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Analytical Report Number : 23-22303

Project / Site name:	Bridge Road	**Samples received on:**	13/03/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	13/03/2023
Your order number:	G1753	**Analysis completed by:**	21/03/2023
Report Issue Number:	1	**Report issued on:**	22/03/2023
Samples Analysed:	4 soil samples		

Signed: [redacted]

Anna Goc
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-22303
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2612566	2612567	2612568	2612569
Sample Reference				Plot 32 R SS	Plot 34 R TS	Plot 34 F TS	Plot 35 F SS
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.20	0.20	0.40
Date Sampled				09/03/2023	09/03/2023	09/03/2023	09/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.8	24	13	13
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	JSW	JSW

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	8.9	-	-
Organic Matter (automated)	%	0.1	MCERTS	0.3	3.8	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.21	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.19	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.3	0.05	0.08	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.31	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.2	0.09	0.11	< 0.05
Pyrene	mg/kg	0.05	MCERTS	1.3	0.08	0.13	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.6	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.5	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.62	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.23	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.55	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.28	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.37	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	7.67	< 0.80	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	6.9	5.6	12
Barium (aqua regia extractable)	mg/kg	1	MCERTS	23	19	16	26
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.44	0.23	0.18	0.49
Boron (water soluble)	mg/kg	0.2	MCERTS	0.2	0.8	0.9	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	6.1	4.8	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8	9.9	11	7.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.6	19	13	9.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	8.4	6.6	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	12	8.9	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	36	51	38	40

Analytical Report Number: 23-22303
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Your Order No: G1753

Lab Sample Number				2612566	2612567	2612568	2612569
Sample Reference				Plot 32 R SS	Plot 34 R TS	Plot 34 F TS	Plot 35 F SS
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.20	0.20	0.40
Date Sampled				09/03/2023	09/03/2023	09/03/2023	09/03/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	42	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	48	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	2.8	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	13	< 10	13	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	23	< 10	16	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-22303
Project / Site name: Bridge Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2612566	Plot 32 R SS	None Supplied	0.4	Brown sand with gravel.
2612567	Plot 34 R TS	None Supplied	0.2	Brown loam and clay with vegetation.
2612568	Plot 34 F TS	None Supplied	0.2	Brown loam and clay with vegetation.
2612569	Plot 35 F SS	None Supplied	0.4	Brown sand with gravel.

Analytical Report Number : 23-22303
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography

Analytical Report Number : 23-22303
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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Analytical Report Number : 23-28161

Project / Site name:	Bridge Road	**Samples received on:**	14/04/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	14/04/2023
Your order number:	G1753	**Analysis completed by:**	24/04/2023
Report Issue Number:	1	**Report issued on:**	24/04/2023
Samples Analysed:	4 soil samples		

Signed: [redacted]

Elżbieta Suchy
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-28161
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2646816	2646817	2646818	2646819
Sample Reference				Plot 27 TS	Plot 28 TS	Plot 30 SS	Plot 30 SS
Sample Number				F	R	F	R
Depth (m)				0.30	0.30	0.50	0.50
Date Sampled				12/04/2023	12/04/2023	12/04/2023	12/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	23	11	13
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	PDO	PDO
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	8.2	-	-	8.2
Organic Matter (automated)	%	0.1	MCERTS	4.7	-	-	0.7
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.15	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.06	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.09	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.6	5.6	14	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	19	16	19	17
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.21	0.21	0.5	0.48
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	0.7	< 0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	6.9	5.2	16	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	9.8	9.4	8.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	14	9.2	8.9
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.8	7	19	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	10	9.9	34	35
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	46	39	61	58

Analytical Report Number: 23-28161
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2646816	2646817	2646818	2646819
Sample Reference				Plot 27 TS	Plot 28 TS	Plot 30 SS	Plot 30 SS
Sample Number				F	R	F	R
Depth (m)				0.30	0.30	0.50	0.50
Date Sampled				12/04/2023	12/04/2023	12/04/2023	12/04/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	14	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	15	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	11	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-28161
Project / Site name: Bridge Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2646816	Plot 27 TS	F	0.3	Brown loam and sand with gravel and vegetation.
2646817	Plot 28 TS	R	0.3	Brown loam and sand with gravel and vegetation.
2646818	Plot 30 SS	F	0.5	Brown sand with gravel.
2646819	Plot 30 SS	R	0.5	Brown sand with gravel.

