

Reporting of Emission to Groundwater for the period from 1st July 2019 to 31st December 2019.

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		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		120 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<3 ug/l				
	Iron, Dissolved		<1 ug/l				
	Magnesium, Dissolved		5.4 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		290 mg/l				
	Electrical Conductivity at 20C		630 uS/cm				
	Potassium, Dissolved		1.5 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		31 mg/l				
	Total Oxidised Nitrogen		5 mg/l				
	Chloride		28 mg/l				
	Fluoride		0.11 mg/l				
	Ammoniacal Nitrogen		<0.030 mg/l				
	Total Organic Carbon		2 mg/l				
pH		7.3 pH Units					
Nitrate		<5.0 mg/l					
Ionic Balance		-3 %					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
	Electrical Conductivity		630 μS/cm	Field Measurements			
	Temperature		12.94 deg C				
	Dissolved Oxygen		1.99 mg/l				
	pH		6.95 pH Units				
	Groundwater Level		26.44 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		04/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.1 ug/l				
	Iron, Dissolved		17 ug/l				
	Magnesium, Dissolved		0 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		280 mg/l				
	Electrical Conductivity at 25C		680 uS/cm				
	Potassium, Dissolved		1.3 mg/l				
	Sodium, Dissolved		17 mg/l				
	Sulphate, Dissolved		28 mg/l				
	Total Oxidised Nitrogen		11 mg/l				
	Chloride		35 mg/l				
	Fluoride		0.076 mg/l				
	Ammoniacal Nitrogen		<0.030 mg/l				
	Total Organic Carbon		<11 mg/l				
	pH		7.2 pH Units				
Nitrate		<11 mg/l					
Ionic Balance		1.5 %					
Electrical Conductivity		762 µS/cm					
Temperature		11.80 deg C		Field Measurements			
Dissolved Oxygen		5.66 mg/l					
pH		7.06 pH Units					
Groundwater Level		26.92 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		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		120 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		2.6 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		6 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		3.5 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		290 mg/l				
	Electrical Conductivity at 25C		630 uS/cm				
	Potassium, Dissolved		1.6 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		34 mg/l				
	Total Oxidised Nitrogen		4.6 mg/l				
	Chloride		28 mg/l				
	Fluoride		0.1 mg/l				
	Ammoniacal Nitrogen		<0.030 mg/l				
	Total Organic Carbon		1.8 mg/l				
	pH		7.2 pH Units				
	Nitrate		<4.6 mg/l				
Ionic Balance		-2.7 %					
Electrical Conductivity		630 µS/cm					
Temperature		12.80 deg C		Field Measurements			
Dissolved Oxygen		11.67 mg/l					
pH		6.82 pH Units					
Groundwater Level		25.03 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		05/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		6.2 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		280 mg/l				
	Electrical Conductivity at 25C		690 uS/cm				
	Potassium, Dissolved		1.3 mg/l				
	Sodium, Dissolved		17 mg/l				
	Sulphate, Dissolved		32 mg/l				
	Total Oxidised Nitrogen		10 mg/l				
	Chloride		35 mg/l				
	Fluoride		0.071 mg/l				
	Ammoniacal Nitrogen		<0.030 mg/l				
	Total Organic Carbon		2 mg/l				
	pH		7.2 pH Units				
Nitrate		<10 mg/l					
Ionic Balance		1.9 %					
Electrical Conductivity		757 µS/cm					
Temperature		11.60 deg C		Field Measurements			
Dissolved Oxygen		4.61 mg/l					
pH		7.01 pH Units					
Groundwater Level		25.65 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		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		1.4 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		150 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.5 ug/l				
	Iron, Dissolved		1100 ug/l				
	Magnesium, Dissolved		26 mg/l				
	Manganese, Dissolved		52 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.1 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		450 mg/l				
	Electrical Conductivity at 25C		920 uS/cm				
	Potassium, Dissolved		2.3 mg/l				
	Sodium, Dissolved		22 mg/l				
	Sulphate, Dissolved		55 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		39 mg/l				
	Fluoride		0.15 mg/l				
	Ammoniacal Nitrogen		3.2 mg/l				
	Total Organic Carbon		5.4 mg/l				
	pH		6.9 pH Units				
	Nitrate		<0.20 mg/l				
Ionic Balance		-2.8 %					
Electrical Conductivity		920 µS/cm					
Temperature		13.96 deg C		Field Measurements			
Dissolved Oxygen		0.46 mg/l					
pH		6.52 pH Units					
