



Your Ref: DP3733BK

Our Ref: 49428/332510236/3501/CBH/VKR/NC/AREA 2 GW & LEACHATE/R214

2nd February 2022

PPC Team
Natural Resources Wales
Rivers House
Fortran Road
St Mellons Business Park
Cardiff
CF3 0EY

Attn: Guy Baskerville

Dear Guy,

Re: DP3733BK – Docksway Disposal Site. Latest Area 2 Groundwater and Leachate Quality Monitoring Report, Round 214, December 2021.

Please find enclosed the results of the groundwater and leachate quality monitoring undertaken at Area 2 of Docksway Disposal Site. Groundwater and leachate monitoring is required quarterly at the site in order to comply with Conditions 3.6.1 and 3.6.2 of the Environmental Permit (DP3733BK). This report includes discussion of results obtained from monitoring during December 2021.

We enclose with this letter report the laboratory analytical certificates.

Field Observations

Details of the field testing of the Area 2 groundwater and leachate samples during Round 214 are presented in Table 1, together with depths to groundwater and leachate.

Table 1 Field testing Results and Observations – December 2021

Monitoring Point	Dates Monitored	Depth to Groundwater/ Leachate (m)	pH	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Dissolved Oxygen (%)
GW06_39	14/12/2021	4.05	8.8	6825	11.2	41.7
GW07_40	14/12/2021	5.28	9.5	2350	11.7	43.3
GW12_30	14/12/2021	4.52	8.6	2318	12.3	35.2
GW09_31	14/12/2021	5.8	8.8	2045	12.6	56.3
GW03_09	14/12/2021	8.2	9.1	8644	12.2	49.6
GW09_32	14/12/2021	9.06	9.2	3701	12.7	56.5
GW12_33	14/12/2021	8.10	9	4447	12.3	58.5
GW06_34	15/12/2021	8.66	8.9	1338	12.3	41.8
GW09_35	15/12/2021	8.96	8.9	8002	12.5	50.9
GW06_36	15/12/2021	8.63	8.9	12110	13.1	48.6
GW06_37	15/12/2021	8.04	9.4	9930	11.5	52.2
GW06_13	15/12/2021	7.66	9.3	9893	11.6	48.3
GW12_38	15/12/2021	8.02	8.9	2534	11.8	73.1
GW06_14a	15/12/2021	4.23	9	15300	11.8	73.3

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Monitoring Point	Dates Monitored	Depth to Groundwater/ Leachate (m)	pH	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Dissolved Oxygen (%)
LF08_07 (leachate)	09/12/2021	15.25	8.70	11870	16.9	56.9
C1A (leachate)	Unable to dip and sample					
C1B (leachate)	22/12/2021	21.63	Not sampled (dip level only)			
C1E (leachate)	22/12/2021	23.62				
C1D (leachate)	22/12/2021	10.51				
C2A (leachate)	22/12/2021	13.51				
C2B (leachate)	Unable to dip and sample					
C2C (leachate)	09/12/2021	17.2	9.20	22470	24.6	28.6
C3A (leachate)	22/12/2021	12.51	Not sampled (dip level only)			
C3B (leachate)	09/12/2021	14.69	9.00	16400	23.0	40.1
C4A (leachate)	22/12/2021	10.06	Not sampled (dip level only)			
C4B (leachate)	09/12/2021	8.81	8.50	18000	19.5	40.5

Groundwater Laboratory Testing Results

Compliance Levels

The agreed Control Levels and Compliance Limits for Area 2 'priority contaminants' are reproduced in Tables 2 and 3 below.

Table 2 PPC Permit Compliance Levels for Emissions to Groundwater (Hazardous Substances)

Monitoring Well	Benzene	Naphthalene	Xylene	Arsenic
	Compliance Limit	Compliance Limit	Compliance Limit	Compliance Limit
	$\mu\text{g}/\text{l}$	$\mu\text{g}/\text{l}$	$\mu\text{g}/\text{l}$	$\mu\text{g}/\text{l}$
GW03_09	2	5	3	35
GW06_13	2	5	3	50
GW06_14a	2	5	3	25
GW06_34	2	5	3	65
GW06_36	2	5	3	30
GW06_37	2	5	3	60
GW06_39	2	5	3	50
GW07_40	2	5	3	35
GW09_31	13	5	3	80
GW09_32	3	5	3	30
GW09_35	2	5	3	50
GW12_30	1	1	1	160
GW12_33	1	1	1	560
GW12_38	1	1	1	26

Table 3 PPC Permit Compliance Levels for Emissions to Groundwater (Non-Hazardous Substance)

Monitoring Well	Nickel		Potassium		Ammoniacal Nitrogen	
	Control Level	Compliance Limit	Control Level	Compliance Limit	Control Level	Compliance Limit
	µg/l	µg/l	mg/l	mg/l	mg/l	mg/l
GW03_09	8	10	160	180	30	35
GW06_13	12	14	100	110	30	35
GW06_14a	12	14	160	180	53	60
GW06_34	12	14	310	350	30	35
GW06_36	8	10	100	110	20	23
GW06_37	8	10	100	110	30	35
GW06_39	26.4	30	100	110	20	23
GW07_40	8	10	39.6	45	20	23
GW09_31	8	10	100	110	50	50
GW09_32	8	10	160	180	50	50
GW09_35	8	10	100	110	30	35
GW12_30	25	30	35	40	10	12
GW12_33	5	6	50	55	15	18
GW12_38	25	30	65	70	10	12

Priority Contaminants

Hazardous Substances (formally List I Substances)

All of the hazardous substances specified as “priority contaminants” in the Area 2 Hydrogeological Risk Assessment and monitored in groundwater samples from compliance wells in December 2021 were recorded below the Control Level and Compliance Limits.

Non-Hazardous Substances

All of the non-hazardous substances agreed as “priority contaminants” did not exceed the well specific Compliance Limits in the groundwater sampled during Round 214.

Leachate Measurements and Laboratory Test Results

Leachate levels were recorded at C1B, C1D, C1E C2A, C2C, C3A, C3B, C4A, C4B and LF08_07 in December 2021 and the leachate head levels are indicated to be as follows:

Monitoring Location	Leachate Head (m)
C1B	1.29
C1D	1.40
C1E	1.04
C2A	1.59
C2C	3.10
C3A	0.24
C3B	3.71
C4A	1.94
C4B	2.29
LF08_07 (Cell 1)	1.24

Of the ten locations monitored, three (C2C, C3B and C4B) are above the permitted level of 2m. Monitoring points C1A and C2B was unable to be dipped. At the remaining monitoring points, leachate head levels are below the permitted level.

Leachate Removed

During October 2021 to December 2021 a total of 5,373,880kg of Leachate was removed from Area 2 (Cells 1 to 4 combined).

Concluding Remarks

Stantec will continue to monitor and comment on the groundwater quality and leachate within subsequent reports. If you have any questions regarding the data, then please do not hesitate to contact us.

Yours sincerely,



Kate Riley
Senior Associate
on behalf of Stantec UK Ltd

Encls: Laboratory Certificates

CC: Silvia Gonzalez-Lopez – Newport City Council
Robert Hughes – NCC (Docksway Disposal Site)
Luke Embrey – NCC