



Your Ref: DP3733BK
Our Ref: 49428/3501/CBH/VKR

29th July 2020

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

Attention of: David Griffiths

Dear David,

Re: DP3733BK - Docksway Disposal Site. Latest Area 2 Groundwater Quality Monitoring Report, Round 196, June 2020.

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 on results obtained from monitoring during June 2020.

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 196 are presented in Table 1, together with depths to groundwater and leachate.

Table 1 - Field Testing Results and Observations – June 2020

Monitoring Point	Dates Monitored	Depth to Groundwater/Leachate (m)	pH	Electrical Conductivity (µS/cm)	Temperature (°c)	Dissolved Oxygen (%)
GW06_39	22/06/2020	3.63	8.42	5601	13.24	43.2
GW07_40	22/06/2020	5.06	9.10	2548	13.67	47.5
GW12_30	22/06/2020	4.48	8.07	1560	14.37	38.1
GW09_31	22/06/2020	5.74	8.36	2133	13.88	25.4
GW03_09	22/06/2020	7.80	8.48	1680	16.03	86.3
GW09_32	22/06/2020	8.52	8.67	2435	15.23	66.9
GW12_33	22/06/2020	7.59	9.00	1519	16.33	75.3

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Monitoring Point	Dates Monitored	Depth to Groundwater/Leachate (m)	pH	Electrical Conductivity (µS/cm)	Temperature (°C)	Dissolved Oxygen (%)
GW06_34	22/06/2020	8.31	8.74	1273	20.12	70.4
GW09_35	22/06/2020	8.85	8.95	13020	16.34	89.3
GW09_36	23/06/2020	6.87	8.53	11881	16.88	44.3
GW06_37	23/06/2020	6.46	8.86	16733	17.94	46.4
GW06_13	23/06/2020	5.32	8.99	9013	16.90	37.8
GW12_38	23/06/2020	Potentially lost				
GW06_14a	23/06/2020	4.34	8.82	22450	17.50	64.5
LF08_07	25/06/2020	15.23	No field tests undertaken			
C1B	25/06/2020	23.07				
C1D	25/06/2020	10.89				
C1E	25/06/2020	23.85				
C2A	25/06/2020	12.71				
C2B	25/06/2020	23.07				
C2C	25/06/2020	17.92				
C3B	24/06/2020	13.46				
C4	24/06/2020	4.7				

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 1 - 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 2 - PPC Permit Compliance Levels for Emissions to Groundwater (Non-Hazardous Substances)

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

Hazardous Substances (formally List I substances)

All the hazardous substances specified as “priority contaminants” in the Area 2 Hydrogeological Risk Assessment were monitored in groundwater samples from compliance wells in June 2020 and were recorded below the Control Level and Compliance Limits, with one exception. At GW06_37, the Arsenic concentration in June 2020 was recorded as 69.7µg/l, which is above the Compliance Limit of 60µg/l.

Non-hazardous Substances

None of the non-hazardous substances agreed as “priority contaminants” exceeded the well specific Compliance Limits in the groundwater sampled during Round 196 with the exception of Nickel at GW09_32, and Ammoniacal Nitrogen and Arsenic at GW06_37. At GW09_32 the concentration of Nickel was recorded at 9.65 µg/l, which is marginally above the Control Limit but below the Compliance Limit (10 µg/l). At GW06_37 the Amoniactal Nitrogen concentration was recorded as 43.8 mg/l, which is above the Compliance Limit of 35 mg/l, and the Arsenic concentration was recorded as 69.7 ug/l, which is above the Compliance Limit of 60 ug/l.

Leachate Measurements and Laboratory Test Results

Leachate levels were recorded at C1A, C1B, C1D, C1E C2A, C2B, C2C, C3B, C4 and LF08_07 in June 2020 and the leachate head levels are indicated to be as follows:

Table 4 - Leachate Head

Monitoring Location	Leachate Head (m)
C1A	2.52
C1B	2.06
C1D	0.81
C1E	1.02
C2A	2.67
C2B	2.67
C2C	2.45
C3B	1.64
C4	2.40
LF08_07 (Cell 1)	1.26

N/R = Not Recorded

Of the nine monitoring points, five (C1A, C2A, C2B, C2C and C4) are slightly above the permitted level of 2m. At the remaining four monitoring points, leachate head levels are at or below the permitted level.

Leachate Removed

During April to June 2020, a total of 5,309,260 kg of leachate was removed from Area 2 (Cells 1 to 4 combined).


Concluding Remarks

Field testing was not undertaken on leachate in Area 2 during June 2020.

The slight exceedance of Arsenic at GW06_37 in June 2020 is not, at the current time, considered to represent a significant deterioration in groundwater quality and remedial action is not being considered.

The exceedances of Nickel at GW09_32 and Ammoniacal Nitrogen at GW06_37 are also not considered to represent a significant deterioration in groundwater quality, and will be closely monitored during subsequent monitoring rounds.

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.

**Kate Riley****Associate**

on behalf of Stantec UK Ltd

Encs – Laboratory Certificates

Figure 2

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