

Reporting of Emission to Groundwater for the period from ...1st July 2014...to...31st December 2014...

Operator : RWE Generation UK plc

Form: Groundwater1

Location: Abarthaw Quarry Ash Disposal Site

Permit/Variation Number: BP3339BH

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽³⁾	Test Method ⁽²⁾	Sample Date and Times ⁽¹⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
E09_01A	Aluminium, Dissolved		<10 ug/l		03/09/2014	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		126 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.29 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		282 mg/l				
	Electrical Conductivity at 20C		607 uS/cm				
	Potassium, Dissolved		1.26 mg/l				
	Sodium, Dissolved		15.5 mg/l				
	Sulphate, Dissolved		27.9 mg/l				
	Total Oxidised Nitrogen		2.76 mg/l				
	Chloride		22.4 mg/l				
	Fluoride		0.089 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.26 pH Units				
	Nitrate		<2.76 mg/l				
	Ionic Balance		2.63 %				
	Electrical Conductivity		740 uS/cm				
	Temperature		12.00 deg C				
	Dissolved Oxygen		3.20 mg/l				
	pH		7.08 pH Units				
	Groundwater Level		26.48 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾		
E09_01A	Aluminium, Dissolved		<10 ug/l		19/11/2014	Sampling Area/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		137 mg/l						
	Chromium, Dissolved		0.775 ~ ug/l						
	Copper, Dissolved		<1 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		5.22 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		294 mg/l						
	Electrical Conductivity at 25C		649 uS/cm						
	Potassium, Dissolved		1.19 mg/l						
	Sodium, Dissolved		15.9 mg/l						
	Sulphate, Dissolved		31 mg/l						
	Total Oxidised Nitrogen		3.82 mg/l						
	Chloride		27.9 mg/l						
	Fluoride		0.077 mg/l						
	Ammoniacal Nitrogen		<0.03 mg/l						
	Total Organic Carbon		1.2 mg/l						
	pH		7.3 pH Units						
	Nitrate		<3.82 mg/l						
	Ionic Balance		2.59 %						
	Electrical Conductivity		810 µS/cm	Field Measurements					
	Temperature		12.00 deg C						
	Dissolved Oxygen		4.68 mg/l						
	pH		7.11 pH Units						
	Groundwater Level		27.11 mAOD						

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾		
E09_01B	Aluminium, Dissolved		<10 ug/l		03/09/2014	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		5.69 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		609 uS/cm						
	Potassium, Dissolved		1.21 mg/l						
	Sodium, Dissolved		15.7 mg/l						
	Sulphate, Dissolved		29 mg/l						
	Total Oxidised Nitrogen		2.66 mg/l						
	Chloride		22.8 mg/l						
	Fluoride		0.083 mg/l						
	Ammoniacal Nitrogen		<0.03 mg/l						
	Total Organic Carbon		1.3 mg/l						
	pH		7.29 pH Units						
	Nitrate		<2.66 mg/l						
	Ionic Balance		1.92 %						
	Electrical Conductivity		740 uS/cm	Field Measurements					
	Temperature		12.20 deg C						
	Dissolved Oxygen		2.62 mg/l						
	pH		7.07 pH Units						
	Groundwater Level		25.23 mAOD						

