



Your Ref: DP3733BK

Our Ref: 49428/332510236/3515/CBH/VKR/MR/AREA 2 GW & LEACHATE/R247

6th December 2024

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

Attn: Luke Burton

Dear Luke,

Re: DP3733BK – Docksway Disposal Site. Latest Area 2 Groundwater and Leachate Quality Monitoring Report, Round 247, September 2024.

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).

In addition, this report includes the annual screen for hazardous substances, in compliance with Tables SS3.6 and S3.7 of the permit. This report includes discussion of results obtained from monitoring during September 2024.

We enclose with this letter report, the laboratory analytical certificates and Figure A, a plan showing the locations of the available monitoring points.

Field Observations

Details of the field testing of the Area 2 groundwater and leachate samples during Round 247 are presented in Table 1, together with depths to groundwater and leachate.

Table 1 Field testing Results and Observations – September 2024

Monitoring Point	Dates Monitored	Depth to Groundwater/ Leachate (m)	pH	Electrical Conductivity (µS/cm)	Temperature (°c)	Dissolved Oxygen (%)
GW06_39	Destroyed					
GW07_40	18/09/2024	5.29	7.4	1826	13.4	33.1
GW12_30	18/09/2024	4.44	7.2	2041	13.4	18.6
GW09_31	18/09/2024	6.16	7.5	1750	13.7	37.8
GW03_09	18/09/2024	8.37	7.7	1843	15.4	55
GW09_32	Well pipe bent unable to collect sample.					
GW12_33	18/09/2024	8.17	7.3	2088	13.8	6.6
GW06_34	19/09/2024	8.52	7.5	1545	14.8	44.3
GW09_35	19/09/2024	7.17	7.7	11370	14.5	36.5
GW06_36	19/09/2024	7.96	7.7	7589	15.7	8.9

Caversham Bridge House
Waterman Place
Reading
Berkshire RG1 8DN

Telephone: +44 (0)118 950 0761
email: reading.uk@stantec.com

Registered Office:
Stantec UK Ltd
Buckingham Court
Kingsmead Business Park
Frederick Place, London Road
High Wycombe HP11 1JU
Registered in England No. 01188070

Monitoring Point	Dates Monitored	Depth to Groundwater/ Leachate (m)	pH	Electrical Conductivity ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Dissolved Oxygen (%)
GW06_37	19/09/2024	6.95	7.8	13390	14.8	35.7
GW06_13	19/09/2024	7.25	8	10120	12.6	13.4
GW12_38	19/09/2024	7.85	7.3	2466	13.3	76.8
GW06_14a	19/09/2024	4.25	7.7	17000	15.5	45.2
LF08_07 (leachate)	16/09/2024	16.39	7.8	19160	26.8	6.9
C1A (leachate)	16/09/2024	21.84	Not sampled, dip measurement only			
C1B (leachate)	16/09/2024	21.52	Not sampled, dip measurement only			
C1E (leachate)	16/09/2024	24.58	Not sampled, dip measurement only			
C1D (leachate)	Unable to access					
C2A (leachate)	16/09/2024	13.6	Not sampled, Dip measurement only			
C2B (leachate)	Unable to dip and sample					
C2C (leachate)	16/09/2024	22.5	7.7	13330	20.1	15.8
C3A (leachate)	16/09/2024	14.49	Not sampled, dip measurement only			
C3B (leachate)	16/09/2024	18.65	7.6	18560	24.6	3.2
C4A (leachate)	16/09/2024	12.43	Not sampled, dip measurement only			
C4B (leachate)	16/09/2024	12.44	7.3	19180	27.3	5

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

Monitoring Well	Benzene	Naphthalene	Xylene	Arsenic
	Compliance Limit	Compliance Limit	Compliance Limit	Compliance Limit
	$\mu\text{g}/\text{l}$	$\mu\text{g}/\text{l}$	$\mu\text{g}/\text{l}$	$\mu\text{g}/\text{l}$
GW03_09	2	5	3	35
GW06_13	2	5	3	50
GW06_14a	2	5	3	25
GW06_34	2	5	3	65
GW06_36	2	5	3	30
GW06_37	2	5	3	60
GW06_39	2	5	3	50
GW07_40	2	5	3	35
GW09_31	13	5	3	80
GW09_32	3	5	3	30
GW09_35	2	5	3	50
GW12_30	1	1	1	160

Monitoring Well	Benzene	Naphthalene	Xylene	Arsenic
	Compliance Limit	Compliance Limit	Compliance Limit	Compliance Limit
	µg/l	µg/l	µg/l	µg/l
GW12_33	1	1	1	560
GW12_38	1	1	1	26

Table 3 PPC Permit Compliance Levels for Emissions to Groundwater (Non-Hazardous Substance)

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

Priority Contaminants

Hazardous Substances (formally List I Substances)

All of the hazardous substances specified as “priority contaminants” in the Area 2 Hydrogeological Risk Assessment and monitored in groundwater samples from compliance wells in September 2024 were recorded below the Compliance Limits.

