

Reporting of Emission to Groundwater for the period from 1st January to 30th June 2019.

Operator : RWE Generation UK plc

Form: Groundwater1

Location: Aberthaw Quarry Ash Disposal Site

Permit/Variation Number: BP3339BH

	Substance/ Emission point	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		14/02/2019	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		141 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.44 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		286 mg/l				
	Electrical Conductivity at 20C		744 uS/cm				
	Potassium, Dissolved		1.36 mg/l				
	Sodium, Dissolved		16.5 mg/l				
	Sulphate, Dissolved		28.6 mg/l				
	Total Oxidised Nitrogen		15.3 mg/l				
	Chloride		41 mg/l				
	Fluoride		0.086 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		7.11 pH Units				
	Nitrate		<0.004 mg/l				
Ionic Balance		-1.95 %					
Electrical Conductivity		602 μS/cm	Field Measurements				
Temperature		11.70 deg C					
Dissolved Oxygen		6.03 mg/l					
pH		7.11 pH Units					
Groundwater Level		27.28 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E09_01A	Aluminium, Dissolved		<10 ug/l		30/05/2019	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		127 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<3 ug/l				
	Iron, Dissolved		<1 ug/l				
	Magnesium, Dissolved		<10 mg/l				
	Manganese, Dissolved		5.65 ug/l				
	Molybdenum, Dissolved		<10 ug/l				
	Nickel, Dissolved		<3 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		282 mg/l				
	Electrical Conductivity at 25C		659 uS/cm				
	Potassium, Dissolved		1.47 mg/l				
	Sodium, Dissolved		16.6 mg/l				
	Sulphate, Dissolved		30.3 mg/l				
	Total Oxidised Nitrogen		6.4 mg/l				
	Chloride		33.5 mg/l				
	Fluoride		0.079 mg/l				
	Ammoniacal Nitrogen		<0.0300 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.2 pH Units				
	Nitrate		<0.00400 mg/l				
	Ionic Balance		-0.721 %				
	Electrical Conductivity		608 uS/cm				
	Temperature		12.70 deg C				
	Dissolved Oxygen		4.47 mg/l	Field Measurements			
	pH		7.04 pH Units				
	Groundwater Level		25.83 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		14/02/2019	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		133 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		6.48 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		290 mg/l				
	Electrical Conductivity at 25C		721 uS/cm				
	Potassium, Dissolved		1.33 mg/l				
	Sodium, Dissolved		15.9 mg/l				
	Sulphate, Dissolved		30.8 mg/l				
	Total Oxidised Nitrogen		13.2 mg/l				
	Chloride		37.9 mg/l				
	Fluoride		0.084 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		1.5 mg/l				
	pH		7.16 pH Units				
	Nitrate		<0.004 mg/l				
	Ionic Balance		-3.4 %				
	Electrical Conductivity		586 uS/cm				
	Temperature		11.80 deg C				
	Dissolved Oxygen		4.78 mg/l	Field Measurements			
	pH		7.16 pH Units				
	Groundwater Level		26.23 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		30/05/2019	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		127 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.65 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		282 mg/l				
	Electrical Conductivity at 25C		659 uS/cm				
	Potassium, Dissolved		1.47 mg/l				
	Sodium, Dissolved		16.6 mg/l				
	Sulphate, Dissolved		30.3 mg/l				
	Total Oxidised Nitrogen		6.4 mg/l				
	Chloride		33.5 mg/l				
	Fluoride		0.079 mg/l				
	Ammoniacal Nitrogen		<0.0300 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.2 pH Units				
	Nitrate		<0.00400 mg/l				
	Ionic Balance		-0.721 %				
	Electrical Conductivity		606 uS/cm				
	Temperature		12.05 deg C				
	Dissolved Oxygen		3.88 mg/l	Field Measurements			
	pH		7.20 pH Units				
	Groundwater Level		24.20 mAOD				