Emission point, Parameter	Substance/Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation: Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
E09_01B	Aluminium, Dissolved		<10 ug/l		19/11/2014	Sampling Amac/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		135 mg/l				
	Chromium, Dissolved		1.03 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.66 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		0.0109 ug/l				
	Total Alkalinity as CaCO3		277 mg/l				
	Electrical Conductivity at 25C		647 uS/cm				
	Potassium, Dissolved		1.19 mg/l				
	Sodium, Dissolved		15.8 mg/l				
	Sulphate, Dissolved		32.1 mg/l				
	Total Oxidised Nitrogen		3.67 mg/l				
	Chloride		26.7 mg/l				
	Fluoride		0.073 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.33 pH Units				
	Nitrate		<3.67 mg/l				
	Ionic Balance		4.61 %				
	Electrical Conductivity		810 uS/cm				
	Temperature		12.10 deg C				
	Dissolved Oxygen		4.01 mg/l				
	pH		7.11 pH Units				
	Groundwater Level		25.08 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		03/09/2014	Sampling Area/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		112 mg/l						
	Chromium, Dissolved		<0.5 ug/l						
	Copper, Dissolved		<1 ug/l						
	Iron, Dissolved		75.5 ug/l						
	Magnesium, Dissolved		40.6 mg/l						
	Manganese, Dissolved		829 ug/l						
	Molybdenum, Dissolved		<3 ug/l						
	Nickel, Dissolved		6.61 ug/l						
	Selenium, Dissolved		<1 ug/l						
	Vanadium, Dissolved		<2 ug/l						
	Mercury, Dissolved		<0.01 ug/l						
	Total Alkalinity as CaCO3		361 mg/l						
	Electrical Conductivity at 25C		761 uS/cm						
	Potassium, Dissolved		1.46 mg/l						
	Sodium, Dissolved		19.5 mg/l						
	Sulphate, Dissolved		51.6 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		27.9 mg/l						
	Fluoride		0.237 mg/l						
	Ammoniacal Nitrogen		0.666 mg/l						
	Total Organic Carbon		1.8 mg/l						
	pH		7.3 pH Units						
	Nitrate		<0.184 mg/l						
	Ionic Balance		3.89 %						
	Electrical Conductivity		910 uS/cm	Field Measurements					
	Temperature		13.60 deg C						
	Dissolved Oxygen		0.44 mg/l						
	pH		7.19 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_02A	Aluminum, Dissolved		<10 ug/l		19/11/2014	Sampling Area/Testing EA NLS	
	Antimony Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		105 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		132 mg/l				
	Chromium, Dissolved		0.524 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		35.8 mg/l				
	Manganese, Dissolved		282 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		3.86 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		413 mg/l				
	Electrical Conductivity at 25C		857 uS/cm				
	Potassium, Dissolved		2 mg/l				
	Sodium, Dissolved		26.5 mg/l				
	Sulphate, Dissolved		57.3 mg/l				
	Total Oxidised Nitrogen		1.16 mg/l				
	Chloride		29.7 mg/l				
	Fluoride		0.254 mg/l				
	Ammoniacal Nitrogen		0.512 mg/l				
	Total Organic Carbon		2.4 mg/l				
	pH		7.31 pH Units				
	Nitrate		1.15 mg/l				
	Ionic Balance		1.73 %				
	Electrical Conductivity		1020 µS/cm				
	Temperature		13.10 deg C				
	Dissolved Oxygen		0.47 mg/l				
	pH		7.10 pH Units				
	Groundwater Level		28.11 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾		
E09_028	Aluminium, Dissolved		<10 ug/l		03/09/2014	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		216 mg/l						
	Chromium, Dissolved		<0.5 ug/l						
	Copper, Dissolved		1.4 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		23 mg/l						
	Manganese, Dissolved		23.7 ug/l						
	Molybdenum, Dissolved		<3 ug/l						
	Nickel, Dissolved		3.33 ug/l						
	Selenium, Dissolved		<1 ug/l						
	Vanadium, Dissolved		<2 ug/l						
	Mercury, Dissolved		<0.01 ug/l						
	Total Alkalinity as CaCO3		421 mg/l						
	Electrical Conductivity at 25C		1150 uS/cm						
	Potassium, Dissolved		1.66 mg/l						
	Sodium, Dissolved		28.7 mg/l						
	Sulphate, Dissolved		106 mg/l						
	Total Oxidised Nitrogen		21.7 mg/l						
	Chloride		38.3 mg/l						
	Fluoride		0.112 mg/l						
	Ammoniacal Nitrogen		0.04 mg/l						
	Total Organic Carbon		3.7 mg/l						
	pH		7.05 pH Units						
	Nitrate		21.2 mg/l						
	Ionic Balance		2.6 %						
	Electrical Conductivity		1340 µS/cm	Field Measurements					
	Temperature		13.30 deg C						
	Dissolved Oxygen		0.44 mg/l						
	pH		6.74 pH Units						
	Groundwater Level		27.48 mAOD						

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
E09_02B	Aluminium, Dissolved		<10 ug/l		19/11/2014	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		253 mg/l				
	Chromium, Dissolved		0.885 ug/l				
	Copper, Dissolved		1.51 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		14.8 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		2.74 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		480 mg/l				
	Electrical Conductivity at 25C		1200 uS/cm				
	Potassium, Dissolved		1.16 mg/l				
	Sodium, Dissolved		25.8 mg/l				
	Sulphate, Dissolved		91.3 mg/l				
	Total Oxidised Nitrogen		25.6 mg/l				
	Chloride		37.4 mg/l				
	Fluoride		0.07 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		3.8 mg/l				
	pH		6.81 pH Units				
	Nitrate		25.6 mg/l				
	Ionic Balance		2.09 %				
	Electrical Conductivity		1450 uS/cm				
	Temperature		12.50 deg C				
	Dissolved Oxygen		3.18 mg/l				
	pH		7.09 pH Units				
	Groundwater Level		28.73 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		03/09/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic, Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1280 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		99.9 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		71.5 mg/l				
	Manganese, Dissolved		31.5 ug/l				
	Molybdenum, Dissolved	50	162*** ug/l				
	Nickel, Dissolved		<1 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		216 mg/l				
	Electrical Conductivity at 25C		2110 uS/cm				
	Potassium, Dissolved		6.28 mg/l				
	Sodium, Dissolved		258 mg/l				
	Sulphate, Dissolved	400	188 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		471 mg/l				
	Fluoride		0.944 mg/l				
	Ammoniacal Nitrogen	1.6	0.716 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.61 pH Units				
	Nitrate		<0.175 mg/l				
	Ionic Balance		1.6 %				
	Electrical Conductivity		2380 uS/cm				
	Temperature		14.20 deg C				
	Dissolved Oxygen		0.56 mg/l				
	pH		7.53 pH Units				
	Groundwater Level		17.65 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result (1)	Test Method (2)	Sample Date and Times (3)	Accreditation/ Certification (4)	Uncertainty (5)
E05_03	Aluminium, Dissolved	50	<10 ug/l		19/11/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1370 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		110 mg/l				
	Chromium, Dissolved	50	0.504 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		75.4 mg/l				
	Manganese, Dissolved		34.7 ug/l				
	Molybdenum, Dissolved	50	176** ug/l				
	Nickel, Dissolved		<1 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		211 mg/l				
	Electrical Conductivity at 25C		2200 uS/cm				
	Potassium, Dissolved		6.39 mg/l				
	Sodium, Dissolved		257 mg/l				
	Sulphate, Dissolved	400	214 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		498 mg/l				
	Fluoride		1.1 mg/l				
	Ammoniacal Nitrogen	1.6	0.731 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.65 pH Units				
	Nitrate		<0.191 mg/l				
	Ionic Balance		0.705 %				
	Electrical Conductivity		2540 uS/cm				
	Temperature		13.70 deg C				
	Dissolved Oxygen		1.69 mg/l				
	pH		7.57 pH Units				
	Groundwater Level		17.87 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	10.30 ug/l		03/09/2014	Sampling Area/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.64 ug/l				
	Boron, Dissolved	2800	2190 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		7.33 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.28 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	6.92 ug/l				
	Nickel, Dissolved		<1 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		389 mg/l				
	Electrical Conductivity at 25C		903 uS/cm				
	Potassium, Dissolved		2.89 mg/l				
	Sodium, Dissolved		221 mg/l				
	Suphate, Dissolved	400	72.10 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		35.10 mg/l				
	Fluoride		<0.05 mg/l				
	Ammoniacal Nitrogen	1.6	0.41 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		8.52 pH Units				
	Nitrate		<0.2 mg/l				
	Ionic Balance		1.05 %				
	Electrical Conductivity		1080 uS/cm				
	Temperature		14.90 deg C				
	Dissolved Oxygen		0.54 mg/l				
	pH		8.64 pH Units				
	Groundwater Level		18.83 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	Aluminum, Dissolved	50	11.00 ug/l		19/11/2014	Sampling Amec/Testing EA NLS			
	Antimony Dissolved		<1 ug/l						
	Arsenic Dissolved	10	1.70 ug/l						
	Boron, Dissolved	2800	2120 ug/l						
	Cadmium, Dissolved	0.4	<0.1 ug/l						
	Calcium, Dissolved		8.59 mg/l						
	Chromium, Dissolved	50	0.94 ug/l						
	Copper, Dissolved		<1 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		6.42 mg/l						
	Manganese, Dissolved		<10 ug/l						
	Molybdenum, Dissolved	50	7.68 ug/l						
	Nickel, Dissolved		<1 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		397 mg/l						
	Electrical Conductivity at 25C		903 uS/cm						
	Potassium, Dissolved		3.06 mg/l						
	Sodium, Dissolved		211 mg/l						
	Sulphate, Dissolved	400	74.60 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		36.90 mg/l						
	Fluoride		6.09 mg/l						
	Ammoniacal Nitrogen	1.6	0.35 mg/l						
	Total Organic Carbon		<1 mg/l						
	pH		8.50 pH Units						
	Nitrate		<0.2 mg/l						
	Ionic Balance		-1.53 %						
	Electrical Conductivity		1120 uS/cm	Field Measurements					
	Temperature		13.20 deg C						
	Dissolved Oxygen		1.19 mg/l						
	pH		8.56 pH Units						
	Groundwater Level		19.04 mAOD						