Analytical Report Number : 23-28161
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 23-28161
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 23-44161

Project / Site name:	Bridge Road	**Samples received on:**	10/07/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	10/07/2023
Your order number:	G1753	**Analysis completed by:**	19/07/2023
Report Issue Number:	1	**Report issued on:**	19/07/2023
Samples Analysed:	3 soil samples		

Signed: [redacted]

Dominika Warjan
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-44161
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743141	2743142	2743143
Sample Reference				Plot 41 F TS	Plot 42 B SS	Plot 44 B TS
Sample Number				13	14	15
Depth (m)				0.50	0.60	0.30
Date Sampled				07/07/2023	07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.6	8.6	18
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	7.9	8.3
Organic Matter (automated)	%	0.1	MCERTS	0.3	< 0.1	4.7

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	12	8.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	20	23	24
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.55	0.57	0.27
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.3	1.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	17	7.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	14	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.1	8.3	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	15	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	33	33	14
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	37	63

Analytical Report Number: 23-44161
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743141	2743142	2743143
Sample Reference				Plot 41 F TS	Plot 42 B SS	Plot 44 B TS
Sample Number				13	14	15
Depth (m)				0.50	0.60	0.30
Date Sampled				07/07/2023	07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Monoaromatics & Oxygenates						
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0~	< 5.0~
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0~	< 5.0~
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0~	< 5.0~
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0~	< 5.0~
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0~	< 5.0~
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0~	< 5.0~
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-44161
Project / Site name: Bridge Road

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Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2743141	Plot 41 F TS	13	0.5	Brown sand with gravel.
2743142	Plot 42 B SS	14	0.6	Brown sand with gravel.
2743143	Plot 44 B TS	15	0.3	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 23-44161
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

Analytical Report Number : 23-44161
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

~ - Quality control surrogate recovery outside of limits, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Final Report

Report No.:	23-18995-1
Initial Date of Issue:	12-Jun-2023
Re-Issue Details:	
Client	JNP Group Consulting Engineers
Client Address:	Portobello House Portobello Way Warwick CV34 5GJ
Contact(s):	Charles Wake Hilary Ilsley
Project	M41977 Bridge Road
Quotation No.:	
Order No.:	G2009
No. of Samples:	4
Turnaround (Wkdays):	5
Date Approved:	12-Jun-2023
Approved By:	[redacted]
Details:	Stuart Henderson, Technical Manager

Date Received:	06-Jun-2023
Date Instructed:	06-Jun-2023
Results Due:	12-Jun-2023

Results - Soil

Project: M41977 Bridge Road

Client: JNP Group Consulting Engineers		**Chemtest Job No.:**			23-18995	23-18995	23-18995	23-18995
Quotation No.:		**Chemtest Sample ID.:**			1651786	1651787	1651788	1651789
Order No.: G2009		Client Sample Ref.:			ES1	ES2	ES3	ES4
		Client Sample ID.:			Plot 36 SS R	Plot 38 TS R	Plot 39 TS F	Plot 37 SS F
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.40	0.20	0.20	0.50
		Date Sampled:			02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023
		Asbestos Lab:			NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type	U	2192		N/A	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	8.8	19	16	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones and Roots	Stones and Roots	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand
pH	M	2010		4.0	8.3	8.3	8.1	8.7
Arsenic	M	2455	mg/kg	0.5	12	5.4	5.2	7.8
Cadmium	M	2455	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2455	mg/kg	0.5	19	5.3	6.0	15
Copper	M	2455	mg/kg	0.50	8.9	7.6	8.0	4.3
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	16	4.5	4.7	8.1
Lead	M	2455	mg/kg	0.50	7.6	12	9.5	5.2
Selenium	M	2455	mg/kg	0.25	0.64	0.25	0.27	0.40
Zinc	M	2455	mg/kg	0.50	42	43	36	32
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	3.9	7.5	5.0	3.1
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	2.1	1.4	1.4	< 1.0
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	< 3.0	6.5	5.1	< 3.0
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	6.8	17	12	< 5.0
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	< 10	17	12	< 10
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: M41977 Bridge Road

