

Reporting of Emission to Surface Water for the period from ...1st January 2015...to:30th June 2015...

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		18/02/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		1.02 µg/l				
	Boron, Dissolved		307 µg/l				
	Cadmium, Dissolved		0.1 µg/l				
	Calcium, Dissolved		161 mg/l				
	Chromium, Dissolved		6.49 µg/l				
	Copper, Dissolved		1.12 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		36 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		592 µg/l				
	Nickel, Dissolved		5.15 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		142 mg/l				
	Electrical Conductivity at 20C		1740 mS/cm				
	Potassium, Dissolved		20.5 mg/l				
	Sodium, Dissolved		166 mg/l				
	Sulphate, Dissolved		381 mg/l				
	Total Oxidised Nitrogen		5.5 mg/l				
	Chloride		265 mg/l				
	Fluoride		0.204 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		6 mg/l				
	Nitrate		<0.2 mg/l				
	pH		8.26 pH Units				

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		12.4 µg/l		19/05/2015	Sampling Amec/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic Dissolved		1.15 µg/l				
Boron, Dissolved		333 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		179 mg/l				
Chromium, Dissolved		6.86 µg/l				
Copper, Dissolved		1.46 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		38.6 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		834 µg/l				
Nickel, Dissolved		4.49 µg/l				
Selenium Dissolved		1.84 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		131 mg/l				
Electrical Conductivity at 20C		2080 mS/cm				
Potassium, Dissolved		25.4 mg/l				
Sodium, Dissolved		233 mg/l				
Sulphate, Dissolved		412 mg/l				
Total Oxidised Nitrogen		5.51 mg/l				
Chloride		409 mg/l				
Fluoride		0.224 mg/l				
Ammoniacal Nitrogen		0.031 mg/l				
Total Organic Carbon		2.4 mg/l				
Nitrate		5.38 mg/l				
pH		8.15 pH Units				

Emission point Parameter	Substance/ Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[9]
Settlement Ponds	Aluminium, Dissolved		<10 µg/l		07/01/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	4.15 µg/l				
	Boron, Dissolved	2000	368 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		199 mg/l				
	Chromium, Dissolved	50	14.4 µg/l				
	Copper, Dissolved		1.69 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		54.1 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		731 µg/l				
	Nickel, Dissolved		25.4 µg/l				
	Selenium Dissolved		1.85 µg/l				
	Vanadium, Dissolved	60	<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		226 mg/l				
	Electrical Conductivity at 20C		2210 mS/cm				
	Potassium, Dissolved		18.2 mg/l				
	Sodium, Dissolved		177 mg/l				
	Suphate, Dissolved	400	427* mg/l				
	Total Oxidised Nitrogen		10.3 mg/l				
	Chloride		387 mg/l				
	Fluoride		0.22 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		1.7 mg/l				
	Nitrate		9.78 mg/l				
	pH	<9	8.02 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		03/02/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	2.99 µg/l				
	Boron, Dissolved	2000	350 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		164 mg/l				
	Chromium, Dissolved	50	16.9 µg/l				
	Copper, Dissolved		2.49 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		36.7 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		823 µg/l				
	Nickel, Dissolved		9.24 µg/l				
	Selenium Dissolved		1.13 µg/l				
	Vanadium, Dissolved	60	<2 µg/l				
	Mercury, Dissolved		0.0163 µg/l				
	Total Alkalinity as CaCO ₃		194 mg/l				
	Electrical Conductivity at 20C		2070 mS/cm				
	Potassium, Dissolved		23.7 mg/l				
	Sodium, Dissolved		213 mg/l				
	Sulphate, Dissolved	400	340* mg/l				
	Total Oxidised Nitrogen		11.2 mg/l				
	Chloride		382 mg/l				
	Fluoride		0.186 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		1.7 mg/l				
	Nitrate		10.5 mg/l				
	pH	<9	7.88 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		11 µg/l		04/03/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	2.99 µg/l				
	Boron, Dissolved	2000	364 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		191 mg/l				
	Chromium, Dissolved	50	15.1 µg/l				
	Copper, Dissolved		2.45 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		39.3 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		823 µg/l				
	Nickel, Dissolved		12.7 µg/l				
	Selenium Dissolved		1.37 µg/l				
	Vanadium, Dissolved	60	3.2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		197 mg/l				
	Electrical Conductivity at 20C		2190 mS/cm				
	Potassium, Dissolved		23.8 mg/l				
	Sodium, Dissolved		233 mg/l				
	Sulphate, Dissolved	400	377* mg/l				
	Total Oxidised Nitrogen		11.1 mg/l				
	Chloride		404 mg/l				
	Fluoride		0.193 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		1.5 mg/l				
	Nitrate		10.6 mg/l				
	pH	<9	8.21 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		12 µg/l		09/04/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved	50	2.2 µg/l				
	Boron, Dissolved	2000	410 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		236 mg/l				
	Chromium, Dissolved	50	26.4 µg/l				
	Copper, Dissolved		3.36 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		41.7 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1330 µg/l				
	Nickel, Dissolved		14.8 µg/l				
	Selenium Dissolved		2.17 µg/l				
	Vanadium, Dissolved	60	4.02 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		136 mg/l				
	Electrical Conductivity at 20C		2960 mS/cm				
	Potassium, Dissolved		33.4 mg/l				
	Sodium, Dissolved		362 mg/l				
	Sulphate, Dissolved	400	443* mg/l				
	Total Oxidised Nitrogen		16.5 mg/l				
	Chloride		671 mg/l				
	Fluoride		0.166 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		1.7 mg/l				
	Nitrate		15.5 mg/l				
	pH	<9	7.82 pH Units				