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
E06_01	Aluminium, Dissolved	50	• ug/l		03/09/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	4.42 ug/l				
	Boron, Dissolved	2800	1740 ug/l				
	Cadmium, Dissolved	0.4	• ug/l				
	Calcium, Dissolved		• mg/l				
	Chromium, Dissolved	50	• ug/l				
	Copper, Dissolved		• ug/l				
	Iron, Dissolved		• ug/l				
	Magnesium, Dissolved		7.11 mg/l				
	Manganese, Dissolved		• ug/l				
	Molybdenum, Dissolved	50	<3 ug/l				
	Nickel, Dissolved		• ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved	20	• ug/l				
	Mercury, Dissolved	0.03	<0.01 ug/l				
	Total Alkalinity as CaCO3		349 mg/l				
	Electrical Conductivity at 25C		841 uS/cm				
	Potassium, Dissolved		5.90 mg/l				
	Sodium, Dissolved	200	200 mg/l				
	Sulphate, Dissolved	400	84.00 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		32.50 mg/l				
	Fluoride		1.65 mg/l				
	Ammoniacal Nitrogen	1.6	0.41 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		8.55 pH Units				
	Nitrate		<0.172 mg/l				
	Ionic Balance		12.70 %				
	Electrical Conductivity		1210 uS/cm				
	Temperature		17.30 deg C				
	Dissolved Oxygen		4.32 mg/l				
	pH		8.69 pH Units				
	Groundwater Level		19.38 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	28.80 ug/l		19/11/2014	Sampling Amec/Testing EA NLS			
	Antimony, Dissolved		<1 ug/l						
	Arsenic, Dissolved	10	<1 ug/l						
	Boron, Dissolved	2800	1830 ug/l						
	Cadmium, Dissolved	0.4	<0.1 ug/l						
	Calcium, Dissolved		5.17 mg/l						
	Chromium, Dissolved	50	<0.5 ug/l						
	Copper, Dissolved		<1 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		3.70 mg/l						
	Manganese, Dissolved		<10 ug/l						
	Molybdenum, Dissolved	50	<3 ug/l						
	Nickel, Dissolved		<1 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		331 mg/l						
	Electrical Conductivity at 25C		840 uS/cm						
	Potassium, Dissolved		2.79 mg/l						
	Sodium, Dissolved		202 mg/l						
	Sulphate, Dissolved	400	90.40 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		32.00 mg/l						
	Fluoride		2.41 mg/l						
	Ammoniacal Nitrogen	1.6	0.40 mg/l						
	Total Organic Carbon		1.30 mg/l						
	pH		8.60 pH Units						
	Nitrate		<0.189 mg/l						
	Ionic Balance		0.10 %						
	Electrical Conductivity		1050 µS/cm	Field Measurements					
	Temperature		12.10 deg C						
	Dissolved Oxygen		3.25 mg/l						
	pH		8.78 pH Units						
	Groundwater Level		19.34 mAOD						