Groundwater Level		27.56 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		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		250 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		71 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		11 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		4.1 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		430 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		0.79 mg/l				
	Sodium, Dissolved		27 mg/l				
	Sulphate, Dissolved		87 mg/l				
	Total Oxidised Nitrogen		43 mg/l				
	Chloride		44 mg/l				
	Fluoride		<0.050 mg/l				
	Ammoniacal Nitrogen		43 mg/l				
	Total Organic Carbon		6.1 mg/l				
	pH		6.8 pH Units				
Nitrate		43 mg/l					
Ionic Balance		-0.5 %					
Electrical Conductivity		0 µS/cm					
Temperature		0.00 deg C		Field Measurements			
Dissolved Oxygen		0.00 mg/l					
pH		0.00 pH Units					
Groundwater Level		27.89 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		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		1.9 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		150 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.9 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		22 mg/l				
	Manganese, Dissolved		26 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.8 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		400 mg/l				
	Electrical Conductivity at 25C		890 uS/cm				
	Potassium, Dissolved		1.8 mg/l				
	Sodium, Dissolved		28 mg/l				
	Sulphate, Dissolved		79 mg/l				
	Total Oxidised Nitrogen		2.7 mg/l				
	Chloride		36 mg/l				
	Fluoride		0.14 mg/l				
	Ammoniacal Nitrogen		0.55 mg/l				
	Total Organic Carbon		4.3 mg/l				
	pH		7.1 pH Units				
Nitrate		0.029 mg/l					
Ionic Balance		-1.4 %					
Electrical Conductivity		890 µS/cm					
Temperature		12.90 deg C	Field Measurements				
Dissolved Oxygen		4.49 mg/l					
pH		6.70 pH Units					
Groundwater Level		27.57 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		05/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		<100 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		240 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.7 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		15 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		3.5 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		380 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		1 mg/l				
	Sodium, Dissolved		29 mg/l				
	Sulphate, Dissolved		91 mg/l				
	Total Oxidised Nitrogen		46 mg/l				
	Chloride		42 mg/l				
	Fluoride		0.065 mg/l				
	Ammoniacal Nitrogen		0.038 mg/l				
	Total Organic Carbon		5.8 mg/l				
	pH		6.9 pH Units				
	Nitrate		46 mg/l				
	Ionic Balance		1.9 %				
	Electrical Conductivity		1316 µS/cm				
Temperature		11.60 deg C					
Dissolved Oxygen		3.61 mg/l		Field Measurements			
pH		6.82 pH Units					
Groundwater Level		35.26 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E05_03	Aluminium, Dissolved	50	<10 ug/l		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1600 ug/l				
	Cadmium, Dissolved	0.4	<1 ug/l				
	Calcium, Dissolved		390 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		250 mg/l				
	Manganese, Dissolved		30 ug/l				
	Molybdenum, Dissolved	50	1400 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved	20	<2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		170 mg/l				
	Electrical Conductivity at 25C		6400 uS/cm				
	Potassium, Dissolved		14 mg/l				
	Sodium, Dissolved		690 mg/l				
	Sulphate, Dissolved	400	540 mg/l				
	Total Oxidised Nitrogen		0.74 mg/l				
	Chloride		2000 mg/l				
	Fluoride		0.78 mg/l				
	Ammoniacal Nitrogen	1.6	0.67 mg/l				
	Total Organic Carbon		1.1 mg/l				
	pH		7.2 pH Units				
Nitrate		0 mg/l					
Ionic Balance		-0.48 %					
Electrical Conductivity		890 µS/cm					
Temperature		17.80 deg C		Field Measurements			
Dissolved Oxygen		14.50 mg/l					
pH		7.11 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]
E05_03	Aluminium, Dissolved	50	<10 ug/l		04/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1600.00 ug/l				
	Cadmium, Dissolved	0.4	<2 ug/l				
	Calcium, Dissolved		400.00 mg/l				
	Chromium, Dissolved	50	<1 ug/l				
	Copper, Dissolved		<2 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		250.00 mg/l				
	Manganese, Dissolved		34.00 ug/l				
	Molybdenum, Dissolved	50	1400.00 ug/l				
	Nickel, Dissolved		<2 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved	20	<2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		180.00 mg/l				
