

Pat Mcgrath
Cardiff City Council
Waste Management
Lamby Way
Rumney
Cardiff
CF3 2HP

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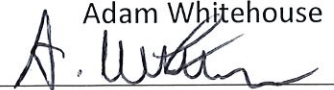
Certificate of Analysis Number: 2350

Project/Site name:	Lamby Way	Samples Taken:	12-04-2018
Job Number:	-	Samples Received:	13-04-2018
Order Number:	-	Date Instructed:	13-04-2018
Quotation Number:	DS 170612	Analysis Complete:	04-05-2018
Sample Matrix:	Groundwater, Surface Water, Leachate Water	Report Issued:	08-05-2017
		Sampled By:	Client

Disposal Times:

All water samples will be retained for a period of two weeks and all soil samples retained for a period of one month following the date of the issued certificate.

Approved by: Adam Whitehouse

Signature: 

Title: Quality Manager



4303

Client: Cardiff City Council
FAO: Pat Mcgrath

CERTIFICATE OF ANALYSIS 2350
Results of analysis of 30 samples received
on the 13/04/18

Report Date
08th May 2018

Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418005	130418006	130418007	130418008
Client Sample Reference:				C1	C2	C3	C5
Sample Date:				12/04/18	12/04/18	12/04/18	12/04/18
Sample Matrix:				Groundwater	Groundwater	Groundwater	Groundwater
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	1.2	0.05	5.9	9.0
INORG-L13	Chloride	mg.l ⁻¹	A	30.8	24.5	22.3	8.1
INORG-L01	pH	pH units	A	7.5	7.9	7.8	7.4
1630	Dissolved Methane	mg.l ⁻¹	S-N	-	<0.050	<0.050	-

Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418009	130418010	130418011	130418012
Client Sample Reference:				C6	C8	C12	C13
Sample Date:				12/04/18	12/04/18	12/04/18	12/04/18
Sample Matrix:				Groundwater	Groundwater	Groundwater	Groundwater
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	1.4	0.62	1.4	10.7
INORG-L13	Chloride	mg.l ⁻¹	A	4.7	23.4	3.7	5.0
INORG-L01	pH	pH units	A	7.5	7.6	7.2	7.7

Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418013	130418014	130418015	130418016
Client Sample Reference:				C14	C16	C18	C20
Sample Date:				12/04/18	12/04/18	12/04/18	12/04/18
Sample Matrix:				Groundwater	Groundwater	Groundwater	Groundwater
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	4.6	10.4	0.27	0.42
INORG-L13	Chloride	mg.l ⁻¹	A	4.4	3.2	22.3	5.4
INORG-L01	pH	pH units	A	7.4	7.0	7.9	7.5

* Accreditation Status

Tests marked 'A' hold UKAS accreditation

Tests marked 'N' do not hold UKAS accreditation

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Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418017	130418018	130418019	130418020
Client Sample Reference:				C21	C22	SW1	SW2
Sample Date:				12/04/18	12/04/18	12/04/18	12/04/18
Sample Matrix:				Groundwater	Groundwater	Surface Water	Surface Water
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	0.48	6.8	0.72	0.01
INORG-L13	Chloride	mg.l ⁻¹	A	25.4	3.8	26.1	9.0
INORG-L01	pH	pH units	A	7.6	6.9	7.4	7.4
INORG-L06.1	BOD	mg.l ⁻¹ as O ₂	A	-	-	3.0	1.9

Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418021	130418022	130418023	130418024
Client Sample Reference:				SW3	SW4	SW5	SW6
Sample Date:				12/04/18	12/04/18	12/04/18	12/04/18
Sample Matrix:				Groundwater	Groundwater	Groundwater	Groundwater
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	0.01	0.07	1.8	0.22
INORG-L13	Chloride	mg.l ⁻¹	A	7.2	19.8	20.9	10.7
INORG-L01	pH	pH units	A	7.5	8.1	8.0	8.3
INORG-L06.1	BOD	mg.l ⁻¹ as O ₂	A	2.5	1.5	6.5	2.3

Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418025	130418026	130418027	130418028
Client Sample Reference:				L2	L4	SL4	SL5
Sample Date:				12/04/18	12/04/18	12/04/18	12/04/18
Sample Matrix:				Leachate	Leachate	Leachate	Leachate
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	1,740	1,610	312	52
INORG-L13	Chloride	mg.l ⁻¹	A	19.3	19.0	15.7	24.8
METALS-L	Nickel	µg.l ⁻¹	A	144	197	11.2	7.9
1450	Cadmium	µg.l ⁻¹	S-N	0.52	<0.080	<0.080	0.13
ORG0L17	Mecoprop	µg.l ⁻¹	A	63.6	30.5	32.5	6.1
ORG-L05	Xylene	µg.l ⁻¹	N	30.5	21.5	<5.0	<5.0
1630	Dissolved Methane	mg.l ⁻¹	S-N	-	1.9	-	-