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾		
E06_02	Aluminium, Dissolved		• ug/l		03/09/2014	Sampling Amed/Testing EA NLS			
	Antimony, Dissolved		<1 ug/l						
	Arsenic Dissolved		• ug/l						
	Boron, Dissolved		966 ug/l						
	Cadmium, Dissolved		0.15 ug/l						
	Calcium, Dissolved		182.00 mg/l						
	Chromium, Dissolved		• ug/l						
	Copper, Dissolved		• ug/l						
	Iron, Dissolved		• ug/l						
	Magnesium, Dissolved		51.30 mg/l						
	Manganese, Dissolved		• ug/l						
	Molybdenum, Dissolved		<20 ug/l						
	Nickel, Dissolved		• ug/l						
	Selenium Dissolved		1.41 ug/l						
	Vanadium, Dissolved		• ug/l						
	Mercury, Dissolved		<0.01 ug/l						
	Total Alkalinity as CaCO3		242 mg/l						
	Electrical Conductivity at 25C		1170 uS/cm						
	Potassium, Dissolved		11.10 mg/l						
	Sodium, Dissolved		129 mg/l						
	Sulphate, Dissolved		306.00 mg/l						
	Total Oxidised Nitrogen		0.32 mg/l						
	Chloride		81.80 mg/l						
	Fluoride		0.54 mg/l						
	Ammoniacal Nitrogen		0.28 mg/l						
	Total Organic Carbon		1.50 mg/l						
	pH		7.75 pH Units						
	Nitrate		0.24 mg/l						
	Ionic Balance		14.70 %						
	Electrical Conductivity		1430 µS/cm	Field Measurements					
	Temperature		16.50 deg C						
	Dissolved Oxygen		7.88 mg/l						
	pH		7.94 pH Units						
	Groundwater Level		20.71 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		20/11/2014	Sampling Annex/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic, Dissolved		<1 ug/l				
	Boron, Dissolved		1040 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		82.60 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.29 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		51.40 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		45.00 ug/l				
	Nickel, Dissolved		1.75 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		3.35 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		204 mg/l				
	Electrical Conductivity at 25C		1190 uS/cm				
	Potassium, Dissolved		7.92 mg/l				
	Sodium, Dissolved		132 mg/l				
	Sulphate, Dissolved		349.00 mg/l				
	Total Oxidised Nitrogen		1.31 mg/l				
	Chloride		92.30 mg/l				
	Fluoride		0.53 mg/l				
	Ammoniacal Nitrogen		0.20 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.78 pH Units				
	Nitrate		1.29 mg/l				
	Ionic Balance		0.92 %				
	Electrical Conductivity		1440 uS/cm				
	Temperature		13.40 deg C				
	Dissolved Oxygen		7.63 mg/l	Field Measurements			
	pH		7.63 pH Units				
	Groundwater Level		20.60 mAOD				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾		
E06_03	Aluminium, Dissolved		<10 ug/l		04/09/2014	Sampling Amec/Testing EA NLS			
	Antimony, Dissolved		<1 ug/l						
	Arsenic Dissolved		<1 ug/l						
	Boron, Dissolved		488 ug/l						
	Cadmium, Dissolved		<0.1 ug/l						
	Calcium, Dissolved		137 mg/l						
	Chromium, Dissolved		<0.5 ug/l						
	Copper, Dissolved		1.56 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		82.90 mg/l						
	Manganese, Dissolved		<10 ug/l						
	Molybdenum, Dissolved		11.10 ug/l						
	Nickel, Dissolved		2.16 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		7.82 mg/l						
	Sodium, Dissolved		55 mg/l						
	Sulphate, Dissolved		554 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		38.50 mg/l						
	Fluoride		0.44 mg/l						
	Ammoniacal Nitrogen		0.17 mg/l						
	Total Organic Carbon		<1 mg/l						
	pH		7.67 pH Units						
	Nitrate		<0.194 mg/l						
	Ionic Balance		0.91 %						
	Electrical Conductivity		1660 µS/cm	Field Measurements					
	Temperature		13.60 deg C						
	Dissolved Oxygen		2.65 mg/l						
	pH		7.91 pH Units						
	Groundwater Level		21.28 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		**	ug/l	20/11/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		1.09	ug/l			
	Arsenic, Dissolved		<1	ug/l			
	Boron, Dissolved		350	ug/l			
	Cadmium, Dissolved		<0.1	ug/l			
	Calcium, Dissolved		112	mg/l			
	Chromium, Dissolved		0.85	ug/l			
	Copper, Dissolved		1.91	ug/l			
	Iron, Dissolved		**	ug/l			
	Magnesium, Dissolved		58.10	mg/l			
	Manganese, Dissolved		14.30	ug/l			
	Molybdenum, Dissolved		16.30	ug/l			
	Nickel, Dissolved		1.99	ug/l			
	Selenium, Dissolved		<1	ug/l			
	Vanadium, Dissolved		<2	ug/l			
	Mercury, Dissolved		<0.01	ug/l			
	Total Alkalinity as CaCO3		128	mg/l			
	Electrical Conductivity at 25C		984	uS/cm			
	Potassium, Dissolved		7.65	mg/l			
	Sodium, Dissolved		22	mg/l			
	Sulphate, Dissolved		384	mg/l			
	Total Oxidised Nitrogen		0.32	mg/l			
	Chloride		26.00	mg/l			
	Fluoride		0.53	mg/l			
	Ammoniacal Nitrogen		0.08	mg/l			
	Total Organic Carbon		<1	mg/l			
	pH		7.84	pH Units			
	Nitrate		<0.32	mg/l			
	Ionic Balance		1.02	%			
	Electrical Conductivity		1120	uS/cm			
	Temperature		13.60	deg C			
	Dissolved Oxygen		9.02	mg/l			
	pH		7.85	pH Units			
	Groundwater Level		21.41	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		10.30 ug/l		04/09/2014	Sampling Amec/Testing EA NLS			