	Electrical Conductivity at 25C		6300.00 uS/cm				
	Potassium, Dissolved		12.00 mg/l				
	Sodium, Dissolved		620.00 mg/l				
	Sulphate, Dissolved	400	510.00 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		1900.00 mg/l				
	Fluoride		0.78 mg/l				
	Ammoniacal Nitrogen	1.6	0.72 mg/l				
	Total Organic Carbon		1.00 mg/l				
	pH		7.30 pH Units				
	Nitrate		1.35 mg/l				
	Ionic Balance		<30 %				
	Electrical Conductivity		1075 µS/cm				
Temperature		12.40 deg C					
Dissolved Oxygen		10.73 mg/l		Field Measurements			
pH		7.28 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]
E05_04	Aluminium, Dissolved	50	<10 ug/l		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		2.50 ug/l				
	Arsenic Dissolved	10	3.10 ug/l				
	Boron, Dissolved	2800	2000 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		7.10 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.50 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	34.00 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved	20	4.60 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		380 mg/l				
	Electrical Conductivity at 25C		1000 uS/cm				
	Potassium, Dissolved		3.40 mg/l				
	Sodium, Dissolved		250 mg/l				
	Sulphate, Dissolved	400	86.00 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		90.00 mg/l				
	Fluoride		7.00 mg/l				
	Ammoniacal Nitrogen	1.6	0.49 mg/l				
	Total Organic Carbon		1.50 mg/l				
	pH		8.70 pH Units				
	Nitrate		0.02 mg/l				
Ionic Balance		-0.67 %					
Electrical Conductivity		890 µS/cm					
Temperature		17.80 deg C		Field Measurements			
Dissolved Oxygen		14.50 mg/l					
pH		7.11 pH Units					
Groundwater Level		18.19 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		04/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.40 ug/l				
	Boron, Dissolved	2800	2100 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		8.80 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		6.60 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	31.00 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved	20	<2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		360 mg/l				
	Electrical Conductivity at 25C		1100 uS/cm				
	Potassium, Dissolved		3.10 mg/l				
	Sodium, Dissolved		260 mg/l				
	Sulphate, Dissolved	400	85.00 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		130.00 mg/l				
	Fluoride		5.10 mg/l				
	Ammoniacal Nitrogen	1.6	0.55 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		8.50 pH Units				
	Nitrate		<0.19 mg/l				
	Ionic Balance		<30 %				
	Electrical Conductivity		1313 µS/cm				
Temperature		13.00 deg C					
Dissolved Oxygen		3.16 mg/l	Field Measurements				
pH		8.36 pH Units					
Groundwater Level		18.88 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_01	Aluminium, Dissolved	50	<10 ug/l		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1800 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		4.70 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		3.60 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved	20	<2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		380 mg/l				
	Electrical Conductivity at 25C		860 uS/cm				
	Potassium, Dissolved		2.30 mg/l				
	Sodium, Dissolved		220 mg/l				
	Sulphate, Dissolved	400	86.00 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		31.00 mg/l				
	Fluoride		3.50 mg/l				
	Ammoniacal Nitrogen	1.6	0.41 mg/l				
	Total Organic Carbon		1.40 mg/l				
	pH		8.80 pH Units				
Nitrate		<0.17 mg/l					
Ionic Balance		-0.51 %					
Electrical Conductivity		860 µS/cm					
Temperature		13.66 deg C		Field Measurements			
Dissolved Oxygen		1.86 mg/l					
pH		8.18 pH Units					
Groundwater Level		18.79 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		04/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1800 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		4.70 mg/l				
	Chromium, Dissolved	50	<0.1 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		3.30 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	3.80 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved	20	<2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		380 mg/l				
	Electrical Conductivity at 25C		860 uS/cm				
	Potassium, Dissolved		2.20 mg/l				
	Sodium, Dissolved		220 mg/l				
	Sulphate, Dissolved	400	87.00 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		32.00 mg/l				
	Fluoride		3.00 mg/l				
	Ammoniacal Nitrogen	1.6	0.43 mg/l				
	Total Organic Carbon		1.00 mg/l				