Substance/ Emission point Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[9]
Aluminium, Dissolved		26 µg/l		06/05/2015	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic Dissolved	50	4 µg/l				
Boron, Dissolved	2000	507 µg/l				
Cadmium, Dissolved	5	<0.5 µg/l				
Calcium, Dissolved		240 mg/l				
Chromium, Dissolved	50	26 µg/l				
Copper, Dissolved		3 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		41 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		1520 µg/l				
Nickel, Dissolved		11 µg/l				
Selenium Dissolved		3 µg/l				
Vanadium, Dissolved	60	6 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO ₃		143 mg/l				
Electrical Conductivity at 20C		3230 mS/cm				
Potassium, Dissolved		38 mg/l				
Sodium, Dissolved		399 mg/l				
Sulphate, Dissolved	400	452* mg/l				
Total Oxidised Nitrogen		16 mg/l				
Chloride		781 mg/l				
Fluoride		0.195 mg/l				
Ammoniacal Nitrogen	0.6	<0.500 mg/l				
Total Organic Carbon		2 mg/l				
Nitrate		15 mg/l				
pH	<9	8.18 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		30.2 µg/l		08/06/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		1.04 µg/l				
	Arsenic Dissolved	50	2.19 µg/l				
	Boron, Dissolved	2000	576 µg/l				
	Cadmium, Dissolved	5	<0.1 µg/l				
	Calcium, Dissolved		260 mg/l				
	Chromium, Dissolved	50	19.2 µg/l				
	Copper, Dissolved		3.12 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		45.7 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1760 µg/l				
	Nickel, Dissolved		9.38 µg/l				
	Selenium Dissolved		2.41 µg/l				
	Vanadium, Dissolved	60	5.47 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		143 mg/l				
	Electrical Conductivity at 20C		3520 mS/cm				
	Potassium, Dissolved		40.7 mg/l				
	Sodium, Dissolved		454 mg/l				
	Suphate, Dissolved	400	513+ mg/l				
	Total Oxidised Nitrogen		16 mg/l				
	Chloride		877 mg/l				
	Fluoride		0.17 mg/l				
	Ammoniacal Nitrogen	0.6	<0.500 mg/l				
	Total Organic Carbon		2.5 mg/l				
	Nitrate		15.6 mg/l				
	pH	<9	8.03 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		51.8 µg/l		07/01/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		1.45 µg/l				
	Boron, Dissolved		373 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		201 mg/l				
	Chromium, Dissolved		14.3 µg/l				
	Copper, Dissolved		1.72 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		54.5 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		747 µg/l				
	Nickel, Dissolved		25.5 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		261 mg/l				
	Electrical Conductivity at 20C		2050 mS/cm				
	Potassium, Dissolved		18 mg/l				
	Sodium, Dissolved		180 mg/l				
	Sulphate, Dissolved		463 mg/l				
	Total Oxidised Nitrogen		12.6 mg/l				
	Chloride		302 mg/l				
	Fluoride		0.25 mg/l				
	Ammoniacal Nitrogen		1.24 mg/l				
	Total Organic Carbon		1.4 mg/l				
	Nitrate		11.8 mg/l				
	pH		7.64 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		03/02/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		1.62 µg/l				
	Boron, Dissolved		348 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		181 mg/l				
	Chromium, Dissolved		24 µg/l				
	Copper, Dissolved		1.77 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		42 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		962 µg/l				
	Nickel, Dissolved		12.4 µg/l				
	Selenium Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO ₃		226 mg/l				
	Electrical Conductivity at 20C		2260 mS/cm				
	Potassium, Dissolved		22 mg/l				
	Sodium, Dissolved		225 mg/l				
	Sulphate, Dissolved		351 mg/l				
	Total Oxidised Nitrogen		13.4 mg/l				
	Chloride		422 mg/l				
	Fluoride		0.208 mg/l				
	Ammoniacal Nitrogen		2.95 mg/l				
	Total Organic Carbon		0 mg/l				
	Nitrate		12.1 mg/l				
	pH		7.61 pH Units				

