oxidised as N		n/s mg/l					
Chloride		n/s mg/l					
Fluoride		n/s mg/l					
Ammoniacal Nitrogen as N		n/s mg/l					
Carbon, Organic : Total as C :- {TOC}		n/s mg/l					
pH			n/s pH Units				

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>
Eastern Perimeter Drain	Aluminium, Dissolved		10.0 µg/l		01/12/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		<1.6 µg/l				
	Arsenic Dissolved		1.6 µg/l				
	Boron, Dissolved		2500 µg/l				
	Cadmium, Dissolved		<0.07 µg/l				
	Calcium, Dissolved		190 mg/l				
	Chromium, Dissolved		<0.51 µg/l				
	Copper, Dissolved		<1.8 µg/l				
	Magnesium, Dissolved		16 mg/l				
	Manganese, Dissolved		88 µg/l				
	Molybdenum, Dissolved		450 µg/l				
	Nickel, Dissolved		<1 µg/l				
	Selenium Dissolved		4.3 µg/l				
	Vanadium, Dissolved		1.1 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		277 mg/l				
	Conductivity at 20C		1400 uS/cm				
	Potassium, Dissolved		21 mg/l				
	Sodium, Dissolved		126 mg/l				
	Sulphate, Dissolved as SO4		258 mg/l				
	Nitrogen : Total Oxidised as N		2.1 mg/l				
Chloride		188 mg/l					
Fluoride		0.2 mg/l					
Ammoniacal Nitrogen as N		<0.06 mg/l					
Carbon, Organic : Total as C :- {TOC}		2.2 mg/l					
pH		8.2 pH Units					

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>
S3 (River Thaw)	Aluminium, Dissolved		110.0 µg/l		17/08/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		1.6 µg/l				
	Arsenic Dissolved		1.2 µg/l				
	Boron, Dissolved		370 µg/l				
	Cadmium, Dissolved		0.1 µg/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		0.6 µg/l				
	Copper, Dissolved		2.1 µg/l				
	Magnesium, Dissolved		91 mg/l				
	Manganese, Dissolved		63 µg/l				
	Molybdenum, Dissolved		12 µg/l				
	Nickel, Dissolved		1.0 µg/l				
	Selenium Dissolved		0.6 µg/l				
	Vanadium, Dissolved		1.6 µg/l				
	Mercury, Dissolved		0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		211 mg/l				
	Conductivity at 20C		4220 uS/cm				
	Potassium, Dissolved		28 mg/l				
	Sodium, Dissolved		773 mg/l				
	Sulphate, Dissolved as SO4		215 mg/l				
Nitrogen : Total Oxidised as N		3.8 mg/l					
Chloride		1260 mg/l					
Fluoride		0.2 mg/l					
Ammoniacal Nitrogen as N		<0.06 mg/l					
Carbon, Organic : Total as C :- {TOC}		4.4 mg/l					
pH		7.8 pH Units					

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>
S3 (River Thaw)	Aluminium, Dissolved		74.0 µg/l		18/10/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		<1.6 µg/l				
	Arsenic Dissolved		1.1 µg/l				
	Boron, Dissolved		420 µg/l				
	Cadmium, Dissolved		<0.07 µg/l				
	Calcium, Dissolved		130 mg/l				
	Chromium, Dissolved		0.6 µg/l				
	Copper, Dissolved		<1.8 µg/l				
	Magnesium, Dissolved		59 mg/l				
	Manganese, Dissolved		40 µg/l				
	Molybdenum, Dissolved		63 µg/l				
	Nickel, Dissolved		1.0 µg/l				
	Selenium Dissolved		<0.6 µg/l				
	Vanadium, Dissolved		1.0 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		266 mg/l				
	Conductivity at 20C		2680 uS/cm				
	Potassium, Dissolved		20 mg/l				
	Sodium, Dissolved		428 mg/l				
	Sulphate, Dissolved as SO4		161 mg/l				
Nitrogen : Total Oxidised as N		3.0 mg/l					
Chloride		744 mg/l					
Fluoride		0.2 mg/l					
Ammoniacal Nitrogen as N		<0.06 mg/l					
Carbon, Organic : Total as C :- {TOC}		2.7 mg/l					
pH		8.2 pH Units					

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>
Brackish Lagoon	Aluminium, Dissolved		<35 µg/l		17/08/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		<13 µg/l				
	Arsenic Dissolved		3.4 µg/l				
	Boron, Dissolved		9600 µg/l				
	Cadmium, Dissolved		<0.2 µg/l				
	Calcium, Dissolved		572 mg/l				
	Chromium, Dissolved		<2 µg/l				
	Copper, Dissolved		<40 µg/l				
	Magnesium, Dissolved		870 mg/l				
	Manganese, Dissolved		500 µg/l				
	Molybdenum, Dissolved		1300 µg/l				
	Nickel, Dissolved		<10 µg/l				
	Selenium Dissolved		<120 µg/l				
	Vanadium, Dissolved		1.9 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		119 mg/l				
	Conductivity at 20C		35500 uS/cm				
	Potassium, Dissolved		350 mg/l				
	Sodium, Dissolved		7800 mg/l				
	Sulphate, Dissolved as SO4		2260 mg/l				
Nitrogen : Total Oxidised as N		<0.7 mg/l					
Chloride		12600 mg/l					
Fluoride		0.9 mg/l					
Ammoniacal Nitrogen as N		<0.41 mg/l					
Carbon, Organic : Total as C :- {TOC}		8.3 mg/l					
pH		7.6 pH Units					

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>
Brackish Lagoon	Aluminium, Dissolved		<75 µg/l		18/10/2022	Sampling Station / Testing ALS	
	Antimony, Dissolved		<16 µg/l				
	Arsenic Dissolved		<2.4 µg/l				
	Boron, Dissolved		11000 µg/l				
	Cadmium, Dissolved		<0.7 µg/l				
	Calcium, Dissolved		610 mg/l				
	Chromium, Dissolved		<5.1 µg/l				
	Copper, Dissolved		<18 µg/l				
	Magnesium, Dissolved		950 mg/l				
	Manganese, Dissolved		44 µg/l				
	Molybdenum, Dissolved		1200 µg/l				
	Nickel, Dissolved		<10 µg/l				
	Selenium Dissolved		<600 µg/l				
	Vanadium, Dissolved		2.2 µg/l				
	Mercury, Dissolved		0.01 µg/l				
	Alkalinity to pH 4.5 as CaCO3		113 mg/l				
	Conductivity at 20C		33100 uS/cm				
	Potassium, Dissolved		366 mg/l				
	Sodium, Dissolved		7170 mg/l				
	Sulphate, Dissolved as SO4		2310 mg/l				
Nitrogen : Total Oxidised as N		<0.7 mg/l					
Chloride		12800 mg/l					
Fluoride		0.9 mg/l					
Ammoniacal Nitrogen as N		0.23 mg/l					
Carbon, Organic : Total as C :- {TOC}		6.1 mg/l					
pH		8.0 pH Units					

[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 .....  .....

Date 24/02/2023

(authorised to sign as representative of the Operator)