

Your ref: DP3733BK

Our ref: 14739/3505/CBH/KR



6th February 2015

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Attn: Mr David Willey

Dear David

RE: DP3733BK - Docksway Disposal Site. Latest Area 2 Groundwater Quality Monitoring Report, Round 130.

Please find enclosed the results of the groundwater quality monitoring undertaken at Area 2 of Docksway Disposal Site. Groundwater monitoring is required quarterly at the site in order to comply with Conditions 3.6.1 and 3.6.2 of the site PPC Permit. This report includes discussion on results obtained from monitoring undertaken in December 2014. 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 130 are presented in Table 1.

Table 1 – Field Testing Results and Observations

Monitoring Point	Date Monitored	Depth to Groundwater/Leachate (m)	pH	Electrical Conductivity (µS/cm)	Temperature (°c)	Dissolved Oxygen (mg/l)
GW09_31	10/12/2014	5.35	7.75	6781	11.0	14.5
GW03_09	10/12/2014	7.93	7.58	9942	11.2	41.0
GW12_33	10/12/2014	8.50	6.71	2.6	11.9	97.1
GW06_34	10/12/2014	8.30	7.59	1752	11.3	7.3
GW12_30	10/12/2014	4.80	6.93	3460	12.0	1.6
GW09_32	10/12/2014	7.83	7.44	6526	11.7	0.5
GW07_40	10/12/2014	4.40	7.74	2315	11.2	29.5
GW06_13	12/12/2014	5.10	7.67	9885	10.7	42.0
GW06_14a	12/12/2014	6.95	7.38	8466	11.8	47.9
GW09_35	10/12/2014	7.80	7.46	13170	11.6	0.0
GW06_36	10/12/2014	8.80	7.56	11830	12.3	3.1
GW06_37	10/12/2014	6.20	7.59	13080	11.1	6.9
GW12_38	12/12/2014	4.90	7.18	2659	11.4	36.4
GW06_39	N/A					
LF08_07**	12/12/2014	11.30	6.85	2650	18.2	22.8
C2B**	N/A					

** measured from top of monitoring stack

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Laboratory Testing Results

Compliance Levels

The Control and Compliance limits for Area 2 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

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



Compliance Limits have not yet been set for three replacement monitoring wells due to insufficient baseline data (GW12_30, GW12_33 and GW12_38). Once sufficient baseline data has been collected for the remaining wells new Compliance Limits will be proposed.

Hazardous Substances (formally List I substances)

The concentrations of Arsenic recorded during Round 130 exceeded the Compliance Limits in both GW06_37 and GW09_32. The measured concentration in GW06_37 was 230ug/l against a Compliance Limit of 60ug/l, and the measured concentration in GW09_32 was 33.8ug/l, against a Compliance Limit of 30ug/l.

None of the other hazardous substances agreed as “priority contaminants” exceeded the well specific Compliance Limits at the wells sampled during Round 130.

Non-hazardous Substances

There were no exceedances of the well specific Compliance Limits for ammoniacal nitrogen (priority contaminant) in any of the Area 2 monitoring wells sampled during Round 130.

There was one exceedance of the well specific Compliance Limit for nickel in GW09_35 during Round 130. The nickel concentration was recorded at 10.2ug/l (Compliance Limit 10ug/l).

No exceedances of the proposed Control and Compliance levels for Potassium were identified in any of the Area 2 wells during Round 130.

Leachate Measurements

Leachate levels were monitored (where possible) in LF08_07, C1A, C1B, C1D and C1E (Cell 1) and C2A, C2B and C2C (Cell 2) during Rounds 128 to 130. The leachate levels are presented in Table 5 and the volumes of leachate removed from Area 2 during October, November and December are presented in Table 6. The leachate was sampled at LF08_07 and C2B in accordance with the PPC Permit and the laboratory analytical certificates are attached to this letter report.

Table 5 – Quarterly Leachate Data from Cell 1 and Cell 2

Monitoring Well	Monitoring Round	Leachate Head Level (m)
Cell 1		
LF08_07	Round 128	3.05
	Round 129	3.08
	Round 130	3.28
C1A (Well 1)	Round 128	5.05
	Round 129	4.83
	Round 130	4.82
C1B (Well 2)	Round 128	4.31
	Round 129	3.76
	Round 130	4.11
C1D (Well 6)	Round 128	1.36
	Round 129	1.81
	Round 130	2.36
C1E (Well 7)	Round 128	2.61
	Round 129	2.86
	Round 130	1.60
Cell 2		
C2A	Round 128	N/A
	Round 129	N/A
	Round 130	N/A
C2B	Round 128	N/A
	Round 129	N/A
	Round 130	N/A



C2C	Round 128	N/A
	Round 129	N/A
	Round 130	N/A

Leachate Removed

The volume of leachate removed from Area 2 (both Cell 1 and Cell 2 combined) is summarised in Table 6 below:

Table 6 – Quarterly Leachate Data from Area 2

Monitoring Round	Leachate Removed (tonnes)
Round 128 October 2014	1406
Round 129 November 2014	1145
Round 130 December 2014	1055

Concluding Remarks

There were two exceedances of the Compliance Limits for Arsenic in GW06_37 and GW09_32, and one exceedance of the Compliance Limit for Nickel in GW09_35 during Round 130.

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

Kate Riley

For and on behalf of

PETER BRETT ASSOCIATES LLP

Cc. Gwyn Jones – NCC (Docksway Disposal Site)

Enc. Laboratory Analytical Testing Result