	Substance/ Emission point 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		14/02/2019	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		0.512 ug/l				
	Copper, Dissolved		2.57 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		13 mg/l				
	Manganese, Dissolved		10.5 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.5 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		425 mg/l				
	Electrical Conductivity at 25C		1250 uS/cm				
	Potassium, Dissolved		1 mg/l				
	Sodium, Dissolved		26.6 mg/l				
	Sulphate, Dissolved		93.9 mg/l				
	Total Oxidised Nitrogen		40.1 mg/l				
	Chloride		49.1 mg/l				
	Fluoride		0.075 mg/l				
	Ammoniacal Nitrogen		0.052 mg/l				
	Total Organic Carbon		4.9 mg/l				
	pH		6.75 pH Units				
	Nitrate		0.0445 mg/l				
Ionic Balance		0.0908 %					
Electrical Conductivity		1029 μS/cm		Field Measurements			
Temperature		12.10 deg C					
Dissolved Oxygen		1.14 mg/l					
pH		6.77 pH Units					
Groundwater Level		28.17 mAOD					

	Substance/ Emission point 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		31/05/2019	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		206 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		82.7 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		<3 mg/l				
	Manganese, Dissolved		2.84 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.84 ug/l				
	Selenium Dissolved		ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		457 mg/l				
	Electrical Conductivity at 25C		1110 uS/cm				
	Potassium, Dissolved		1.1 mg/l				
	Sodium, Dissolved		24.1 mg/l				
	Sulphate, Dissolved		78.9 mg/l				
	Total Oxidised Nitrogen		19.2 mg/l				
	Chloride		42.8 mg/l				
	Fluoride		0.072 mg/l				
	Ammoniacal Nitrogen		<0.0300 mg/l				
	Total Organic Carbon		4.4 mg/l				
	pH		6.89 pH Units				
Nitrate		0.338 mg/l					
Ionic Balance		-1.86 %					
Electrical Conductivity		1072 μS/cm		Field Measurements			
Temperature		13.50 deg C					
Dissolved Oxygen		1.80 mg/l					
pH		6.66 pH Units					
Groundwater Level		25.92 mAOD					

	Substance/ Emission point 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		14/02/2019	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		246 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.55 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		11.7 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		1.96 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		394 mg/l				
	Electrical Conductivity at 25C		1260 uS/cm				
	Potassium, Dissolved		0.832 mg/l				
	Sodium, Dissolved		26.8 mg/l				
	Sulphate, Dissolved		94.4 mg/l				
	Total Oxidised Nitrogen		46.8 mg/l				
	Chloride		49 mg/l				
	Fluoride		0.064 mg/l				
	Ammoniacal Nitrogen		0.032 mg/l				
	Total Organic Carbon		5.2 mg/l				
	pH		6.8 pH Units				
Nitrate		0.0205 mg/l					
Ionic Balance		-0.488 %					
Electrical Conductivity		1029 μS/cm		Field Measurements			
Temperature		12.10 deg C					
Dissolved Oxygen		1.14 mg/l					
pH		6.77 pH Units					
Groundwater Level		28.62 mAOD					

