



Your Ref: DP3733BK

Our Ref: 49428/3501/CBH/VKR/NC/AREA 2 GW & LEACHATE/R208

3rd August 2021

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

**Attn: Tyrone Ward**

Dear Tyrone,

**Re: DP3733BK – Docksway Disposal Site. Latest Area 2 Groundwater and Leachate Quality Monitoring Report, Round 208, June 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 June 2021.

We enclose with this letter report, Figure 2, a plan showing the locations of the available monitoring points. We also enclose the laboratory analytical certificates.

#### Field Observations

Details of the field testing of the Area 2 groundwater and leachate samples during Round 208 are presented in Table 1, together with depths to groundwater and leachate.

**Table 1** Field testing Results and Observations – June 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	08/06/2021	3.66	7.77	7529	13.1	34.6
GW07_40	08/06/2021	5.10	8.08	2231	12.7	12.3
GW12_30	08/06/2021	4.43	7.24	2635	13.0	9.0
GW09_31	08/06/2021	5.79	7.49	3796	12.9	2.2
GW03_09	08/06/2021	8.06	7.95	12707	13.5	9.2
GW09_32	08/06/2021	8.82	7.74	19040	13.9	12.3
GW12_33	08/06/2021	7.84	7.67	19930	13.1	20.1
GW06_34	23/06/2021	8.60	7.58	10637	11.8	4.3
GW09_35	23/06/2021	7.04	7.66	16077	13.6	10.2
GW06_36	23/06/2021	7.28	8.04	11195	15.0	6.3
GW06_37	23/06/2021	7.15	7.91	10563	13.9	12.6
GW06_13	23/06/2021	7.59	7.92	10600	14.1	8.5
GW12_38	23/06/2021	8.10	Unable to collect sufficient sample			
GW06_14a	23/06/2021	4.47				

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Monitoring Point	Dates Monitored	Depth to Groundwater/ Leachate (m)	pH	Electrical Conductivity (µS/cm)	Temperature (°c)	Dissolved Oxygen (%)
LF08_07 (leachate)	01/06/2021	14.5	7.49	3582	26.5	48.2
C1A (leachate)	22/06/2021	19.66	Not sampled (dip level only)			
C1B (leachate)	22/06/2021	21.52				
C1D (leachate)	22/06/2021	22.75				
C1E (leachate)	22/06/2021	10.46				
C2A (leachate)	22/06/2021	13.22				
C2B (leachate)	Unable to dip and sample					
C2C (leachate)	01/06/2021	18.38	7.94	21735	30.2	20.4
C3A (leachate)	22/06/2021	10.95	Not sampled (dip level only)			
C3B (leachate)	01/06/2021	12.93	8.11	27203	35.3	3.5
C4A (leachate)	02/06/2021	1.75	Not sampled (dip level only)			
C4B (leachate)	01/06/2021	8.15	7.37	17152	24.3	27.2

### 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	EPH	Arsenic
	Compliance Limit	Compliance Limit	Compliance Limit	Compliance Limit	Compliance Limit
	µg/l	µg/l	µg/l	µg/l	µg/l
GW03_09	2	5	3	Not Required	35
GW06_13	2	5	3	Not Required	50
GW06_14a	2	5	3	Not Required	25
GW06_34	2	5	3	Not Required	65
GW06_36	2	5	3	Not Required	30
GW06_37	2	5	3	Not Required	60
GW06_39	2	5	3	Not Required	50
GW07_40	2	5	3	Not Required	35
GW09_31	13	5	3	Not Required	80
GW09_32	3	5	3	Not Required	30
GW09_35	2	5	3	Not Required	50
GW12_30	1	1	1	Not Required	160
GW12_33	1	1	1	Not Required	560
GW12_38	1	1	1	Not Required	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 were monitored in groundwater samples from compliance wells in June 2021 and were recorded below the Control Level and Compliance Limits.

#### Non-Hazardous Substances

The majority of the non-hazardous substances agreed as “priority contaminants” did not exceed the well specific Compliance Limits in the groundwater sampled during Round 208. The exception to this was Nickel in GW09\_31 and Potassium and Ammoniacal Nitrogen in GW12\_33.

In the sample from GW09\_31 a concentration of 10.4ug/l of Nickel was recorded which marginally exceeds the compliance limit of 10ug/l.

In the sample from GW12\_33 a concentration of 118mg/l of Potassium was recorded compared to a compliance limit of 55mg/l. This is a decrease in the concentration compared to the last monitoring round, when a concentration of 133mg/l was recorded, which was noted to be the highest concentration recorded at this well since commencement of the monitoring. For Ammoniacal Nitrogen in GW12\_33 a concentration of 52.5mg/l was recorded against a compliance limit of 18mg/l. This is also a decrease in the concentration of Ammoniacal Nitrogen compared to the last monitoring round, when a

concentration of 57.5mg/l was recorded, which was the highest concentration recorded since the commencement of the monitoring.

### **Leachate Measurements and Laboratory Test Results**

Leachate levels were recorded at C1A, C1B, C1D, C1E C2A, C2C, C3A, C3B, C4A, C4B and LF08\_07 in June 2021 and the leachate head levels are indicated to be as follows:

<b>Monitoring Location</b>	<b>Leachate Head (m)</b>
C1A	2.18
C1B	1.40
C1D	1.45
C1E	1.91
C2A	1.93
C2C	1.99
C3A	1.90
C3B	1.97
C4A	1.84
C4B	1.95
LF08_07 (Cell 1)	1.99

Of the eleven locations monitored, one (C1A) is slightly above the permitted level of 2m. Monitoring point C2B was unable to be dipped. At the remaining ten monitoring points, leachate head levels are below the permitted level.

### Leachate Removed

During April 2021 to June 2021 a total of 6,553,400kg of Leachate was removed from Area 2 (Cells 1 to 4 combined).

### Concluding Remarks

The exceedance of Nickel at GW09\_31 and Potassium and Ammoniacal Nitrogen at GW12\_33 in June 2021 is not, at this time, considered to represent a significant deterioration in groundwater quality and remedial action is not currently being considered. However, the concentrations of these parameters will be closely monitored during subsequent monitoring rounds and GW12\_33 will be sampled monthly until the next quarterly report.

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  
Figure 2

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