Substance/ Emission point Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[9]
Aluminium, Dissolved		<10 µg/l		04/03/2015	Sampling Station/Testing EA NLS	
Antimony, Dissolved		<1 µg/l				
Arsenic Dissolved		<1 µg/l				
Boron, Dissolved		241 µg/l				
Cadmium, Dissolved		<0.1 µg/l				
Calcium, Dissolved		188 mg/l				
Chromium, Dissolved		12.1 µg/l				
Copper, Dissolved		1.74 µg/l				
Iron, Dissolved		<30 µg/l				
Magnesium, Dissolved		32.8 mg/l				
Manganese, Dissolved		<10 µg/l				
Molybdenum, Dissolved		536 µg/l				
Nickel, Dissolved		13.8 µg/l				
Selenium Dissolved		<1 µg/l				
Vanadium, Dissolved		<2 µg/l				
Mercury, Dissolved		<0.01 µg/l				
Total Alkalinity as CaCO3		271 mg/l				
Electrical Conductivity at 20C		1900 mS/cm				
Potassium, Dissolved		16.6 mg/l				
Sodium, Dissolved		175 mg/l				
Sulphate, Dissolved		276 mg/l				
Total Oxidised Nitrogen		11.7 mg/l				
Chloride		317 mg/l				
Fluoride		0.184 mg/l				
Ammoniacal Nitrogen		1.00 mg/l				
Total Organic Carbon		1.2 mg/l				
Nitrate		10.7 mg/l				
pH		7.58 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		09/04/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic, Dissolved		1.09 µg/l				
	Boron, Dissolved		390 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		230 mg/l				
	Chromium, Dissolved		20.6 µg/l				
	Copper, Dissolved		3.53 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		43 mg/l				
	Manganese, Dissolved		12 µg/l				
	Molybdenum, Dissolved		1110 µg/l				
	Nickel, Dissolved		21 µg/l				
	Selenium, Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO ₃		252 mg/l				
	Electrical Conductivity at 20C		2580 mS/cm				
	Potassium, Dissolved		22.1 mg/l				
	Sodium, Dissolved		285 mg/l				
	Sulphate, Dissolved		375 mg/l				
	Total Oxidised Nitrogen		16.8 mg/l				
	Chloride		512 mg/l				
	Fluoride		0.198 mg/l				
	Ammoniacal Nitrogen		<0.500 mg/l				
	Total Organic Carbon		<1.00 mg/l				
	Nitrate		16.1 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 ⁽⁹⁾
DP2	Aluminium, Dissolved		12.1 µg/l		06/05/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic Dissolved		3.9 µg/l				
	Boron, Dissolved		621 µg/l				
	Cadmium, Dissolved		<0.5 µg/l				
	Calcium, Dissolved		304 mg/l				
	Chromium, Dissolved		32.3 µg/l				
	Copper, Dissolved		2.36 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		57.5 mg/l				
	Manganese, Dissolved		<10 µg/l				
	Molybdenum, Dissolved		1540 µg/l				
	Nickel, Dissolved		20.8 µg/l				
	Selenium Dissolved		1.75 µg/l				
	Vanadium, Dissolved		5.98 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO3		223 mg/l				
	Electrical Conductivity at 20C		3660 mS/cm				
	Potassium, Dissolved		38.5 mg/l				
	Sodium, Dissolved		428 mg/l				
	Suphate, Dissolved		672 mg/l				
	Total Oxidised Nitrogen		15.9 mg/l				
	Chloride		813 mg/l				
	Fluoride		0.251 mg/l				
	Ammoniacal Nitrogen		3.25 mg/l				
	Total Organic Carbon		1 mg/l				
	Nitrate		11.7 mg/l				
	pH		7.58 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		08/06/2015	Sampling Station/Testing EA NLS	
	Antimony, Dissolved		<1 µg/l				
	Arsenic, Dissolved		<1 µg/l				
	Boron, Dissolved		548 µg/l				
	Cadmium, Dissolved		<0.1 µg/l				
	Calcium, Dissolved		308 mg/l				
	Chromium, Dissolved		7.14 µg/l				
	Copper, Dissolved		2.56 µg/l				
	Iron, Dissolved		<30 µg/l				
	Magnesium, Dissolved		48.8 mg/l				
	Manganese, Dissolved		12.8 µg/l				
	Molybdenum, Dissolved		1470 µg/l				
	Nickel, Dissolved		20.2 µg/l				
	Selenium, Dissolved		<1 µg/l				
	Vanadium, Dissolved		<2 µg/l				
	Mercury, Dissolved		<0.01 µg/l				
	Total Alkalinity as CaCO ₃		246 mg/l				
	Electrical Conductivity at 20C		3540 mS/cm				
	Potassium, Dissolved		33.9 mg/l				
	Sodium, Dissolved		418 mg/l				
	Sulphate, Dissolved		481 mg/l				
	Total Oxidised Nitrogen		19.5 mg/l				
	Chloride		840 mg/l				
	Fluoride		0.186 mg/l				
	Ammoniacal Nitrogen		0.58 mg/l				
	Total Organic Carbon		1.1 mg/l				
	Nitrate		18.9 mg/l				
	pH		7.74 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 the
- [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
- [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.

*Sulphate concentrations dropped below compliance limit over the winter then increased again in the spring. Compliance limit exceeded after June 2016.
 Restricted discharge approved by NRW on 07/11/14 remains in place. Investigation continuing.

Signed A. Sawyer Date 28/07/15
 (authorised to sign as representative of the Operator)

Reporting of Emission to Groundwater for the period from ...1st January 2015...to...30th June 2015...