	Antimony, Dissolved		<1 ug/l						
	Arsenic Dissolved		<1 ug/l						
	Boron, Dissolved		171 ug/l						
	Cadmium, Dissolved		<0.1 ug/l						
	Calcium, Dissolved		178 mg/l						
	Chromium, Dissolved		<0.5 ug/l						
	Copper, Dissolved		1.62 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		62.40 mg/l						
	Manganese, Dissolved		<10 ug/l						
	Molybdenum, Dissolved		<3 ug/l						
	Nickel, Dissolved		1.89 ug/l						
	Selenium Dissolved		<1 ug/l						
	Vanadium, Dissolved		<2 ug/l						
	Mercury, Dissolved		<0.01 ug/l						
	Total Alkalinity as CaCO3		194 mg/l						
	Electrical Conductivity at 25C		1090 uS/cm						
	Potassium, Dissolved		4.04 mg/l						
	Sodium, Dissolved		20 mg/l						
	Sulphate, Dissolved		466 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		26.40 mg/l						
	Fluoride		0.31 mg/l						
	Ammoniacal Nitrogen		<0.03 mg/l						
	Total Organic Carbon		<1 mg/l						
	pH		7.60 pH Units						
	Nitrate		<0.2 mg/l						
	Ionic Balance		2.28 %						
	Electrical Conductivity		1280 µS/cm	Field Measurements					
	Temperature		13.30 deg C						
	Dissolved Oxygen		2.45 mg/l						
	pH		7.70 pH Units						
	Groundwater Level		21.81 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		ug/l		20/11/2014	Sampling Amec/Testing EA NLS			
	Antimony, Dissolved		<1 ug/l						
	Arsenic, Dissolved		1.09 ug/l						
	Boron, Dissolved		356 ug/l						
	Cadmium, Dissolved		0.14 ug/l						
	Calcium, Dissolved		355 mg/l						
	Chromium, Dissolved		6.79 ug/l						
	Copper, Dissolved		15.40 ug/l						
	Iron, Dissolved		** ug/l						
	Magnesium, Dissolved		86.20 mg/l						
	Manganese, Dissolved		309.00 ug/l						
	Molybdenum, Dissolved		<3 ug/l						
	Nickel, Dissolved		14.60 ug/l						
	Selenium, Dissolved		<1 ug/l						
	Vanadium, Dissolved		5.59 ug/l						
	Mercury, Dissolved		<0.01 ug/l						
	Total Alkalinity as CaCO3		165 mg/l						
	Electrical Conductivity at 25C		2190 uS/cm						
	Potassium, Dissolved		11.50 mg/l						
	Sodium, Dissolved		54 mg/l						
	Sulphate, Dissolved		557 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		360.00 mg/l						
	Fluoride		0.25 mg/l						
	Ammoniacal Nitrogen		0.03 mg/l						
	Total Organic Carbon		6.00 mg/l						
	pH		7.40 pH Units						
	Nitrate		<0.2 mg/l						
	Ionic Balance		4.58 %						
	Electrical Conductivity		2510 µS/cm	Field Measurements					
	Temperature		12.80 deg C						
	Dissolved Oxygen		3.29 mg/l						
	pH		7.05 pH Units						
	Groundwater Level		22.75 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	Aluminum, Dissolved		<10 ug/l		04/09/2014	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		178 mg/l						
	Chromium, Dissolved		<0.5 ug/l						
	Copper, Dissolved		1.63 ug/l						
	Iron, Dissolved		<30 ug/l						
	Magnesium, Dissolved		75.10 mg/l						
	Manganese, Dissolved		<10 ug/l						
	Molybdenum, Dissolved		5.09 ug/l						
	Nickel, Dissolved		2.29 ug/l						
	Selenium, Dissolved		<1 ug/l						
	Vanadium, Dissolved		<2 ug/l						
	Mercury, Dissolved		<0.01 ug/l						
	Total Alkalinity as CaCO3		175 mg/l						
	Electrical Conductivity at 25C		1190 uS/cm						
	Potassium, Dissolved		4.64 mg/l						
	Sodium, Dissolved		21 mg/l						
	Sulphate, Dissolved		541 mg/l						
	Total Oxidised Nitrogen		<0.2 mg/l						
	Chloride		21.10 mg/l						
	Fluoride		0.43 mg/l						
	Ammoniacal Nitrogen		0.11 mg/l						
	Total Organic Carbon		<1 mg/l						
	pH		7.50 pH Units						
	Nitrate		<0.2 mg/l						
	Ionic Balance		2.42 %						
	Electrical Conductivity		1380 uS/cm	Field Measurements					
	Temperature		14.60 deg C						
	Dissolved Oxygen		1.86 mg/l						
	pH		7.58 pH Units						
	Groundwater Level		24.85 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		**	ug/l	20/11/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		1.16	ug/l			
	Arsenic, Dissolved		<1	ug/l			
	Boron, Dissolved		214	ug/l			
	Cadmium, Dissolved		0.20	ug/l			
	Calcium, Dissolved		397	mg/l			
	Chromium, Dissolved		12.60	ug/l			
	Copper, Dissolved		17.20	ug/l			
	Iron, Dissolved		**	ug/l			
	Magnesium, Dissolved		69.70	mg/l			
	Manganese, Dissolved		**	ug/l			
	Molybdenum, Dissolved		4.28	ug/l			
	Nickel, Dissolved		16.50	ug/l			
	Selenium, Dissolved		<1	ug/l			
	Vanadium, Dissolved		10.50	ug/l			
	Mercury, Dissolved		<0.01	ug/l			
	Total Alkalinity as CaCO3		154	mg/l			
	Electrical Conductivity at 25C		1080	uS/cm			
	Potassium, Dissolved		6.51	mg/l			
	Sodium, Dissolved		19	mg/l			
	Sulphate, Dissolved		487	mg/l			
	Total Oxidised Nitrogen		1.12	mg/l			
	Chloride		21.30	mg/l			
	Fluoride		0.49	mg/l			
	Ammoniacal Nitrogen		0.03	mg/l			
	Total Organic Carbon		<1	mg/l			
	pH		7.56	pH Units			
	Nitrate		<1.12	mg/l			
	Ionic Balance		31.30	%			
	Electrical Conductivity		1330	uS/cm			
	Temperature		13.20	deg C			
	Dissolved Oxygen		2.20	mg/l			
	pH		7.83	pH Units			
	Groundwater Level		25.45	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