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Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418029	130418030	130418031	-
Client Sample Reference:				SL6	SL7	SL8	-
Sample Date:				12/04/18	12/04/18	12/04/18	-
Sample Matrix:				Leachate	Leachate	Leachate	-
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	52	1,560	1,250	-
INORG-L13	Chloride	mg.l ⁻¹	A	21.4	9.2	16.2	-
METALS-L	Nickel	µg.l ⁻¹	A	5.3	27.0	77.5	-
1450	Cadmium	µg.l ⁻¹	S-N	<0.080	0.37	<0.080	-
ORG0L17	Mecoprop	µg.l ⁻¹	A	13.4	23.2	48.5	-
ORG-L05	Xylene	µg.l ⁻¹	N	<5.0	19.5	18.0	-

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Code	Determinand	Units	*	Sample Identification			
Laboratory Sample Number:				130418032	130418033	-	-
Client Sample Reference:				C25	L7	-	-
Sample Date:				12/04/18	12/04/18	-	-
Sample Matrix:				Leachate	Leachate	-	-
INORG-L12	Ammonia	mg.l ⁻¹ as NH ₄	A	0.05	182	-	-
INORG-L13	Chloride	mg.l ⁻¹	A	28.2	14.5	-	-
INORG-L31	Cyanide	mg.l ⁻¹	N	<0.1	<0.1	-	-
INORG-L20	Mono Phenols	mg.l ⁻¹	A	0.19	0.59	-	-
INORG-L21	Ortho-Phosphate	mg.l ⁻¹ P	A	0.18	0.28	-	-
METALS-L	Sulphate	mg.l ⁻¹	A	157	238	-	-
INORG-L10	Suspended Solids	mg.l ⁻¹	A	12.8	9.2	-	-
INORG-L05	COD	mg.l ⁻¹ O ₂	A	26	232	-	-
1450	Arsenic	µg.l ⁻¹	S-N	3.6	12	-	-
METALS-L	Chromium	µg.l ⁻¹	A	3.5	21.6	-	-
METALS-L	Copper	µg.l ⁻¹	A	9.5	5.7	-	-
METALS-L	Nickel	µg.l ⁻¹	A	5.0	40.2	-	-
METALS-L	Zinc	µg.l ⁻¹	A	15.2	18.1	-	-
METALS-L	Sulphur	mg.l ⁻¹	A	52.3	79.3	-	-
1630	Dissolved Methane	mg.l ⁻¹	S-N	<0.050	<0.050	-	-
INORG-L01	pH	pH units	A	8.3	7.8	-	-
INORG-L06.1	BOD	mg.l ⁻¹ as O ₂	A	6.7	30.1	-	-

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Analytical Method	Method Code	Accreditation Status
Determination of pH in waters by electrode probe meter (In-house method)	INORG-L01	ISO 17025
Determination of ammonia in waters by colorimetric photometer (In-house method)	INORG-L12	ISO 17025
Determination of chloride by colorimetric photometer (In-house method)	INORG-L13	ISO 17025
Determination of BOD in waters by titration (In-house method)	INORG-L06.1	ISO 17025
Determination of metals (Cr, Ni, Cu, Zn, S) in waters by ICP-OES (In-house method)	METALS-L	ISO 17025
Determination of metals (As, Cd) in waters by colorimetric analysis (In-house method)	1450	None
Determination of Cyanide in water by colorimetric analysis (In-house method)	INORG-L31	None
Determination of COD in waters by colorimetric photometer (In-house method)	INORG-L05	ISO 17025
Determination of Ortho-Phosphates in waters by colorimetric photometer (In-house method)	INORG-L21.1	ISO 17025
Determination of suspended solids in waters by gravimetric (In-house method)	INORG-L10	ISO 17025
Determination of Dissolved Methane in waters by GC-MS (Sub-Contracted method)	1630	None

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All results only relate to the items tested.

This report supersedes any previous versions issued by the laboratory.

A full list of determinants relating to abbreviations such as PAHs, VOCs, SVOCs, PCBs etc. is available upon request.

Where results have been labelled as deviating for any reason, the data may not be representative of the sample at the point of sampling:

[I/S]: Insufficient Sample

[U/S]: Unsuitable Sample

[A]: Date of Sampling not supplied

[B]: Sample age exceeds recommended storage time

[C]: Samples not received in appropriate containers

[D]: Broken Container

< "Less Than"

> "Greater Than"

Where any sub-contracted results have been noted as deviating by the laboratory in question, their deviations codes will be applied and detailed.

Accreditation statements are correct at the time of issue.

This report shall not be reproduced in part without the approval of Decus Research Ltd, nor used in any way as to lead to misrepresentation of the results or their implications.

*****END OF REPORT*****

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