Operator : RWE Generation UK plc

Form: Groundwater1

Location: Aberthaw Quarry Ash Disposal Site

Permit/Variation Number: BP3339BH

Substance/ Emission point Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
Aluminium, Dissolved		<10 ug/l		18/02/2015	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		5.16 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		285 mg/l				
Electrical Conductivity at 20C		651 uS/cm				
Potassium, Dissolved		1.24 mg/l				
Sodium, Dissolved		14.5 mg/l				
Suphate, Dissolved		23.5 mg/l				
Total Oxidised Nitrogen		5.92 mg/l				
Chloride		32.9 mg/l				
Fluoride		0.072 mg/l				
Ammoniacal Nitrogen		0.03 mg/l				
Total Organic Carbon		1.5 mg/l				
pH		7.21 pH Units				
Nitrate		<5.92 mg/l				
Ionic Balance		-0.767 %				
Electrical Conductivity		790 uS/cm				
Temperature		11.80 deg C				
Dissolved Oxygen		3.99 mg/l				
pH		7.13 pH Units	Field Measurements			
Groundwater Level		28.54 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_01A	Aluminium, Dissolved		<10 ug/l		19/05/2015	Sampling Amed/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		136 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.01 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.38 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		289 mg/l				
	Electrical Conductivity at 25°C		664 uS/cm				
	Potassium, Dissolved		1.28 mg/l				
	Sodium, Dissolved		17 mg/l				
	Sulphate, Dissolved		29.4 mg/l				
	Total Oxidised Nitrogen		6.55 mg/l				
	Chloride		39 mg/l				
	Fluoride		0.091 mg/l				
	Ammoniacal Nitrogen		0.03 mg/l				
	Total Organic Carbon		1.3 mg/l				
	pH		7.27 pH Units				
	Nitrate		<6.55 mg/l				
	Ionic Balance		0.266 %				
	Electrical Conductivity		713 uS/cm				
	Temperature		11.80 deg C				
	Dissolved Oxygen		3.90 mg/l				
	pH		6.80 pH Units				
	Groundwater Level		26.97 mAOD				
				Field Measurements			

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		18/02/2015	Sampling Artec/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		125 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.48 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		293 mg/l				
	Electrical Conductivity at 25C		661 uS/cm				
	Potassium, Dissolved		1.21 mg/l				
	Sodium, Dissolved		14.3 mg/l				
	Sulphate, Dissolved		25.3 mg/l				
	Total Oxidised Nitrogen		5.59 mg/l				
	Chloride		34.1 mg/l				
	Fluoride		0.076 mg/l				
	Ammoniacal Nitrogen		0.03 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.38 pH Units				
	Nitrate		<5.59 mg/l				
	Ionic Balance		-2.69 %				
	Electrical Conductivity		800 uS/cm				
	Temperature		11.90 deg C				
	Dissolved Oxygen		3.92 mg/l				
	pH		7.12 pH Units				
	Groundwater Level		25.35 mAOD	Field Measurements			

Substance/ Emission point	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		19/05/2015	Sampling Amed/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		134 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.09 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.93 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		1.52 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		659 uS/cm				
	Potassium, Dissolved		1.29 mg/l				
	Sodium, Dissolved		16.9 mg/l				
	Sulphate, Dissolved		31.2 mg/l				
	Total Oxidised Nitrogen		5.93 mg/l				
	Chloride		38.1 mg/l				
	Fluoride		0.077 mg/l				
	Ammoniacal Nitrogen		0.03 mg/l				
	Total Organic Carbon		1.4 mg/l				
	pH		7.29 pH Units				
	Nitrate		<5.93 mg/l				
	Ionic Balance		-0.025 %				
	Electrical Conductivity		713 uS/cm				
	Temperature		13.10 deg C				
Dissolved Oxygen		3.51 mg/l		Field Measurements			
pH		6.93 pH Units					
Groundwater Level		25.65 mAOD					

Substance/ Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		<10 ug/l		18/02/2015	Sampling Amed/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arsenic Dissolved		<1 ug/l				
Boron, Dissolved		143 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		162 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		1.44 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		26.9 mg/l				
Manganese, Dissolved		87.7 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		3.24 ug/l				
Selenium Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		451 mg/l				
Electrical Conductivity at 25C		965 uS/cm				
Potassium, Dissolved		1.79 mg/l				
Sodium, Dissolved		24.9 mg/l				
Sulphate, Dissolved		61.5 mg/l				
Total Oxidised Nitrogen		8.81 mg/l				
Chloride		34 mg/l				
Fluoride		0.17 mg/l				
Ammoniacal Nitrogen		0.122 mg/l				
Total Organic Carbon		4.3 mg/l				
pH		7.15 pH Units				
Nitrate		8.65 mg/l				
Ionic Balance		-1.97 %				
Electrical Conductivity		1120 uS/cm				
Temperature		12.30 deg C				
Dissolved Oxygen		1.23 mg/l	Field Measurements			
pH		6.89 pH Units				
Groundwater Level		27.78 mAOD				