	pH		8.80 pH Units				
	Nitrate		0.01 mg/l				
	Ionic Balance		-0.88 %				
	Electrical Conductivity		1277 µS/cm				
Temperature		12.80 deg C		Field Measurements			
Dissolved Oxygen		6.28 mg/l					
pH		8.50 pH Units					
Groundwater Level		-1.67 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		30/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		980 ug/l				
	Cadmium, Dissolved		<0.2 ug/l				
	Calcium, Dissolved		140.00 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		65.00 mg/l				
	Manganese, Dissolved		12.00 ug/l				
	Molybdenum, Dissolved		340.00 ug/l				
	Nickel, Dissolved		1.80 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		2.10 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		220 mg/l				
	Electrical Conductivity at 25C		1700 uS/cm				
	Potassium, Dissolved		10.00 mg/l				
	Sodium, Dissolved		160 mg/l				
	Sulphate, Dissolved		440.00 mg/l				
	Total Oxidised Nitrogen		0.27 mg/l				
	Chloride		210.00 mg/l				
	Fluoride		0.42 mg/l				
	Ammoniacal Nitrogen		0.44 mg/l				
	Total Organic Carbon		1.40 mg/l				
	pH		7.60 pH Units				
	Nitrate		0.21 mg/l				
	Ionic Balance		0.15 %				
	Electrical Conductivity		1700 µS/cm				
Temperature		14.24 deg C		Field Measurements			
Dissolved Oxygen		3.38 mg/l					
pH		7.56 pH Units					
Groundwater Level		20.65 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		04/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		1.10 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		480 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		110.00 mg/l				
	Chromium, Dissolved		<0.1 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		36.00 mg/l				
	Manganese, Dissolved		12.00 ug/l				
	Molybdenum, Dissolved		72.00 ug/l				
	Nickel, Dissolved		1.40 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		230 mg/l				
	Electrical Conductivity at 25C		1300 uS/cm				
	Potassium, Dissolved		5.70 mg/l				
	Sodium, Dissolved		77 mg/l				
	Sulphate, Dissolved		260.00 mg/l				
	Total Oxidised Nitrogen		1.60 mg/l				
	Chloride		120.00 mg/l				
	Fluoride		0.46 mg/l				
	Ammoniacal Nitrogen		0.62 mg/l				
	Total Organic Carbon		1.60 mg/l				
	pH		7.70 pH Units				
	Nitrate		1.60 mg/l				
Ionic Balance		-6.10 %					
Electrical Conductivity		1087 µS/cm					
Temperature		11.20 deg C					
Dissolved Oxygen		8.86 mg/l		Field Measurements			
pH		7.66 pH Units					
Groundwater Level		-1.00 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_03	Aluminium, Dissolved		<10 ug/l		29/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		343 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		122 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		68.00 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		12.00 ug/l				
	Nickel, Dissolved		1.90 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		2.30 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		140 mg/l				
	Electrical Conductivity at 25C		1100 uS/cm				
	Potassium, Dissolved		8.20 mg/l				
	Sodium, Dissolved		29 mg/l				
	Sulphate, Dissolved		470 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		27.00 mg/l				
	Fluoride		0.44 mg/l				
	Ammoniacal Nitrogen		0.13 mg/l				
	Total Organic Carbon		1.70 mg/l				
	pH		7.70 pH Units				
	Nitrate		0.01 mg/l				
Ionic Balance		-0.75 %					
Electrical Conductivity		1100 µS/cm					
Temperature		16.96 deg C		Field Measurements			
Dissolved Oxygen		3.07 mg/l					
pH		7.09 pH Units					
Groundwater Level		18.84 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		04/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		280 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		90 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		48.00 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		11.00 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		150 mg/l				
	Electrical Conductivity at 25C		830 uS/cm				
	Potassium, Dissolved		6.90 mg/l				
	Sodium, Dissolved		23 mg/l				
	Sulphate, Dissolved		290 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		20.00 mg/l				
	Fluoride		0.42 mg/l				
	Ammoniacal Nitrogen		0.04 mg/l				
	Total Organic Carbon		1.50 mg/l				
	pH		7.80 pH Units				
	Nitrate		<0.20 mg/l				
Ionic Balance		0.12 %					
Electrical Conductivity		902 µS/cm					
Temperature		12.30 deg C		Field Measurements			
Dissolved Oxygen		9.15 mg/l					
pH		7.63 pH Units					