	Substance/ Emission point 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		30/05/2019	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		211 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.56 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		22.2 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.03 ug/l				
	Selenium Dissolved		0 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		405 mg/l				
	Electrical Conductivity at 25C		1180 uS/cm				
	Potassium, Dissolved		1.68 mg/l				
	Sodium, Dissolved		29.9 mg/l				
	Sulphate, Dissolved		99.5 mg/l				
	Total Oxidised Nitrogen		33.1 mg/l				
	Chloride		47 mg/l				
	Fluoride		0.097 mg/l				
	Ammoniacal Nitrogen		<0.0300 mg/l				
	Total Organic Carbon		4.2 mg/l				
	pH		6.97 pH Units				
Nitrate		0.0317 mg/l					
Ionic Balance		-0.576 %					
Electrical Conductivity		1097 μS/cm	Field Measurements				
Temperature		12.90 deg C					
Dissolved Oxygen		2.90 mg/l					
pH		6.84 pH Units					
Groundwater Level		26.95 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		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1580 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		412 mg/l				
	Chromium, Dissolved	50	0.704 ug/l				
	Copper, Dissolved		2.9 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		259 mg/l				
	Manganese, Dissolved		37 ug/l				
	Molybdenum, Dissolved	50	1480 ug/l				
	Nickel, Dissolved		1.68 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved	20	<2 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		196 mg/l				
	Electrical Conductivity at 25C		6420 uS/cm				
	Potassium, Dissolved		13.2 mg/l				
	Sodium, Dissolved		659 mg/l				
	Sulphate, Dissolved	400	539 mg/l				
	Total Oxidised Nitrogen		0.47 mg/l				
	Chloride		1570 mg/l				
	Fluoride		0.734 mg/l				
	Ammoniacal Nitrogen	1.6	0.511 mg/l				
	Total Organic Carbon		1 mg/l				
	pH		7.3 pH Units				
Nitrate		0.126 mg/l					
Ionic Balance		8.78 %					
Electrical Conductivity		5194 uS/cm					
Temperature		12.40 deg C					
Dissolved Oxygen		3.73 mg/l		Field Measurements			
pH		7.18 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		30/05/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1	ug/l				
	Arsenic Dissolved	10	<1	ug/l				
	Boron, Dissolved	2800	1590.00	ug/l				
	Cadmium, Dissolved	0.4	<1	ug/l				
	Calcium, Dissolved		386.00	mg/l				
	Chromium, Dissolved	50	0.91	ug/l				
	Copper, Dissolved		1.06	ug/l				
	Iron, Dissolved		<30	ug/l				
	Magnesium, Dissolved		246.00	mg/l				
	Manganese, Dissolved		31.90	ug/l				
	Molybdenum, Dissolved	50	1400.00	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		174.00	mg/l				
	Electrical Conductivity at 25C		6310.00	uS/cm				
	Potassium, Dissolved		13.30	mg/l				
	Sodium, Dissolved		651.00	mg/l				
	Sulphate, Dissolved	400	529.00	mg/l				
	Total Oxidised Nitrogen		1.27	mg/l				
	Chloride		1870.00	mg/l				
	Fluoride		0.76	mg/l				
	Ammoniacal Nitrogen	1.6	<0.0300	mg/l				
	Total Organic Carbon		<0.7	mg/l				
	pH		7.22	pH Units				
	Nitrate		0.59	mg/l				
	Ionic Balance		0.63	%				
	Electrical Conductivity		6146	µS/cm				
	Temperature		14.50	deg C				
	Dissolved Oxygen		3.01	mg/l	Field Measurements			
	pH		7.16	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		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.17 ug/l				
	Boron, Dissolved	2800	2070 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		11.90 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		<10 mg/l				
	Manganese, Dissolved		56.50 ug/l				
	Molybdenum, Dissolved	50	<1 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		<2 ug/l				
	Vanadium, Dissolved	20	0.00 ug/l				
	Mercury, Dissolved	0.03	355.00 ug/l				
	Total Alkalinity as CaCO3		1260 mg/l				
	Electrical Conductivity at 25C		4 uS/cm				
	Potassium, Dissolved		281.00 mg/l				
	Sodium, Dissolved		103 mg/l				
	Sulphate, Dissolved	400	<0.2 mg/l				
	Total Oxidised Nitrogen		168.00 mg/l				
	Chloride		5.74 mg/l				
	Fluoride		<0.195 mg/l				
	Ammoniacal Nitrogen	1.6	0.60 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		8.38 pH Units				
	Nitrate		0.01 mg/l				
	Ionic Balance		-1.08 %				
	Electrical Conductivity		1040 µS/cm				
	Temperature		12.10 deg C				
	Dissolved Oxygen		0.02 mg/l	Field Measurements			
	pH		8.61 pH Units				
	Groundwater Level		18.42 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		30/05/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1	ug/l				
	Arsenic Dissolved	10	1.05	ug/l				
	Boron, Dissolved	2800	2070	ug/l				
	Cadmium, Dissolved	0.4	<0.1	ug/l				
	Calcium, Dissolved		11.60	mg/l				
	Chromium, Dissolved	50	<0.5	ug/l				
	Copper, Dissolved		<1	ug/l				
	Iron, Dissolved		<30	ug/l				
	Magnesium, Dissolved		<10	mg/l				
	Manganese, Dissolved		46.70	ug/l				
	Molybdenum, Dissolved	50	<1	ug/l				
	Nickel, Dissolved		0.00	ug/l				
	Selenium Dissolved			ug/l				
	Vanadium, Dissolved	20	0.00	ug/l				
	Mercury, Dissolved	0.03	353.00	ug/l				
	Total Alkalinity as CaCO3		1190	mg/l				
	Electrical Conductivity at 25C		4	uS/cm				
	Potassium, Dissolved		262.00	mg/l				
	Sodium, Dissolved		99	mg/l				
	Sulphate, Dissolved	400	<0.200	mg/l				
	Total Oxidised Nitrogen		144.00	mg/l				
	Chloride		4.70	mg/l				
	Fluoride		<0.114	mg/l				
	Ammoniacal Nitrogen	1.6	<0.7	mg/l				
	Total Organic Carbon		8.31	mg/l				
	pH		#REF!	pH Units				
	Nitrate		#REF!	mg/l				
	Ionic Balance		-1.37	%				
	Electrical Conductivity		1158	µS/cm				
	Temperature		13.30	deg C				
	Dissolved Oxygen		1.85	mg/l	Field Measurements			
	pH		8.21	pH Units				
	Groundwater Level		17.95	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	11.10 ug/l		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1720 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		6.90 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.04 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	8.89 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved	20	2.51 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		367 mg/l				
	Electrical Conductivity at 25C		924 uS/cm				
	Potassium, Dissolved		2.60 mg/l				
	Sodium, Dissolved		220 mg/l				
	Sulphate, Dissolved	400	114.00 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		36.30 mg/l				
	Fluoride		3.27 mg/l				
	Ammoniacal Nitrogen	1.6	0.51 mg/l				
	Total Organic Carbon		1.00 mg/l				
	pH		8.67 pH Units				
Nitrate		<0.004 mg/l					
Ionic Balance		-1.61 %					
Electrical Conductivity		768 μS/cm		Field Measurements			
Temperature		12.80 deg C					
Dissolved Oxygen		4.45 mg/l					
pH		8.86 pH Units					
Groundwater Level		18.66 mAOD					