Substance/ Emission point Parameter	Emission Limit Value	Result ⁽¹⁾	Test Method ⁽²⁾	Sample Date and Times ⁽³⁾	Accreditation/ Certification ⁽⁴⁾	Uncertainty ⁽⁵⁾
Aluminium, Dissolved		<10 ug/l		19/05/2015	Sampling Amed/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		171 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		1.49 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		28.2 mg/l				
Manganese, Dissolved		63.3 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		2.49 ug/l				
Selenium Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		453 mg/l				
Electrical Conductivity at 25C		943 uS/cm				
Potassium, Dissolved		1.59 mg/l				
Sodium, Dissolved		27 mg/l				
Sulphate, Dissolved		70.6 mg/l				
Total Oxidised Nitrogen		5.62 mg/l				
Chloride		37.6 mg/l				
Fluoride		0.201 mg/l				
Ammoniacal Nitrogen		0.03 mg/l				
Total Organic Carbon		3.8 mg/l				
pH		7.03 pH Units				
Nitrate		5.54 mg/l				
Ionic Balance		0.328 %				
Electrical Conductivity		1156 uS/cm				
Temperature		12.70 deg C				
Dissolved Oxygen		0.57 mg/l	Field Measurements			
pH		6.87 pH Units				
Groundwater Level		27.90 mAOB				

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		18/02/2015	Sampling Arned/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		241 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.67 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		12.5 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		<3 ug/l				
	Nickel, Dissolved		1.91 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		399 mg/l				
	Electrical Conductivity at 25C		1210 uS/cm				
	Potassium, Dissolved		1.11 mg/l				
	Sodium, Dissolved		23.3 mg/l				
	Sulphate, Dissolved		98.8 mg/l				
	Total Oxidised Nitrogen		38.5 mg/l				
	Chloride		41.4 mg/l				
	Fluoride		0.057 mg/l				
	Ammoniacal Nitrogen		0.03 mg/l				
	Total Organic Carbon		5.7 mg/l				
	pH		6.97 pH Units				
	Nitrate		38.4 mg/l				
	Ionic Balance		0.518 %				
	Electrical Conductivity		1390 uS/cm				
	Temperature		12.20 deg C				
	Dissolved Oxygen		1.62 mg/l				
	pH		6.73 pH Units	Field Measurements			
	Groundwater Level		28.06 mAOD				

Substance/ Emission point Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
Aluminium, Dissolved		<10 ug/l		19/05/2015	Sampling Amed/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		229 mg/l				
Chromium, Dissolved		<0.5 ug/l				
Copper, Dissolved		3.51 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		11.8 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		<3 ug/l				
Nickel, Dissolved		2.32 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		399 mg/l				
Electrical Conductivity at 25C		1090 uS/cm				
Potassium, Dissolved		1.06 mg/l				
Sodium, Dissolved		26.1 mg/l				
Sulphate, Dissolved		103 mg/l				
Total Oxidised Nitrogen		29.5 mg/l				
Chloride		42.1 mg/l				
Fluoride		0.073 mg/l				
Ammoniacal Nitrogen		0.03 mg/l				
Total Organic Carbon		3.6 mg/l				
pH		6.97 pH Units				
Nitrate		29.5 mg/l				
Ionic Balance		0.537 %				
Electrical Conductivity		1069 uS/cm				
Temperature		13.20 deg C				
Dissolved Oxygen		3.40 mg/l				
pH		6.75 pH Units	Field Measurements			
Groundwater Level		28.20 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	30	10.2 ug/l		18/02/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1160 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		140 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		1.47 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		95.5 mg/l				
	Manganese, Dissolved		124 ug/l				
	Molybdenum, Dissolved	50	133* ug/l				
	Nickel, Dissolved		3.57 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		221 mg/l				
	Electrical Conductivity at 25C		2230 uS/cm				
	Potassium, Dissolved		6.15 mg/l				
	Sodium, Dissolved		191 mg/l				
	Sulphate, Dissolved	400	180 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		511 mg/l				
	Fluoride		1.07 mg/l				
	Ammoniacal Nitrogen	1.6	0.619 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.61 pH Units				
	Nitrate		<0.2 mg/l				
	Ionic Balance		4.58 %				
	Electrical Conductivity		2460 uS/cm				
	Temperature		12.10 deg C				
	Dissolved Oxygen		2.12 mg/l				
	pH		7.57 pH Units				
	Groundwater Level		18.62 mAOD	Field Measurements			

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	80	<10 ug/l		19/05/2016	Sampling AmedTesting EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	<1 ug/l				
	Boron, Dissolved	2800	1220 ug/l				
	Cadmium, Dissolved	0.4	0.126 ug/l				
	Calcium, Dissolved		167 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		112 mg/l				
	Manganese, Dissolved		97.7 ug/l				
	Molybdenum, Dissolved	50	226* ug/l				
	Nickel, Dissolved		1.87 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		218 mg/l				
	Electrical Conductivity at 25C		2710 uS/cm				
	Potassium, Dissolved		6.9 mg/l				
	Sodium, Dissolved		256 mg/l				
	Sulphate, Dissolved	400	205 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		725 mg/l				
	Fluoride		1.48 mg/l				
	Ammoniacal Nitrogen	1.6	0.681 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.6 pH Units				
	Nitrate		<0.2 mg/l				
	Ionic Balance		-0.204 %				
	Electrical Conductivity		2841 uS/cm				
	Temperature		11.30 deg C				
	Dissolved Oxygen		4.95 mg/l				
	pH		7.83 pH Units				
	Groundwater Level		18.47 mAOD				
				Field Measurements			

