

Permit Number:	TP3835LV		
Operator:	SI Green UK Limited		
Installation:	Cwmrhydyceirw Quarry		
Schedule 4 - Emissions and monitoring			
Table S4.5 and Table 4a from the Updated Management Report dated January 2021			
Reporting of emissions to water (other than to sewer) for the period from			
01 January - 31 March	Quarter 1	2023	

Groundwater monitoring borehole			CWMGW03R	CWMGW04	CWMGW08R
Monthly		Units			
Water level	January	mAOD	46.13	38.96	43.54
Water level	February	mAOD	39.57	37.85	43.00
Water level	March	mAOD	42.28	38.08	43.19
Sample collection date			03/02/2023	03/02/2023	03/02/2023
Analyte	Emission limit value	Units			
Quarterly					
pH	>6 - <9	pH units	7.5	7.2	6.9
Ammoniacal Nitrogen as N	393	mg/l	<0.01	0.01	<0.01
Chloride as Cl	11900	mg/l	19.0	30.9	23.9
Dissolved Oxygen, Fixed	not set	mg/l	9.9	6.7	9.5
Conductivity- Electrical 20C	not set	uS/cm	606	536	495
Nickel , Total as Ni	2600	ug/l	<1.5	<1.5	2.0
Cadmium , Total as Cd	75	ug/l	<0.11	<0.11	<0.11
Copper , Total as Cu	not set	ug/l	4.5	4.1	3.7
Alkalinity as CaCO3	not set	mg/l	246	237	211
Manganese , Total as Mn	not set	ug/l	3.9	56.8	1.2
Iron, Total as Fe	not set	ug/l	55.8	150	10.9
Zinc , Total as Zn	not set	ug/l	14.3	2.0	9.5
Lead , Total as Pb	not set	ug/l	<4.1	<4.1	<4.1
Chromium , Total as Cr	not set	ug/l	11.3	5.4	10.6
Six monthly					
Sodium , Total as Na		mg/l	13.5	18.8	15.5
Potassium , Total as K		mg/l	5.5	3.6	5.0
TOC as C		mg/l	35.6	40.3	30.8
Calcium , Total as Ca		mg/l	101	85.2	57.2
Magnesium, Total as Mg		mg/l	15.1	12.4	24.2
Sulphate as SO4		mg/l	56.4	23.0	29.0
Nitrogen, Total Oxidised as N		mg/l	1.2	0.16	0.18
Mercury, Total as Hg		ug/l	<0.05	<0.05	<0.05

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[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Agency is used, then the appropriate identifier is given. In

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

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

Signed ...Guy Titman.....

Date...25.04.2023.....

(Authorised to sign as representative of Operator)

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Reporting of emissions to water (other than to sewer) for the period from	
01 January - 31 March	Quarter 1 2023

Groundwater monitoring borehole			CWMGW09	CWMGW10	CWMGW11
Monthly		Units			
Water level	January	mAOD	36.92	44.27	-
Water level	February	mAOD	37.89	44.49	-
Water level	March	mAOD	36.70	43.37	38.98
Sample collection date			03/02/2023	03/02/2023	22/02/2023
Analyte	Emission limit value	Units			
Quarterly					
pH	>6 - <9	pH units	6.8	7.0	6.9
Ammoniacal Nitrogen as N	393	mg/l	<0.01	0.02	0.24
Chloride as Cl	11900	mg/l	19.2	21.1	23.6
Dissolved Oxygen, Fixed	not set	mg/l	10.4	10.2	8.8
Conductivity- Electrical 20C	not set	uS/cm	546	523	553
Nickel , Total as Ni	2600	ug/l	<1.5	<1.5	<1.5
Cadmium , Total as Cd	75	ug/l	<0.11	<0.11	<0.11
Copper , Total as Cu	not set	ug/l	3.8	4.0	29.9
Alkalinity as CaCO3	not set	mg/l	240	208	201
Manganese , Total as Mn	not set	ug/l	11.6	31.7	11.8
Iron, Total as Fe	not set	ug/l	26.7	17.5	45.0
Zinc , Total as Zn	not set	ug/l	3.8	<1.1	15.4
Lead , Total as Pb	not set	ug/l	<4.1	<4.1	<4.1
Chromium , Total as Cr	not set	ug/l	6.5	10.7	4.7
Six monthly					
Sodium , Total as Na		mg/l	12.9	12.7	14.9
Potassium , Total as K		mg/l	3.9	5.4	2.0
TOC as C		mg/l	43.6	25.7	14.5
Calcium , Total as Ca		mg/l	66.7	74.9	94.7
Magnesium, Total as Mg		mg/l	29.5	20.7	12.9
Sulphate as SO4		mg/l	38.1	50.2	70.8
Nitrogen, Total Oxidised as N		mg/l	0.16	0.32	0.96
Mercury, Total as Hg		ug/l	<0.05	<0.05	<0.05

