

Your ref: EAWML30058

Our ref: 14739/075H/CBH/RHT/VKR/AREA 1GW



25th November 2015

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Attn: Geraint Richards

Dear Geraint

RE: EAWML30058 - DOCKSWAY DISPOSAL SITE. AREA 1 GROUNDWATER QUALITY MONITORING REPORT, ANNUAL SCREEN - SEPTEMBER 2015

Please find enclosed a summary of the results for the groundwater quality monitoring annual screen 2015, carried out at Area 1 of Docksway Disposal Site, in accordance with the aftercare plan, following definitive closure of Area 1 in October 2014. The monitoring was undertaken on the 25th September 2015.

We enclose with this letter report, a plan showing the locations of the primary groundwater monitoring points, (Figure A) and the results of the laboratory testing carried out on the three compliance wells (GW03_05, GW07_07 and GW03_02).

Field Observations

Details of the field testing results obtained during the 2015 annual screen are presented in Table 1.

Table 1 – Field Testing and Observations

Monitoring Point	pH	Electrical Conductivity (µS/cm)	Temperature (°C)	Dissolved Oxygen (%)
GW03_02	7.2	2337	12.8	7.0
GW07_07	7.2	3113	12.4	4.9
GW03_05	7.1	2537	13.9	4.5

The monitoring undertaken was an annual screen which comprises the following determinands;

Total Alkalinity	Chromium	Total Oxidised Nitrogen	Total Organic Carbon
Ammoniacal Nitrogen	Copper	Calcium	VOCs
COD	Lead	Magnesium	SVOCs
Conductivity	Manganese	Potassium	Organochlorine and Organophosphorous Pesticides
EPH	Nickel	Sodium	
Mercury	Zinc	pH	Cyanide Total
Arsenic	Chloride	Organotins	Cyanide Free
Cadmium	Sulphate	Phenols	

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Laboratory Test Results where Compliance Limits have been proposed

Control Levels and Compliance Limits

The Hydrogeological Risk Assessment (HRA) for Area 1 was revised and issued in October 2011, and contains the Control Levels and Compliance Limits that were set and used to assess the groundwater quality across the Area 1 site, prior to formal closure. The annual screen results for the Area 1 groundwater have been assessed against the well specific Compliance Limits contained in the HRA.

The current laboratory limit of detection (LDL) has been used as the Control level and Compliance limit for Benzene, Naphthalene, Xylene, Phenols and Mercury. This may however be subject to change as the laboratory limit of detection changes.

Hazardous Substances (formerly List I substances)

All the hazardous substances, specified as “priority contaminants” in the Area 1 Hydrogeological Risk Assessment (EPH, Arsenic, Benzene, Naphthalene, Xylene and Mercury) were monitored at the compliance wells in September 2015 and all were recorded below the well specific Compliance limits.

Other Hazardous Substances

The results of the testing for hazardous substances other than the priority contaminants undertaken during September 2015 are presented in the enclosed analytical certificates and are summarised below.

In general, volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides and organotins were not detected in the majority of the Area 1 groundwater samples tested with the exception of the following.

Table 2 – Summary of Contaminants Monitored During the Annual Screen Recorded Above the Lab Detection Limit.

Monitoring Point	Contaminant	Lab Detection Limit	Recorded Value
GW03_02	Dichlobenil	<0.01ug/l	0.029ug/l
GW07_07	Dichlobenil	<0.01ug/l	0.014ug/l

Non-Hazardous Substances (formerly List II Substances)

Ammoniacal Nitrogen

Ammoniacal nitrogen concentrations did not exceed the well specific compliance limits for the compliance wells during this round.

Nickel

Nickel concentrations did not exceed the well specific compliance limits for the compliance wells during this round.

Phenol

Phenol concentrations above the LDL were not detected in the compliance wells during this round.



Potassium

Potassium concentrations did not exceed the well specific compliance limits for the compliance wells during this round.

Chloride and Chemical Oxygen Demand (COD)

Chloride concentrations at GW03_02 were recorded at 147mg/l during this round which is consistent with previous monitoring rounds. Chloride concentrations at GW07_07 were recorded at 505mg/l which is within the range of data shown for this monitoring well during the last 5 years. Chloride concentrations at GW03_05 were recorded at 403mg/l.

COD concentrations of 35.1mg/l, 56.1mg/l and 52.5mg/l were recorded at GW03_02, GW03_05 and GW07_07 respectively during this round. These values are within the range of results that have been recorded at each of the compliance wells in the last 5 years.

Leachate Dip Measurements and Laboratory Test Results

The level of leachate across Area 1 was monitored in LF03_01, LF03_03 and LF11_01 to LF11_07 in September 2015 and was recorded at levels of between 6.2m AOD and 21.9 m AOD.

An annual hazardous substance screen was carried out during September 2015 in accordance with the aftercare plan (EAWML 30058). Samples of leachate were obtained and submitted for laboratory testing, from LF11_02, LF11_04, LF11_05 and LF11_07. As with the groundwater screen, the majority of the hazardous substances tested for in leachate during this annual round at Area 1 are not designated Priority Contaminants and therefore Compliance Levels are not required to be set. The results of the additional testing undertaken during September 2015 are presented in the enclosed analytical certificates and are summarised below.

Free Cyanide was not detected at concentrations above the LDL in the leachate wells sampled during this round.

A number of results were recorded above the lab limit of detection for volatile organic compounds (VOCs) and semi volatile organic compounds (SVOCs). Pesticides were not generally detected in any of the of the Area 1 leachate samples tested with the exception of LF11_04 where a concentration of 0.094ug/l of Terbutryn was measured.

Concluding Remarks

NCC will continue to monitor the Area 1 groundwater quality in accordance with the aftercare plan and PBA will comment on the general water 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)