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		19/05/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved	10	1.37 ug/l				
	Boron, Dissolved	2800	2060 ug/l				
	Cadmium, Dissolved	0.4	<0.1 ug/l				
	Calcium, Dissolved		7.65 mg/l				
	Chromium, Dissolved	50	<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		5.58 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved	50	21.00 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		381 mg/l				
	Electrical Conductivity at 25°C		1000 uS/cm				
	Potassium, Dissolved		2.94 mg/l				
	Sodium, Dissolved		242 mg/l				
	Sulphate, Dissolved	400	106.00 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		69.20 mg/l				
	Fluoride		5.91 mg/l				
	Ammoniacal Nitrogen	1.6	0.50 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		8.51 pH Units				
	Nitrate		<0.2 mg/l				
	Ionic Balance		-1.43 %				
	Electrical Conductivity		1106 µS/cm				
	Temperature		12.00 deg C				
	Dissolved Oxygen		3.39 mg/l				
	pH		8.83 pH Units	Field Measurements			
	Groundwater Level		18.64 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	23.40	ug/l	18/02/2015	Sampling Arned/Testing EA NLS	
	Antimony, Dissolved		<1	ug/l			
	Arsenic Dissolved	10	1.93	ug/l			
	Boron, Dissolved	2800	1560	ug/l			
	Cadmium, Dissolved	0.4	<0.1	ug/l			
	Calcium, Dissolved		21.20	mg/l			
	Chromium, Dissolved	50	<0.5	ug/l			
	Copper, Dissolved		<1	ug/l			
	Iron, Dissolved		<30	ug/l			
	Magnesium, Dissolved		12.50	mg/l			
	Manganese, Dissolved		53.40	ug/l			
	Molybdenum, Dissolved	50	44.20	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		311	mg/l			
	Electrical Conductivity at 25C		1090	uS/cm			
	Potassium, Dissolved		4.77	mg/l			
	Sodium, Dissolved		229	mg/l			
	Suphate, Dissolved	400	180.00	mg/l			
	Total Oxidised Nitrogen		0.41	mg/l			
	Chloride		76.50	mg/l			
	Fluoride		2.39	mg/l			
	Ammoniacal Nitrogen	1.6	0.43	mg/l			
	Total Organic Carbon		<1	mg/l			
pH		8.32	pH Units				
Nitrate		<0.32	mg/l				
Ionic Balance		1.02	%				
Electrical Conductivity		1020	µS/cm				
Temperature		12.00	deg C				
Dissolved Oxygen		1.17	mg/l	Field Measurements			
pH		8.57	pH Units				
Groundwater Level		18.73	maOD				

Substance/ Emission point Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
Aluminium, Dissolved	50	32.90 ug/l		19/05/2015	Sampling Amed/Testing EA NLS	
Antimony, Dissolved		1.27 ug/l				
Arsenic, Dissolved	10	2.79 ug/l				
Boron, Dissolved	2800	1770 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		45.60 ug/l				
Magnesium, Dissolved		4.80 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	6.74 ug/l				
Mercury, Dissolved	0.03	<0.01 ug/l				
Total Alkalinity as CaCO3		369 mg/l				
Electrical Conductivity at 25°C		830 uS/cm				
Potassium, Dissolved		2.90 mg/l				
Sodium, Dissolved		202 mg/l				
Sulphate, Dissolved	400	83.50 mg/l				
Total Oxidised Nitrogen		<0.2 mg/l				
Chloride		35.20 mg/l				
Fluoride		3.11 mg/l				
Ammoniacal Nitrogen	1.6	0.32 mg/l				
Total Organic Carbon		3.40 mg/l				
pH		8.49 pH Units				
Nitrate		<0.196 mg/l				
Ionic Balance		-2.53 %				
Electrical Conductivity		905 uS/cm				
Temperature		12.70 deg C				
Dissolved Oxygen		3.21 mg/l				
pH		8.73 pH Units	Field Measurements			
Groundwater Level		18.87 mAOI				

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		18/02/2015	Sampling Arned/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic, Dissolved		<1 ug/l				
	Boron, Dissolved		970 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		68.40 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		44.70 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		49.20 ug/l				
	Nickel, Dissolved		1.27 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		6.68 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		213 mg/l				
	Electrical Conductivity at 25C		1170 uS/cm				
	Potassium, Dissolved		7.02 mg/l				
	Sodium, Dissolved		138 mg/l				
	Sulphate, Dissolved		340.00 mg/l				
	Total Oxidised Nitrogen		0.26 mg/l				
	Chloride		73.90 mg/l				
	Fluoride		0.51 mg/l				
	Ammoniacal Nitrogen		0.52 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.84 pH Units				
	Nitrate		1.29 mg/l				
	Ionic Balance		0.92 %				
	Electrical Conductivity		1370 uS/cm				
	Temperature		11.40 deg C				
	Dissolved Oxygen		3.39 mg/l				
	pH		7.84 pH Units				
	Groundwater Level		20.72 mAOD	Field Measurements			