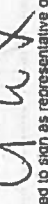
[5] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated

[6] The emission limit values for all substances is expressed as a maximum individual value, unless otherwise stated

*Considered Anomalous in comparison to historical and duplicate results. Suspected due to EA NLS not filtering samples before analysis.

**Considered Anomalous in comparison to historical and duplicate results.

***Compliance limit exceeded for 3 consecutive sampling events after March 2014 results (6 elevated sampling events in total). Discussed with NRW and under investigation.

Signed  Date 26-11-15
(authorised to sign as representative of the Operator)

Reporting of Emission to Surface Water for the period from ... 1st July 2014...to...31st December 2014...

Operator : RWE Generation UK plc

Form: Water1

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⁾
SW12	Aluminium, Dissolved		<10 µg/l		03/09/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		361 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		167 mg/l				
	Chromium, Dissolved		<0.5 µg/l				
	Copper, Dissolved		1.58 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		48.1 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		567 µg/l				
	Nickel, Dissolved		3.18 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		85 mg/l				
	Electrical Conductivity at 20C		1940 mS/cm				
	Potassium, Dissolved		23.8 mg/l				
	Sodium, Dissolved		204 mg/l				
	Sulphate, Dissolved		460 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		340 mg/l				
	Fluoride		<0.05 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		3.1 mg/l				
	Nitrate		<0.187 mg/l				
	pH		8.27 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽³⁾	Uncertainty ⁽⁵⁾
SW12	Aluminium, Dissolved		10.7 µg/l		19/11/2014	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		444 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		217 mg/l				
	Chromium, Dissolved		4.25 µg/l				
	Copper, Dissolved		1.49 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		52.2 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		861 µg/l				
	Nickel, Dissolved		6.85 µg/l				
	Selenium Dissolved		1.35 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		141 mg/l				
	Electrical Conductivity at 20C		2610 mS/cm				
	Potassium, Dissolved		30.1 mg/l				
	Sodium, Dissolved		285 mg/l				
	Sulphate, Dissolved		553 mg/l				
	Total Oxidised Nitrogen		4.71 mg/l				
BP3339BH	Chloride		498 mg/l				
	Fluoride		0.257 mg/l				
	Ammoniacal Nitrogen		0.03 mg/l				
	Total Organic Carbon		2.1 mg/l				
	Nitrate		4.6 mg/l				
	pH		8.16 pH Units				