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01 January - 31 March	Quarter 1	2023	

Groundwater monitoring borehole			CWMGW12	LFG2R	LFG6
Monthly		Units			
Water level	January	mAOD	-	-	57.84
Water level	February	mAOD	64.88	51.29	55.55
Water level	March	mAOD	34.97	51.35	55.55
Sample collection date			03/02/2023	03/02/2023	03/02/2023
Analyte	Emission limit value	Units			
Quarterly					
pH	>6 - <9	pH units	7.0	8.8	6.9
Ammoniacal Nitrogen as N	393	mg/l	<0.01	<0.01	0.69
Chloride as Cl	11900	mg/l	27.9	19.0	24.8
Dissolved Oxygen, Fixed	not set	mg/l	11.1	6.7	4.9
Conductivity- Electrical 20C	not set	uS/cm	517	342	379
Nickel , Total as Ni	2600	ug/l	<1.5	<1.5	11.3
Cadmium , Total as Cd	75	ug/l	<0.11	<0.11	<0.11
Copper , Total as Cu	not set	ug/l	3.7	5.3	12.8
Alkalinity as CaCO3	not set	mg/l	231	76.8	126
Manganese , Total as Mn	not set	ug/l	<1.0	<1.0	3400
Iron, Total as Fe	not set	ug/l	7.7	71.4	929
Zinc , Total as Zn	not set	ug/l	4.8	<1.1	16.7
Lead , Total as Pb	not set	ug/l	4.6	6.1	<4.1
Chromium , Total as Cr	not set	ug/l	10.6	11.1	5.4
Six monthly					
Sodium , Total as Na		mg/l	12.0	15.1	13.4
Potassium , Total as K		mg/l	2.9	8.4	3.1
TOC as C		mg/l	25.2	1.2	100
Calcium , Total as Ca		mg/l	71.4	48.9	54.6
Magnesium, Total as Mg		mg/l	21.7	5.3	10.8
Sulphate as SO4		mg/l	22.4	59.2	38.1
Nitrogen, Total Oxidised as N		mg/l	0.11	2.3	0.59
Mercury, Total as Hg		ug/l	<0.05	<0.05	<0.05

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01 January - 31 March	Quarter 1	2023		
Groundwater monitoring borehole			LFG9	LFG12BG
Monthly		Units		
Water level	January	mAOD	-	51.11
Water level	February	mAOD	-	50.33
Water level	March	mAOD	34.40	48.98
Sample collection date				22/02/2023
Analyte	Emission limit value	Units		
Quarterly				
pH	>6 - <9	pH units	No sample collected	6.9
Ammoniacal Nitrogen as N	393	mg/l		0.25
Chloride as Cl	11900	mg/l		35.5
Dissolved Oxygen, Fixed	not set	mg/l		11.4
Conductivity- Electrical 20C	not set	uS/cm		443
Nickel , Total as Ni	2600	ug/l		<1.5
Cadmium , Total as Cd	75	ug/l		<0.11
Copper , Total as Cu	not set	ug/l		29.1
Alkalinity as CaCO3	not set	mg/l		137
Manganese , Total as Mn	not set	ug/l		10.4
Iron, Total as Fe	not set	ug/l		35.5
Zinc , Total as Zn	not set	ug/l		13.9
Lead , Total as Pb	not set	ug/l		<4.1
Chromium , Total as Cr	not set	ug/l		7.4
Six monthly				
Sodium , Total as Na		mg/l	No sample collected	18.8
Potassium , Total as K		mg/l		1.7
TOC as C		mg/l		23.1
Calcium , Total as Ca		mg/l		61.5
Magnesium, Total as Mg		mg/l		13.0
Sulphate as SO4		mg/l		38.1
Nitrogen, Total Oxidised as N		mg/l		1.8
Mercury, Total as Hg		ug/l		<0.05

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