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		94.40 ug/l		19/05/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic, Dissolved		1.20 ug/l				
	Boron, Dissolved		893 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		64.70 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		39.20 ug/l				
	Magnesium, Dissolved		40.90 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		28.10 ug/l				
	Nickel, Dissolved		1.51 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		13.00 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		230 mg/l				
	Electrical Conductivity at 25C		998 uS/cm				
	Potassium, Dissolved		6.99 mg/l				
	Sodium, Dissolved		119 mg/l				
	Sulphate, Dissolved		302.00 mg/l				
	Total Oxidised Nitrogen		0.33 mg/l				
	Chloride		54.30 mg/l				
	Fluoride		0.51 mg/l				
	Ammoniacal Nitrogen		0.35 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.81 pH Units				
	Nitrate		0.27 mg/l				
	Ionic Balance		-1.99 %				
	Electrical Conductivity		1094 uS/cm				
	Temperature		11.10 deg C				
	Dissolved Oxygen		5.15 mg/l				
	pH		8.01 pH Units	Field Measurements			
	Groundwater Level		20.68 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		18/02/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		276 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		80 mg/l				
	Chromium, Dissolved		30.90 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		43.60 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		12.00 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		121 mg/l				
	Electrical Conductivity at 25C		746 uS/cm				
	Potassium, Dissolved		6.96 mg/l				
	Sodium, Dissolved		18 mg/l				
	Sulphate, Dissolved		260 mg/l				
	Total Oxidised Nitrogen		0.35 mg/l				
	Chloride		27.20 mg/l				
	Fluoride		0.47 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		1.20 mg/l				
	pH		7.93 pH Units				
	Nitrate		0.35 mg/l				
Ionic Balance		-0.57 %					
Electrical Conductivity		1280 uS/cm					
Temperature		12.50 deg C					
Dissolved Oxygen		5.14 mg/l					
pH		7.78 pH Units					
Groundwater Level		21.39 mAO					
				Field Measurements			
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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		19/05/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic, Dissolved		<1 ug/l				
	Boron, Dissolved		270 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		104 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		1.36 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		53.80 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		12.80 ug/l				
	Nickel, Dissolved		2.10 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		134 mg/l				
	Electrical Conductivity at 25C		849 uS/cm				
	Potassium, Dissolved		8.50 mg/l				
	Sodium, Dissolved		19 mg/l				
	Suphate, Dissolved		356 mg/l				
	Total Oxidised Nitrogen		<0.2 mg/l				
	Chloride		26.60 mg/l				
	Fluoride		0.46 mg/l				
	Ammoniacal Nitrogen		0.03 mg/l				
	Total Organic Carbon		1.00 mg/l				
	pH		7.85 pH Units				
	Nitrate		<0.2 mg/l				
	Ionic Balance		-0.73 %				
	Electrical Conductivity		947 µS/cm				
	Temperature		10.90 deg C				
	Dissolved Oxygen		8.08 mg/l				
	pH		8.03 pH Units				
	Groundwater Level		21.36 mAOI				
				Field Measurements			

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		19/02/2015	Sampling Amec/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic Dissolved		<1 ug/l				
	Boron, Dissolved		227 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		283 mg/l				
	Chromium, Dissolved		1.10 ug/l				
	Copper, Dissolved		4.46 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		74.00 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		8.47 ug/l				
	Nickel, Dissolved		4.87 ug/l				
	Selenium Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		139 mg/l				
	Electrical Conductivity at 25C		2090 uS/cm				
	Potassium, Dissolved		24.60 mg/l				
	Sodium, Dissolved		84 mg/l				
	Sulphate, Dissolved		475 mg/l				
	Total Oxidised Nitrogen		2.03 mg/l				
	Chloride		377.00 mg/l				
	Fluoride		0.44 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		3.20 mg/l				
	pH		7.59 pH Units				
	Nitrate		<2.03 mg/l				
	Ionic Balance		2.22 %				
	Electrical Conductivity		2380 uS/cm				
	Temperature		11.40 deg C				
	Dissolved Oxygen		5.39 mg/l				
	pH		7.14 pH Units	Field Measurements			
	Groundwater Level		22.53 mAOD				