Groundwater Level		-1.36 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		<10 ug/l		29/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		210 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		200 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		2.00 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		47.00 mg/l				
	Manganese, Dissolved		8.40 ug/l				
	Molybdenum, Dissolved		6.50 ug/l				
	Nickel, Dissolved		6.50 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		200 mg/l				
	Electrical Conductivity at 25C		1300 uS/cm				
	Potassium, Dissolved		44.00 mg/l				
	Sodium, Dissolved		39 mg/l				
	Sulphate, Dissolved		510 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		56.00 mg/l				
	Fluoride		0.44 mg/l				
	Ammoniacal Nitrogen		<0.030 mg/l				
	Total Organic Carbon		3.60 mg/l				
	pH		7.40 pH Units				
	Nitrate		<0.430 mg/l				
Ionic Balance		1.70 %					
Electrical Conductivity		1300 µS/cm					
Temperature		14.66 deg C		Field Measurements			
Dissolved Oxygen		2.46 mg/l					
pH		7.48 pH Units					
Groundwater Level		22.04 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		13.00 ug/l		05/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		220 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		280 mg/l				
	Chromium, Dissolved		<0.1 ug/l				
	Copper, Dissolved		1.90 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		72.00 mg/l				
	Manganese, Dissolved		62.00 ug/l				
	Molybdenum, Dissolved		11.00 ug/l				
	Nickel, Dissolved		5.40 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		180 mg/l				
	Electrical Conductivity at 25C		1900 uS/cm				
	Potassium, Dissolved		53.00 mg/l				
	Sodium, Dissolved		58 mg/l				
	Sulphate, Dissolved		820 mg/l				
	Total Oxidised Nitrogen		0.31 mg/l				
	Chloride		100.00 mg/l				
	Fluoride		0.40 mg/l				
	Ammoniacal Nitrogen		<0.030 mg/l				
	Total Organic Carbon		3.70 mg/l				
	pH		7.50 pH Units				
	Nitrate		<0.20 mg/l				
Ionic Balance		0.59 %					
Electrical Conductivity		2066 µS/cm					
Temperature		12.00 deg C		Field Measurements			
Dissolved Oxygen		5.99 mg/l					
pH		7.54 pH Units					
Groundwater Level		-1.82 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		29/08/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		300 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		200 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		75.00 mg/l				
	Manganese, Dissolved		28 ug/l				
	Molybdenum, Dissolved		4.20 ug/l				
	Nickel, Dissolved		2.00 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		200 mg/l				
	Electrical Conductivity at 25C		1300 uS/cm				
	Potassium, Dissolved		5.30 mg/l				
	Sodium, Dissolved		22 mg/l				
	Sulphate, Dissolved		610 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		24.00 mg/l				
	Fluoride		0.40 mg/l				
	Ammoniacal Nitrogen		0.06 mg/l				
	Total Organic Carbon		1.20 mg/l				
	pH		7.50 pH Units				
	Nitrate		<0.20 mg/l				
Ionic Balance		-0.35 %					
Electrical Conductivity		1300 µS/cm					
Temperature		17.11 deg C		Field Measurements			
Dissolved Oxygen		3.27 mg/l					
pH		7.54 pH Units					
Groundwater Level		24.98 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		05/12/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		190 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		200 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		69.00 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		5.60 ug/l				
	Nickel, Dissolved		1.10 ug/l				
	Selenium Dissolved		0.00 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		160 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		4.40 mg/l				
	Sodium, Dissolved		20 mg/l				
	Sulphate, Dissolved		570 mg/l				
	Total Oxidised Nitrogen		<0.20 mg/l				
	Chloride		22.00 mg/l				
	Fluoride		0.43 mg/l				
	Ammoniacal Nitrogen		0.07 mg/l				
	Total Organic Carbon		3.20 mg/l				
	pH		7.40 pH Units				
Nitrate		<0.20 mg/l					
Ionic Balance		3.00 %					
Electrical Conductivity		1390 µS/cm					
Temperature		12.30 deg C		Field Measurements			
Dissolved Oxygen		2.80 mg/l					
pH		7.55 pH Units					
Groundwater Level		-1.46 mAOD					

[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.

Substance/ Emission point	Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
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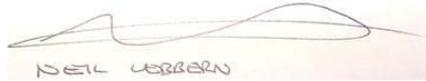
[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, e.g. colorimetry.

[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 14/02/2020

(authorised to sign as representative of the Operator)