

Your ref: DP3733BK

Our ref: 14739/075/CBH/VKR

16th May 2019

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

Attn: Mr David Willey

Dear David,

RE: DP3733BK - Docksway Disposal Site. Latest Area 2 Groundwater Quality Monitoring Report, Round 181, March 2019.

Please find enclosed the results of the groundwater quality monitoring undertaken at Area 2 of Docksway Disposal Site. Groundwater and leachate sampling is required quarterly at the site in order to comply with Conditions 3.6.1 and 3.6.2 of the site PPC Permit. Leachate samples were not obtained during R181 due to access problems. This report includes discussion on results obtained from monitoring undertaken in March 2019. We enclose with this letter report the laboratory analytical certificates for the testing undertaken.

Field Observations

Details of the field testing of the Area 2 groundwater samples during Round 181 are presented in Table 1, together with depths to leachate information.

Table 1 – Field Testing Results and Observations – March 2019

Monitoring Point	Depth to Groundwater/Leachate (mbgl)	pH	Electrical Conductivity (µS/cm)	Temperature (°C)	Dissolved Oxygen (%)
GW06_39	3.80	8.04	6481	11.84	0.20
GW07_40	4.90	8.09	2084	11.54	64.70
GW12_30	4.14	7.58	2600	11.27	64.50
GW09_31	5.50	7.84	1567	11.63	3.90
GW03_09	7.80	7.95	7580	11.78	15.40
GW09_32	8.70	7.61	2288	12.31	13.50
GW12_33	8.80	7.57	1921	12.18	0.80
GW06_34	8.80	7.81	1230	11.04	2.50
GW09_35	8.60	7.98	13610	12.90	1.80
GW09_36	6.70	8.12	11940	12.81	9.20
GW06_37	6.83	8.25	9808	11.35	1.20
GW06_13	5.79	8.15	13330	11.76	0.50
GW12_38	7.45	7.87	2233	10.31	76.90
GW06_14a	Well blocked				
LF08_07	15.10	No access for sampling			
C1A	No access				
C1B	21.68	No access for sampling			
C1E	23.90	No access for sampling			
C1D	11.50	No access for sampling			
C2A	13.51	No access for sampling			
C2B	23.75	No access for sampling			
C2C	14.65	No access for sampling			
C3B	No access				

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Laboratory Testing Results

Compliance Levels

The agreed Control levels and Compliance limits for Area 2 'priority contaminants' are reproduced in Tables 2 and 3.

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
	ug/l	ug/l	ug/l	ug/l	ug/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 Substances)

Monitoring Well	Nickel		Potassium		Ammoniacal Nitrogen	
	Control Level	Compliance Limit	Control Level	Compliance Limit	Control Level	Compliance Limit
	ug/l	ug/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

Samples of groundwater were obtained from nine of the fourteen monitoring wells in Area 2 during R181.

Hazardous Substances (formally List I substances)

The hazardous substances specified as “priority contaminants” in the Area 2 Hydrogeological Risk Assessment were measured at the compliance wells in March 2019 (where sampled) and were recorded below the well specific Compliance Limits during Round 181, with one exception. The concentration of Arsenic recorded in GW06_34 was 66.1ug/l - marginally above the Compliance Limit of 65ug/l.

Non-hazardous Substances

None of the non-hazardous substances agreed as “priority contaminants” (Table 3) exceeded the well specific Compliance Limits in the wells sampled during Round 181 with the exception of Ammoniacal Nitrogen at GW06_37. At this location the concentration of Ammoniacal Nitrogen was record at 33.1mg/l which is above the Control Level (30mg/l) but below the Compliance limit (35mg/l).

Leachate Measurements

Leachate head levels were recorded as follows during January to March 2019.

Table 4 – Leachate Head

Monitoring Location	Leachate Head (m) in January 2019	Leachate Head (m) in February 2019	Leachate Head (m) in March 2019
LF08_07	2.67	0.76	1.39
C1A	No access	No access	No access
C1B	1.22	1.54	1.24
C1E	1.78	0.13	0.76
C1D	1.61	0.69	0.41
C2A	1.18	1.83	1.87
C2B	1.87	1.99	1.99
C2C	N/A	1.66	0.11
C3B	N/A	N/A	No access

The leachate head levels recorded generally indicate leachate head levels below the permitted 2m (above the base) level.

Leachate Removed

During January to March 2019, a total of 3,148,600 kg of leachate was removed from Area 2 (Cells 1 to 4 combined).

Concluding Remarks

None of the hazardous or non-hazardous substances agreed as “priority contaminants” exceeded the well specific Compliance Limits at the wells sampled during Round 181 with the exception of arsenic at GW06_34. It is proposed to review subsequent monitoring data for GW06_34 to determine if further investigation or mitigation is required.

The leachate heads recorded in Area 2 are generally below the permitted level of 2m during the specified monitoring period.

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

Yours sincerely

A handwritten signature in black ink, appearing to read 'Kate Riley', with a checkmark to the left.

Kate Riley

For and on behalf of

PETER BRETT ASSOCIATES LLP

Encs – Laboratory Certificates

Cc. Silvia Gonzalez-Lopez – Newport City Council