Substance/ Emission point Parameter	Emission Limit Value	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Accreditation/ Certification ^[4]	Uncertainty ^[5]
Aluminium, Dissolved		<10 ug/l		19/05/2015	Sampling Amed/Testing EA NLS	
Antimony, Dissolved		<1 ug/l				
Arsenic, Dissolved		<1 ug/l				
Boron, Dissolved		195 ug/l				
Cadmium, Dissolved		<0.1 ug/l				
Calcium, Dissolved		254 mg/l				
Chromium, Dissolved		4.01 ug/l				
Copper, Dissolved		5.37 ug/l				
Iron, Dissolved		<30 ug/l				
Magnesium, Dissolved		63.20 mg/l				
Manganese, Dissolved		<10 ug/l				
Molybdenum, Dissolved		12.20 ug/l				
Nickel, Dissolved		5.16 ug/l				
Selenium, Dissolved		<1 ug/l				
Vanadium, Dissolved		<2 ug/l				
Mercury, Dissolved		<0.01 ug/l				
Total Alkalinity as CaCO3		145 mg/l				
Electrical Conductivity at 25C		1990 uS/cm				
Potassium, Dissolved		72.50 mg/l				
Sodium, Dissolved		95 mg/l				
Sulphate, Dissolved		613 mg/l				
Total Oxidised Nitrogen		3.02 mg/l				
Chloride		295.00 mg/l				
Fluoride		0.46 mg/l				
Ammoniacal Nitrogen		0.03 mg/l				
Total Organic Carbon		2.70 mg/l				
pH		7.50 pH Units				
Nitrate		<3.02 mg/l				
Ionic Balance		-0.70 %				
Electrical Conductivity		2213 uS/cm				
Temperature		12.70 deg C				
Dissolved Oxygen		4.13 mg/l				
pH		7.48 pH Units	Field Measurements			
Groundwater Level		22.10 mOD				

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		19/02/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved		<1 ug/l				
	Arsenic, Dissolved		<1 ug/l				
	Boron, Dissolved		130 ug/l				
	Cadmium, Dissolved		<0.1 ug/l				
	Calcium, Dissolved		146 mg/l				
	Chromium, Dissolved		<0.5 ug/l				
	Copper, Dissolved		<1 ug/l				
	Iron, Dissolved		<30 ug/l				
	Magnesium, Dissolved		48.40 mg/l				
	Manganese, Dissolved		<10 ug/l				
	Molybdenum, Dissolved		7.28 ug/l				
	Nickel, Dissolved		1.75 ug/l				
	Selenium, Dissolved		<1 ug/l				
	Vanadium, Dissolved		<2 ug/l				
	Mercury, Dissolved		<0.01 ug/l				
	Total Alkalinity as CaCO3		137 mg/l				
	Electrical Conductivity at 25C		986 uS/cm				
	Potassium, Dissolved		3.34 mg/l				
	Sodium, Dissolved		16 mg/l				
	Sulphate, Dissolved		411 mg/l				
	Total Oxidised Nitrogen		1.82 mg/l				
	Chloride		23.80 mg/l				
	Fluoride		0.38 mg/l				
	Ammoniacal Nitrogen		<0.03 mg/l				
	Total Organic Carbon		<1 mg/l				
	pH		7.61 pH Units				
	Nitrate		<1.82 mg/l				
	Ionic Balance		-0.26 %				
	Electrical Conductivity		1280 uS/cm				
	Temperature		11.80 deg C				
	Dissolved Oxygen		4.58 mg/l				
	pH		7.72 pH Units				
	Groundwater Level		25.22 mAOD	Field Measurements			

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		19/05/2015	Sampling Amed/Testing EA NLS	
	Antimony, Dissolved	<1 ug/l				
	Arsenic, Dissolved	<1 ug/l				
	Boron, Dissolved	222 ug/l				
	Cadmium, Dissolved	<0.1 ug/l				
	Calcium, Dissolved	163 mg/l				
	Chromium, Dissolved	<0.5 ug/l				
	Copper, Dissolved	1.34 ug/l				
	Iron, Dissolved	<30 ug/l				
	Magnesium, Dissolved	61.60 mg/l				
	Manganese, Dissolved	<10 ug/l				
	Molybdenum, Dissolved	5.17 ug/l				
	Nickel, Dissolved	1.38 ug/l				
	Selenium, Dissolved	<1 ug/l				
	Vanadium, Dissolved	<2 ug/l				
	Mercury, Dissolved	<0.01 ug/l				
	Total Alkalinity as CaCO3	171 mg/l				
	Electrical Conductivity at 25C	1070 uS/cm				
	Potassium, Dissolved	4.24 mg/l				
	Sodium, Dissolved	22 mg/l				
	Sulphate, Dissolved	483 mg/l				
	Total Oxidised Nitrogen	<0.2 mg/l				
	Chloride	24.60 mg/l				
	Fluoride	0.39 mg/l				
	Ammoniacal Nitrogen	0.08 mg/l				
	Total Organic Carbon	<1 mg/l				
	pH	7.56 pH Units				
E06_05	Nitrate	<0.2 mg/l		19/05/2015	Sampling Amed/Testing EA NLS	
	Ionic Balance	0.35 %				
	Electrical Conductivity	1190 uS/cm				
	Temperature	11.20 deg C				
	Dissolved Oxygen	3.05 mg/l				
E06_05	pH	7.62 pH Units	Field Measurements	19/05/2015	Sampling Amed/Testing EA NLS	
	Groundwater Level	25.22 mAOB				

- [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.

Compliance limit exceeded for 3 consecutive sampling events after March 2014 results (8 elevated sampling events in total). Discussed with NRW and under investigation.

Signed A. Zausch Date 28/07/15
(authorised to sign as representative of the Operator)