Other Hazardous Substances (Annual Screen)

A full hazardous substance screen was carried out during September 2024 in accordance with Condition 3.6.1 of the PPC Permit. The majority of the hazardous substances tested for during this annual round at Area 2 are not designated Priority Contaminants for Docksway Disposal Site and therefore compliance

limits are not required to be set. The results of the additional testing undertaken during September 2024 are presented in the enclosed analytical certificates and are summarised below.

The results indicate that with limited exceptions, volatiles organic compounds (VOCs), semi volatile organic compounds (SVOCs), mercury, phenols, pesticides and organotins were not detected above the laboratory method of detection limits in the Area 2 groundwater samples taken during Round 247. The exceptions are as follows:

Table 4 Annual Screen Recorded Concentrations (hazardous substances) – September 2024

Determinand	Method Detection Limit (ug/l)	Measured Value (ug/l)	Borehole
Total SVOC TIC (unknown 1 & 2)	<10	67.8	GW03_09
Total SVOC TIC Isomer of Trifluoromethylphenol	<10	18.4	GW07_40
Total SVOC TIC nthrenol. Cas no 1000210-38-4	<10	523	GW12_33
Carbon disulphide	<1	1.11	GW12_33

Non-Hazardous Substances

None of the non-hazardous substances agreed as “priority contaminants” exceeded the well specific Control and Compliance Limits in the groundwater sampled during Round 247.

Leachate Laboratory Test Results

An annual hazardous substance screen of the Area 2 leachate was carried out during September 2024, in addition to the quarterly monitoring, in accordance with Condition 3.6.1 of the PPC Permit. The results of the quarterly and annual screen testing undertaken during 2024 are presented in the enclosed analytical certificates with the annual screen results summarised below.

The majority of the annual screen results were below the detection limits with the following exceptions:

Table 5 Annual Screen Recorded Concentrations (Leachate) – September 2024

Determinand	C3B	C4B	C2C	LF08_07
Phenol (mg/l)		0.02		
Cresols (mg/l)	0.9	0.03		0.62
Xylenols (mg/l)			0.02	
Phenols (mg/l)	0.9	0.05	0.02	0.62
Total SVOC TIC (ug/l)	8320	7780	3890	4590
Isomer of Benzothiazolone (ug/l) (SVOC TIC)	3380		1400	
Triisopropylphosphate (ug/l) (SVOC TIC)	3860	6150	2490	4590
Unknown1 (ug/l)	1080	1060		
Unknown2 (ug/l)		576		

Leachate Measurements

Leachate levels were recorded at C1A, C1B, C1E, C2A, C2C, C4A, C4B and LF08_07 in September 2024 and the leachate head levels are indicated to be as follows:

Table 6 Leachate Levels – Sept 2024 round

Monitoring Location	Leachate Head (m)
C1A	2.58
C1B	1.35
C1E	0.05
C2A	1.84
C2C	1.60
C3A	1.84
C3B	1.76
C4A	0.62
C4B	1.61
LF08_07 (Cell 1)	0.12

In the ten locations monitored, one (C1A) is above the permitted level of 2m. Monitoring points C1D and C2B were unable to be dipped. At the remaining monitoring points, leachate head levels are below the permitted level.

Leachate Removed

During July 2024 to Sept 2024 a total of 7,011,440 of Leachate was removed from Area 2 (Cells 1 to 4 combined).

Concluding Remarks & Recommendations

All of the hazardous 'priority contaminants' were recorded at concentrations in the groundwater below the LOD or well specific Compliance Limits in Area 2 during September 2024. In addition, all non-hazardous 'priority contaminants' in September 2024 were recorded below the Compliance Limits.

The majority of the annual screen results were recorded at concentrations in the groundwater below the method detection limit, however some components were detected at relatively low levels. The parameters detected are considered to be general background levels representative of the wider groundwater regime rather than resulting from the landfill site.

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.

Yours sincerely,



Kate Riley
Technical Director – Geoenvironmental Services
on behalf of Stantec UK Ltd

Encls: Laboratory Certificates
Figure A

CC:
Robert Hughes – NCC (Docksway Disposal Site)
Luke Embrey – NCC