



Your Ref: DP3733BK
Our Ref: 14739/075/CBH/VKR

6th April 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 193, March 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 March 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 193 are presented in Table 1, together with depths to groundwater and leachate.

Table 1 - Field Testing Results and Observations – March 2020

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	04/03/2020	2.10	8.89	4501	10.91	0.5
GW07_40	03/03/2020	3.23	8.64	1122	10.66	20.1
GW12_30	03/03/2020	3.52	8.04	1046	9.74	19
GW09_31	03/03/2020	3.86	8.30	1481	11.64	0.7
GW03_09	03/03/2020	5.55	7.77	1519	12.01	58.1
GW09_32	03/03/2020	8.23	7.88	1722	12.19	10.2
GW12_33	03/03/2020	7.89	7.96	1280	12.16	5.4

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Monitoring Point	Dates Monitored	Depth to Groundwater/Leachate (m)	pH	Electrical Conductivity (µS/cm)	Temperature (°c)	Dissolved Oxygen (%)
GW06_34	03/03/2020	8.06	8.72	1054	10.29	47.6
GW09_35	04/03/2020	8.01	8.31	11090	10.87	6.3
GW09_36	04/03/2020	6.50	8.38	12330	12.58	0.3
GW06_37	04/03/2020	6.83	8.36	18240	10.98	0.3
GW06_13	04/03/2020	5.79	8.74	9295	8.93	0.5
GW12_38	04/03/2020	7.45	8.34	1776	9.88	40.8
GW06_14a	04/03/2020	3.42	8.22	9786	8.22	25.3
LF08_07	06/03/2020	14.73	No field tests undertaken			
C1B	06/03/2020	20.39				
C1D	06/03/2020	10.23				
C1E	06/03/2020	22.89				
C2A	06/03/2020	13.34				
C2B	06/03/2020	23.14				
C2C	06/03/2020	17.35				
C3B	06/03/2020	12.75				
C4	06/03/2020	5.42				

n/a = no access

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 March 2020 and were recorded below the Control Level and Compliance Limits, with one exception. At GW06_37, the Arsenic concentration in March 2020 was recorded as 61.6µg/l, which is marginally 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 193 with the exception of Nickel at GW09_32, and Ammoniacal Nitrogen at GW06_37. At GW09_32 the concentration of Nickel was recorded at 11.3µg/l which is marginally above the Compliance Limit (10 µg/l), and at GW06_37 the Ammoniacal Nitrogen concentration was recorded as 46.7mg/l, which is above the Compliance Limit of 35mg/l.

Leachate Measurements and Laboratory Test Results

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

Table 4 - Leachate Head

Monitoring Location	Leachate Head (m) in December
C1A	N/R
C1B	2.53
C1D	1.68
C1E	1.77
C2A	2.04
C2B	2.60
C2C	3.02
C3B	2.35
C4	1.94
LF08_07 (Cell 1)	1.76

N/R = Not Recorded

Of the nine leachate head levels measured, four (LF08_07, C1D, C1E, and C4) are below the permitted level of 2m. Of the remaining five, two (C2A, C3B) are within 0.5m of the permitted level of 2m. C1B, C2B and C2C are greater than 0.5m above the permitted level.

Concluding Remarks

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

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

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

Leachate head levels were measured above the permitted levels across parts of Area 2 during March 2020 and it is recommended that these are reduced.

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)