Emission point	Substance/Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/Certification ^[4]	Uncertainty ^[5]
Settlement Ponds	Aluminium, Dissolved		40 µg/l		10/07/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1 08 µg/l				
	Arsenic Dissolved	50	1 94 µg/l				
	Boron, Dissolved	2000	433 µg/l				
	Cadmium, Dissolved	5	<0.2 µg/l				
	Calcium, Dissolved		188 mg/l				
	Chromium, Dissolved	50	7 51 µg/l				
	Copper, Dissolved		3 25 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		48.5 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1430 µg/l				
	Nickel, Dissolved		6 92 µg/l				
	Selenium Dissolved		1 51 µg/l				
	Vanadium, Dissolved	60	5 06 µg/l				
	Mercury, Dissolved		0 0111 µg/l				
	Total Alkalinity as CaCO3		48 mg/l				
	Electrical Conductivity at 20C		3120 mS/cm				
	Potassium, Dissolved		34.1 mg/l				
	Sodium, Dissolved		429 mg/l				
	Sulphate, Dissolved	400	423** mg/l				
	Total Oxidised Nitrogen		9.3 mg/l				
	Chloride		819 mg/l				
	Fluoride		0 147 mg/l				
	Ammoniacal Nitrogen	0.6	<0 500 mg/l				
	Total Organic Carbon		5 mg/l				
	Nitrate		9 mg/l				
	pH	<9	7 70 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Settlement Ponds	Aluminium, Dissolved		27 µg/l		07/08/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1.13 µg/l				
	Arsenic Dissolved	50	2.82 µg/l				
	Boron, Dissolved	2000	552 µg/l				
	Cadmium, Dissolved	5	0.519 µg/l				
	Calcium, Dissolved		246 mg/l				
	Chromium, Dissolved	50	5.84 µg/l				
	Copper, Dissolved		4.08 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		55 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1660 µg/l				
	Nickel, Dissolved		8.75 µg/l				
	Selenium Dissolved		1.8 µg/l				
	Vanadium, Dissolved	60	5.01 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		90 mg/l				
	Electrical Conductivity at 20C		3830 mS/cm				
	Potassium, Dissolved		38.2 mg/l				
	Sodium, Dissolved		519 mg/l				
	Sulphate, Dissolved	400	501** mg/l				
	Total Oxidised Nitrogen		10.2 mg/l				
	Chloride		955 mg/l				
	Fluoride		0.162 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		3.9 mg/l				
	Nitrate		9.9 mg/l				
	pH	<9	8.08 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Settlement Ponds	Aluminium, Dissolved		15 µg/l		04/09/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1.04 µg/l				
	Arsenic Dissolved	50	2.29 µg/l				
	Boron, Dissolved	2000	639 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		298 mg/l				
	Chromium, Dissolved	50	15.6 µg/l				
	Copper, Dissolved		2.2 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		62.4 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1700 µg/l				
	Nickel, Dissolved		13.3 µg/l				
	Selenium Dissolved		1.81 µg/l				
	Vanadium, Dissolved	60	3.26 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO ₃		130 mg/l				
	Electrical Conductivity at 20C		4010 mS/cm				
	Potassium, Dissolved		40.6 mg/l				
	Sodium, Dissolved		495 mg/l				
	Sulphate, Dissolved	400	717** mg/l				
	Total Oxidised Nitrogen		14.9 mg/l				
	Chloride		960 mg/l				
	Fluoride		0.179 mg/l				
	Ammoniacal Nitrogen	0.6	<0.5 mg/l				
	Total Organic Carbon		2.8 mg/l				
	Nitrate		14.6 mg/l				
	pH	<9	7.93 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Settlement Ponds	Aluminium, Dissolved		23 µg/l		06/10/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1.05 µg/l				
	Arsenic Dissolved	50	1.62 µg/l				
	Boron, Dissolved	2000	673 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		311 mg/l				
	Chromium, Dissolved	50	11.8 µg/l				
	Copper, Dissolved		2.9 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		66.8 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1850 µg/l				
	Nickel, Dissolved		13 µg/l				
	Selenium Dissolved		1.86 µg/l				
	Vanadium, Dissolved	60	3.91 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO ₃		128 mg/l				
	Electrical Conductivity at 20C		4300 mS/cm				
	Potassium, Dissolved		44.5 mg/l				
	Sodium, Dissolved		573 mg/l				
	Sulphate, Dissolved	400	800** mg/l				
	Total Oxidised Nitrogen		13.3 mg/l				
	Chloride		967 mg/l				
	Fluoride		0.193 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		3.2 mg/l				
	Nitrate		13.1 mg/l				
	pH	<9	7.96 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
Settlement Ponds	Aluminium, Dissolved		14 µg/l		06/11/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	2 µg/l				
	Boron, Dissolved	2000	615 µg/l				
	Cadmium, Dissolved	5	<0.5 µg/l				
	Calcium, Dissolved		306 mg/l				
	Chromium, Dissolved	50	13 µg/l				
	Copper, Dissolved		4 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		69 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1680 µg/l				
	Nickel, Dissolved		17 µg/l				
	Selenium Dissolved		2 µg/l				
	Vanadium, Dissolved	60	3 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO ₃		157 mg/l				
	Electrical Conductivity at 20C		4090 mS/cm				
	Potassium, Dissolved		42 mg/l				
	Sodium, Dissolved		505 mg/l				
	Sulphate, Dissolved	400	947** mg/l				
	Total Oxidised Nitrogen		15 mg/l				
	Chloride		943 mg/l				
	Fluoride		0.193 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		3 mg/l				
	Nitrate		14 mg/l				
	pH	<9	7.91 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Settlement Ponds	Aluminium, Dissolved		<10 µg/l		02/12/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	2 03 µg/l				
	Boron, Dissolved	2000	451 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		212 mg/l				
	Chromium, Dissolved	50	14.3 µg/l				
	Copper, Dissolved		5.08 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		48.5 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		867 µg/l				
	Nickel, Dissolved		20.2 µg/l				
	Selenium Dissolved		1.33 µg/l				
	Vanadium, Dissolved	60	2.92 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		224 mg/l				
	Electrical Conductivity at 20C		2320 mS/cm				
	Potassium, Dissolved		26.9 mg/l				
	Sodium, Dissolved		256 mg/l				
	Sulphate, Dissolved	400	* mg/l				
	Total Oxidised Nitrogen		11.4 mg/l				
	Chloride		414 mg/l				
	Fluoride		0.205 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		1.2 mg/l				
	Nitrate		11 mg/l				
	pH	<9	7.96 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
DP2	Aluminium, Dissolved		13.4 µg/l		10/07/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1.08 µg/l				
	Arsenic Dissolved		2.76 µg/l				
	Boron, Dissolved		574 µg/l				
	Cadmium, Dissolved		2.31 µg/l				
	Calcium, Dissolved		309 mg/l				
	Chromium, Dissolved		70.4 µg/l				
	Copper, Dissolved		15.7 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		47.7 mg/l				
	Manganese, Dissolved		11.9 µg/l				
	Molybdenum, Dissolved		2630 µg/l				
	Nickel, Dissolved		17.1 µg/l				
	Selenium Dissolved		1.16 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		271 mg/l				
	Electrical Conductivity at 20C		4530 mS/cm				
	Potassium, Dissolved		58.6 mg/l				
	Sodium, Dissolved		632 mg/l				
	Sulphate, Dissolved		413 mg/l				
	Total Oxidised Nitrogen		28.5 mg/l				
	Chloride		1140 mg/l				
	Fluoride		0.229 mg/l				
	Ammoniacal Nitrogen		5.85 mg/l				
	Total Organic Carbon		<1.00 mg/l				
	Nitrate		19.7 mg/l				
	pH		7.50 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
DP2	Aluminium, Dissolved		12.3 µg/l		07/08/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1.08 µg/l				
	Arsenic Dissolved		2.12 µg/l				
	Boron, Dissolved		970 µg/l				
	Cadmium, Dissolved		1.1 µg/l				
	Calcium, Dissolved		397 mg/l				
	Chromium, Dissolved		51.8 µg/l				
	Copper, Dissolved		4.67 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		74.3 mg/l				
	Manganese, Dissolved		24.1 µg/l				
	Molybdenum, Dissolved		3560 µg/l				
	Nickel, Dissolved		21.6 µg/l				
	Selenium Dissolved		1.04 µg/l				
	Vanadium, Dissolved		2.56 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		247 mg/l				
	Electrical Conductivity at 20C		5490 mS/cm				
	Potassium, Dissolved		67.5 mg/l				
	Sodium, Dissolved		721 mg/l				
	Sulphate, Dissolved		729 mg/l				
	Total Oxidised Nitrogen		36.8 mg/l				
	Chloride		1290 mg/l				
	Fluoride		0.234 mg/l				
	Ammoniacal Nitrogen		6.24 mg/l				
	Total Organic Carbon		<1.00 mg/l				
	Nitrate		27.8 mg/l				
	pH		7.38 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
DP2	Aluminium, Dissolved		<10 µg/l		04/09/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		1.82 µg/l				
	Boron, Dissolved		831 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		365 mg/l				
	Chromium, Dissolved		33.9 µg/l				
	Copper, Dissolved		3.17 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		99.3 mg/l				
	Manganese, Dissolved		27.7 µg/l				
	Molybdenum, Dissolved		2040 µg/l				
	Nickel, Dissolved		19.8 µg/l				
	Selenium Dissolved		1.13 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		146 mg/l				
	Electrical Conductivity at 20C		4440 mS/cm				
	Potassium, Dissolved		51.6 mg/l				
	Sodium, Dissolved		515 mg/l				
	Sulphate, Dissolved		1330 mg/l				
	Total Oxidised Nitrogen		21.8 mg/l				
DP3	Chloride		872 mg/l		04/09/2014	Sampling Station/Testing EA NLS	
	Fluoride		0.307 mg/l				
	Ammoniacal Nitrogen		2.77 mg/l				
	Total Organic Carbon		<1.00 mg/l				
	Nitrate		17.8 mg/l				
	pH		7.44 pH Units				