Client: JNP Group Consulting Engineers			**Chemtest Job No.:**		23-18995	23-18995	23-18995	23-18995
Quotation No.:			**Chemtest Sample ID.:**		1651786	1651787	1651788	1651789
Order No.: G2009			Client Sample Ref.:		ES1	ES2	ES3	ES4
			Client Sample ID.:		Plot 36 SS R	Plot 38 TS R	Plot 39 TS F	Plot 37 SS F
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.40	0.20	0.20	0.50
			Date Sampled:		02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023
			Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00	18	24	21	18
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00	< 2.0	100	65	< 2.0
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	< 1.0	6.1	3.0	< 1.0
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00	18	130	86	19
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	18	130	89	19
Total VPH >C5-C10	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	U	2690	mg/kg	10.00	25	140	98	23
Total EPH >C10-C40	N	2690	mg/kg	10.00	25	150	100	23
Organic Matter	M	2625	%	0.40	< 0.40	3.1	5.2	< 0.40
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	1.0	< 0.10	< 0.10
Pyrene	M	2700	mg/kg	0.10	< 0.10	0.44	< 0.10	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	0.81	< 0.10	< 0.10
Chrysene	M	2700	mg/kg	0.10	< 0.10	0.36	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	2.6	< 2.0	< 2.0

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35–C40	Acetone/Heptane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

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Analytical Report Number : 23-65457

Project / Site name:	Bridge Road	**Samples received on:**	27/10/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	27/10/2023
Your order number:	G1753	**Analysis completed by:**	08/11/2023
Report Issue Number:	1	**Report issued on:**	08/11/2023
Samples Analysed:	4 soil samples		

Signed: [redacted]

Dominika Warjan
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-65457
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2860785	2860786	2860787	2860788
Sample Reference				Plot 44 SS	Plot 47 TS	Plot 48 SS	Plot 50 TS
Sample Number				4	3	2	1
Depth (m)				0.50	0.10	0.40	0.15
Date Sampled				27/10/2023	27/10/2023	27/10/2023	27/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	12	14	16
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	SSZ	SSZ
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	7.8	7.3	10	7.3
Organic Matter (automated)	%	0.1	MCERTS	< 0.1	1.7	0.5	1.6
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.1	0.05	0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.1	0.05	0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.08	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.06	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.08	< 0.05	0.06
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.08	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.05	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.1	6.6	8.3	5
Barium (aqua regia extractable)	mg/kg	1	MCERTS	13	17	34	18
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.47	0.26	0.35	0.22
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.4	0.3	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	9.7	11	15	9.7
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6.1	14	6.4	8.2
Lead (aqua regia extractable)	mg/kg	1	MCERTS	6.4	16	10	18
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.6	5.5	4.1	3.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	21	20	27	17
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	25	22	18	19

Analytical Report Number: 23-65457
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2860785	2860786	2860787	2860788
Sample Reference				Plot 44 SS	Plot 47 TS	Plot 48 SS	Plot 50 TS
Sample Number				4	3	2	1
Depth (m)				0.50	0.10	0.40	0.15
Date Sampled				27/10/2023	27/10/2023	27/10/2023	27/10/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene##	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-65457
Project / Site name: Bridge Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2860785	Plot 44 SS	4	0.5	Brown sand.
2860786	Plot 47 TS	3	0.1	Brown sand with vegetation.
2860787	Plot 48 SS	2	0.4	Brown sand.
2860788	Plot 50 TS	1	0.15	Brown sand with vegetation.

Analytical Report Number : 23-65457
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID. Refer to CoA for band specific accreditation.	In-house method with silica gel split/clean up.	L088/76-PL	D	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

Analytical Report Number : 23-65457
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

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Analytical Report Number : 23-72401

Project / Site name:	Bridge Road	**Samples received on:**	30/11/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	30/11/2023
Your order number:	G2246	**Analysis completed by:**	08/12/2023
Report Issue Number:	1	**Report issued on:**	08/12/2023
Samples Analysed:	9 soil samples		

Signed: [redacted]

Dominika Liana
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-72401
Project / Site name: Bridge Road
Your Order No: G2246