	Substance/ Emission point	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_01	Aluminium, Dissolved	50	16.80 ug/l		30/05/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.25 ug/l				
	Boron, Dissolved	2800	1780 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		5.32 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		3.83 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	<3 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		ug/l				
	Vanadium, Dissolved	20	4.06 ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		368 mg/l				
	Electrical Conductivity at 25C		863 uS/cm				
	Potassium, Dissolved		2.56 mg/l				
	Sodium, Dissolved		211 mg/l				
	Sulphate, Dissolved	400	83.10 mg/l				
	Total Oxidised Nitrogen		<0.200 mg/l				
	Chloride		32.40 mg/l				
	Fluoride		2.58 mg/l				
	Ammoniacal Nitrogen	1.6	0.32 mg/l				
	Total Organic Carbon		1.20 mg/l				
	pH		8.70 pH Units				
Nitrate		0.11 mg/l					
Ionic Balance		-0.90 %					
Electrical Conductivity		839 uS/cm		Field Measurements			
Temperature		14.40 deg C					
Dissolved Oxygen		4.00 mg/l					
pH		8.62 pH Units					
Groundwater Level		18.78 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		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		816 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		78.20 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		41.80 mg/l				
	Manganese, Dissolved		16.60 ug/l				
	Molybdenum, Dissolved		27.60 ug/l				
	Nickel, Dissolved		1.04 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		219 mg/l				
	Electrical Conductivity at 25C		1020 uS/cm				
	Potassium, Dissolved		6.06 mg/l				
	Sodium, Dissolved		98 mg/l				
	Sulphate, Dissolved		307.00 mg/l				
	Total Oxidised Nitrogen		0.68 mg/l				
	Chloride		49.20 mg/l				
	Fluoride		0.46 mg/l				
	Ammoniacal Nitrogen		0.27 mg/l				
	Total Organic Carbon		1.20 mg/l				
	pH		7.62 pH Units				
	Nitrate		0.01 mg/l				
	Ionic Balance		-1.93 %				
	Electrical Conductivity		794 uS/cm				
	Temperature		9.60 deg C				
	Dissolved Oxygen		0.17 mg/l	Field Measurements			
	pH		7.72 pH Units				
	Groundwater Level		20.78 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		30/05/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1	ug/l				
	Arsenic Dissolved		1.02	ug/l				
	Boron, Dissolved		953	ug/l				
	Cadmium, Dissolved		<0.2	ug/l				
	Calcium, Dissolved		124.00	mg/l				
	Chromium, Dissolved		<0.5	ug/l				
	Copper, Dissolved		<1	ug/l				
	Iron, Dissolved		<30	ug/l				
	Magnesium, Dissolved		51.60	mg/l				
	Manganese, Dissolved		<10	ug/l				
	Molybdenum, Dissolved		281.00	ug/l				
	Nickel, Dissolved		<1	ug/l				
	Selenium Dissolved			ug/l				
	Vanadium, Dissolved		3.41	ug/l				
	Mercury, Dissolved		<0.01	ug/l				
	Total Alkalinity as CaCO3		217	mg/l				
	Electrical Conductivity at 25C		1510	uS/cm				
	Potassium, Dissolved		8.94	mg/l				
	Sodium, Dissolved		156	mg/l				
	Sulphate, Dissolved		360.00	mg/l				
	Total Oxidised Nitrogen		2.97	mg/l				
	Chloride		188.00	mg/l				
	Fluoride		0.48	mg/l				
	Ammoniacal Nitrogen		0.32	mg/l				
	Total Organic Carbon		<0.7	mg/l				
	pH		7.72	pH Units				
	Nitrate		0.16	mg/l				
	Ionic Balance		0.31	%				
	Electrical Conductivity		1404	µS/cm				
	Temperature		12.60	deg C				
	Dissolved Oxygen		452.00	mg/l	Field Measurements			
	pH		7.65	pH Units				
	Groundwater Level		20.64	mAOD				