Emission point	Substance/Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
DP2	Aluminium, Dissolved		<10 µg/l		06/10/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		2.19 µg/l				
	Boron, Dissolved		639 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		360 mg/l				
	Chromium, Dissolved		18.2 µg/l				
	Copper, Dissolved		2.44 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		69 mg/l				
	Manganese, Dissolved		41.2 µg/l				
	Molybdenum, Dissolved		1990 µg/l				
	Nickel, Dissolved		22.5 µg/l				
	Selenium Dissolved		1.6 µg/l				
	Vanadium, Dissolved		2.16 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		251 mg/l				
	Electrical Conductivity at 20C		4800 mS/cm				
	Potassium, Dissolved		43.9 mg/l				
	Sodium, Dissolved		611 mg/l				
	Sulphate, Dissolved		534 mg/l				
	Total Oxidised Nitrogen		21.2 mg/l				
	Chloride		1150 mg/l				
	Fluoride		0.228 mg/l				
	Ammoniacal Nitrogen		1.42 mg/l				
	Total Organic Carbon		1.5 mg/l				
	Nitrate		19.3 mg/l				
	pH		7.52 pH Units				

Emission point	Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
DP2	Aluminium, Dissolved		<10 µg/l		06/11/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		1.07 µg/l				
	Boron, Dissolved		357 µg/l				
	Cadmium, Dissolved		<0.5 µg/l				
	Calcium, Dissolved		257 mg/l				
	Chromium, Dissolved		12.4 µg/l				
	Copper, Dissolved		3.37 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		59.9 mg/l				
	Manganese, Dissolved		10.5 µg/l				
	Molybdenum, Dissolved		926 µg/l				
	Nickel, Dissolved		24.9 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		268 mg/l				
	Electrical Conductivity at 20C		2920 mS/cm				
	Potassium, Dissolved		25.1 mg/l				
	Sodium, Dissolved		328 mg/l				
	Sulphate, Dissolved		550 mg/l				
	Total Oxidised Nitrogen		11.7 mg/l				
	Chloride		548 mg/l				
	Fluoride		0.197 mg/l				
	Ammoniacal Nitrogen		0.65 mg/l				
	Total Organic Carbon		1 mg/l				
	Nitrate		11 mg/l				
	pH		7.42 pH Units				

Emission point	Substance/Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
DP2	Aluminium, Dissolved		<10 µg/l		02/12/2014	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		<1 µg/l				
	Boron, Dissolved		373 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		186 mg/l				
	Chromium, Dissolved		10.3 µg/l				
	Copper, Dissolved		3.28 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		51.5 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		629 µg/l				
	Nickel, Dissolved		24.4 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		265 mg/l				
	Electrical Conductivity at 20C		1840 mS/cm				
	Potassium, Dissolved		17.4 mg/l				
	Sodium, Dissolved		166 mg/l				
	Sulphate, Dissolved		391 mg/l				
	Total Oxidised Nitrogen		10.3 mg/l				
	Chloride		270 mg/l				
	Fluoride		0.256 mg/l				
	Ammoniacal Nitrogen		0.94 mg/l				
	Total Organic Carbon		<1.00 mg/l				
	Nitrate		9.68 mg/l				
	pH		7.61 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

[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

[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

[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

*Considered Anomalous result in comparison to duplicates.

--Compliance limit exceeded for 3 consecutive sampling events after July 2014, however, discharge prevented. With continuing high concentrations and water levels,

an investigation was completed and restricted discharge approved by NRW on 07/11/14. Investigation continuing.

Signed  Date 26-01-15

(authorised to sign as representative of the Operator)