Lab Sample Number				2896893	2896894	2896895	2896896	2896897
Sample Reference				P66R TS	P64R SS	P64F TS	BHF TS	P53F TS
Sample Number				1	2	3	4	5
Depth (m)				0.25	0.50	0.15	0.20	0.25
Date Sampled				29/11/2023	29/11/2023	29/11/2023	29/11/2023	29/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	13	14	15	14
Total mass of sample received	kg	0.001	NONE	0.3	0.2	0.3	0.3	0.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS	EWS
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8	8.4	8.4	8	7.9
Organic Matter (automated)	%	0.1	MCERTS	4.1	0.9	1.7	1.5	1.9
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.14	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.11	< 0.05	0.08
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.11	< 0.05	0.07
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.08	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.06	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Analytical Report Number: 23-72401
Project / Site name: Bridge Road
Your Order No: G2246

Lab Sample Number				2896893	2896894	2896895	2896896	2896897
Sample Reference				P66R TS	P64R SS	P64F TS	BHF TS	P53F TS
Sample Number				1	2	3	4	5
Depth (m)				0.25	0.50	0.15	0.20	0.25
Date Sampled				29/11/2023	29/11/2023	29/11/2023	29/11/2023	29/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.1	10	4.3	5.5	4.5
Barium (aqua regia extractable)	mg/kg	1	MCERTS	27	20	14	16	15
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.25	0.48	0.22	0.24	0.21
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	0.6	0.4	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	6.6	15	9.5	11	9.1
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	10	8.7	7.3	8.3
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	9.3	14	16	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.7	14	2.7	2.8	2.7
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	11	26	16	19	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	56	40	17	20	17
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-72401
Project / Site name: Bridge Road
Your Order No: G2246

Lab Sample Number				2896898	2896899	2896900	2896901
Sample Reference				P51F SS	P53R SS	P52R TS	BGR TS
Sample Number				6	7	8	9
Depth (m)				0.40	0.50	0.20	0.15
Date Sampled				29/11/2023	29/11/2023	29/11/2023	29/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	14	15	16
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS	EWS

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.5	8.2	8.1	8
Organic Matter (automated)	%	0.1	MCERTS	0.5	0.6	1.7	2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.07
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.07
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80

Analytical Report Number: 23-72401
Project / Site name: Bridge Road
Your Order No: G2246

Lab Sample Number				2896898	2896899	2896900	2896901
Sample Reference				P51F SS	P53R SS	P52R TS	BGR TS
Sample Number				6	7	8	9
Depth (m)				0.40	0.50	0.20	0.15
Date Sampled				29/11/2023	29/11/2023	29/11/2023	29/11/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6	5.9	4.9	4
Barium (aqua regia extractable)	mg/kg	1	MCERTS	14	13	18	15
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.25	0.31	0.26	0.19
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.2	0.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	15	12	8
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6	6.1	7.4	8.7
Lead (aqua regia extractable)	mg/kg	1	MCERTS	6.5	6.3	16	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	2.7	2.7	3.1	3.1
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	25	18	13
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	16	14	22	17
Monoaromatics & Oxygenates							
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.02	NONE	< 0.020	< 0.020	< 0.020	< 0.020
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	NONE	< 0.010	< 0.010	< 0.010	< 0.010
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.05	NONE	< 0.050	< 0.050	< 0.050	< 0.050
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-72401
Project / Site name: Bridge Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2896893	P66R TS	1	0.25	Brown loam and sand.
2896894	P64R SS	2	0.5	Brown clay and sand with gravel and vegetation.
2896895	P64F TS	3	0.15	Brown loam and sand with gravel and vegetation.
2896896	BHF TS	4	0.2	Brown sand with gravel and vegetation.
2896897	P53F TS	5	0.25	Brown sand with gravel and vegetation.
2896898	P51F SS	6	0.4	Brown sand with gravel.
2896899	P53R SS	7	0.5	Brown sand with gravel.
2896900	P52R TS	8	0.2	Brown sand.
2896901	BGR TS	9	0.15	Brown loam and sand with vegetation.