	Substance/ Emission point 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		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		252 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		100 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		51.80 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		11.40 ug/l				
	Nickel, Dissolved		1.02 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		141 mg/l				
	Electrical Conductivity at 25C		873 uS/cm				
	Potassium, Dissolved		7.05 mg/l				
	Sodium, Dissolved		22 mg/l				
	Sulphate, Dissolved		347 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		23.80 mg/l				
	Fluoride		0.43 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		1.40 mg/l				
	pH		7.82 pH Units				
Nitrate		<0.004 mg/l					
Ionic Balance		-1.51 %					
Electrical Conductivity		732 μS/cm		Field Measurements			
Temperature		12.70 deg C					
Dissolved Oxygen		9.53 mg/l					
pH		7.93 pH Units					
Groundwater Level		21.34 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		30/05/2019	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		63.00 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		11.20 ug/l				
	Nickel, Dissolved		1.04 ug/l				
	Selenium Dissolved		ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		150 mg/l				
	Electrical Conductivity at 25C		1020 uS/cm				
	Potassium, Dissolved		7.33 mg/l				
	Sodium, Dissolved		28 mg/l				
	Sulphate, Dissolved		407 mg/l				
	Total Oxidised Nitrogen		<0.200 mg/l				
	Chloride		27.10 mg/l				
	Fluoride		0.41 mg/l				
	Ammoniacal Nitrogen		0.06 mg/l				
	Total Organic Carbon		0.80 mg/l				
	pH		7.85 pH Units				
	Nitrate		0.0042 mg/l				
	Ionic Balance		1.84 %				
	Electrical Conductivity		937 uS/cm				
	Temperature		12.10 deg C				
	Dissolved Oxygen		8.14 mg/l	Field Measurements			
	pH		7.71 pH Units				
	Groundwater Level		21.18 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		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		196 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		284 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		4.58 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		75.40 mg/l				
	Manganese, Dissolved		41.20 ug/l				
	Molybdenum, Dissolved		8.68 ug/l				
	Nickel, Dissolved		3.53 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		182 mg/l				
	Electrical Conductivity at 25C		1860 uS/cm				
	Potassium, Dissolved		51.80 mg/l				
	Sodium, Dissolved		56 mg/l				
	Sulphate, Dissolved		840 mg/l				
	Total Oxidised Nitrogen		1.24 mg/l				
	Chloride		106.00 mg/l				
	Fluoride		0.44 mg/l				
	Ammoniacal Nitrogen		0.07 mg/l				
	Total Organic Carbon		4.30 mg/l				
	pH		7.51 pH Units				
Nitrate		<0.004 mg/l					
Ionic Balance		-0.13 %					
Electrical Conductivity		1493 μS/cm		Field Measurements			
Temperature		11.20 deg C					
Dissolved Oxygen		7.33 mg/l					
pH		7.56 pH Units					
Groundwater Level		22.51 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		30/05/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		160 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		196 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.39 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		54.70 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		6.46 ug/l				
	Nickel, Dissolved		1.81 ug/l				
	Selenium Dissolved		ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		182 mg/l				
	Electrical Conductivity at 25C		1360 uS/cm				
	Potassium, Dissolved		30.00 mg/l				
	Sodium, Dissolved		37 mg/l				
	Sulphate, Dissolved		546 mg/l				
	Total Oxidised Nitrogen		0.43 mg/l				
	Chloride		57.40 mg/l				
	Fluoride		0.41 mg/l				
	Ammoniacal Nitrogen		<0.0300 mg/l				
	Total Organic Carbon		0.80 mg/l				
	pH		7.76 pH Units				
	Nitrate		<0.00400 mg/l				
Ionic Balance		0.03 %					
Electrical Conductivity		1281 μS/cm		Field Measurements			
Temperature		13.20 deg C					
Dissolved Oxygen		8.70 mg/l					
pH		7.51 pH Units					
Groundwater Level		21.90 mAOD					

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
E06_05	Aluminium, Dissolved		<10 ug/l		13/02/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		179 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		183 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		2.46 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		68.60 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		5.64 ug/l				
	Nickel, Dissolved		<1 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		167 mg/l				
	Electrical Conductivity at 25C		1210 uS/cm				
	Potassium, Dissolved		4.21 mg/l				
	Sodium, Dissolved		19 mg/l				
	Sulphate, Dissolved		573 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		20.20 mg/l				
	Fluoride		0.40 mg/l				
	Ammoniacal Nitrogen		0.07 mg/l				
	Total Organic Carbon		0.80 mg/l				
	pH		7.49 pH Units				
	Nitrate		<0.004 mg/l				
	Ionic Balance		-0.36 %				
	Electrical Conductivity		961 uS/cm				
	Temperature		10.80 deg C				
	Dissolved Oxygen		2.43 mg/l	Field Measurements			
	pH		7.56 pH Units				
	Groundwater Level		25.56 mAOD				

	Substance/ Emission point 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		30/05/2019	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		291 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		193 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		74.70 mg/l				
	Manganese, Dissolved		14 ug/l				
	Molybdenum, Dissolved		4.37 ug/l				
	Nickel, Dissolved		1.02 ug/l				
	Selenium Dissolved		ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		175 mg/l				
	Electrical Conductivity at 25C		1290 uS/cm				
	Potassium, Dissolved		4.41 mg/l				
	Sodium, Dissolved		23 mg/l				
	Sulphate, Dissolved		593 mg/l				
	Total Oxidised Nitrogen		<0.200 mg/l				
	Chloride		25.60 mg/l				
	Fluoride		0.36 mg/l				
	Ammoniacal Nitrogen		0.12 mg/l				
	Total Organic Carbon		<0.7 mg/l				
	pH		7.48 pH Units				
	Nitrate		<0.00400 mg/l				
Ionic Balance		1.02 %					
Electrical Conductivity		1219 μS/cm		Field Measurements			
Temperature		13.50 deg C					
Dissolved Oxygen		0.73 mg/l					
pH		7.19 pH Units					
Groundwater Level		24.67 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.

[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 *R. T. Powell*
(authorised to sign as representative of the Operator)

Date 26/07/2019