Analytical Report Number : 23-72401
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID. Refer to CoA for band specific accreditation.	In-house method with silica gel split/clean up.	L088/76-PL	D	MCERTS

Analytical Report Number : 23-72401
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 23-44160

Project / Site name:	Bridge Road	**Samples received on:**	10/07/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	10/07/2023
Your order number:	G1753	**Analysis completed by:**	19/07/2023
Report Issue Number:	1	**Report issued on:**	19/07/2023
Samples Analysed:	12 soil samples		

Signed. [redacted]

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-44160
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743129	2743130	2743131	2743132	2743133
Sample Reference				Plot 74 F	Plot 74 B	Plot 73 F	Plot 73 B	Plot 72 F
Sample Number				1	2	3	4	5
Depth (m)				0.25	0.45	0.30	0.55	0.20
Date Sampled				07/07/2023	07/07/2023	07/07/2023	07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	11	18	16	18
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.7	8.1	8.8	7.6	7.2
Organic Matter (automated)	%	0.1	MCERTS	1.7	0.6	0.9	2.1	3.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.08	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.06	< 0.05	0.13	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.05	< 0.05	0.12	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.07	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.1	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.5	6.4	5.6	4.8	9.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	15	12	25	14	18
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.22	0.26	0.28	0.2	0.26
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.6	0.4	0.5	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	9.7	12	13	8.7	9.7
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.6	8	10	10	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	14	7	10	16	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	3.2	2.5	3.3	2.9	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	17	24	23	16	15
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	18	11	17	16	34

Analytical Report Number: 23-44160
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743129	2743130	2743131	2743132	2743133
Sample Reference				Plot 74 F	Plot 74 B	Plot 73 F	Plot 73 B	Plot 72 F
Sample Number				1	2	3	4	5
Depth (m)				0.25	0.45	0.30	0.55	0.20
Date Sampled				07/07/2023	07/07/2023	07/07/2023	07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	2.3	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	14	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-44160
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743134	2743135	2743136	2743137	2743138
Sample Reference				Plot 72 B	Plot 71/70	Plot 69/68 B	Plot 67/66	Plot 65/64
Sample Number				6	7	8	9	10
Depth (m)				0.40	0.25	0.50	0.30	0.60
Date Sampled				07/07/2023	07/07/2023	07/07/2023	07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	18	8.4	16	12
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA	DSA	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	8	8.2	8	7.7
Organic Matter (automated)	%	0.1	MCERTS	0.3	3.8	< 0.1	3.6	0.1

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	9.1	13	7.3	12
Barium (aqua regia extractable)	mg/kg	1	MCERTS	20	18	22	27	21
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.56	0.25	0.61	0.23	0.6
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.9	0.3	1.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	8.2	18	7.3	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	13	26	21	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.2	15	8.7	14	8.2
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	10	16	9.8	17
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	35	13	35	12	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	38	42	51	42

Analytical Report Number: 23-44160
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743134	2743135	2743136	2743137	2743138
Sample Reference				Plot 72 B	Plot 71/70	Plot 69/68 B	Plot 67/66	Plot 65/64
Sample Number				6	7	8	9	10
Depth (m)				0.40	0.25	0.50	0.30	0.60
Date Sampled				07/07/2023	07/07/2023	07/07/2023	07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-44160
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743139	2743140
Sample Reference				Plot 69/68 F	Plot 70/71
Sample Number				11	12
Depth (m)				0.20	0.55
Date Sampled				07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	12
Total mass of sample received	kg	0.001	NONE	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.8	7.3
Organic Matter (automated)	%	0.1	MCERTS	1.9	0.3

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.5	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	15	12
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.2	0.35
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.6	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	6.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	2.7	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	15	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	17	34

Analytical Report Number: 23-44160
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2743139	2743140
Sample Reference				Plot 69/68 F	Plot 70/71
Sample Number				11	12
Depth (m)				0.20	0.55
Date Sampled				07/07/2023	07/07/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Monoaromatics & Oxygenates					
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0
Petroleum Hydrocarbons					
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.1	NONE	< 0.10	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.1	NONE	< 0.10	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-44160
Project / Site name: Bridge Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2743129	Plot 74 F	1	0.25	Brown sand with vegetation.
2743130	Plot 74 B	2	0.45	Brown sand with vegetation.
2743131	Plot 73 F	3	0.3	Brown sand with vegetation.
2743132	Plot 73 B	4	0.55	Brown sand with vegetation.
2743133	Plot 72 F	5	0.2	Brown sandy clay with gravel.
2743134	Plot 72 B	6	0.4	Brown sand with gravel.
2743135	Plot 71/70	7	0.25	Brown sand with gravel.
2743136	Plot 69/68 B	8	0.5	Brown sand with gravel.
2743137	Plot 67/66	9	0.3	Brown loam and sand with gravel and vegetation.
2743138	Plot 65/64	10	0.6	Brown sand.
2743139	Plot 69/68 F	11	0.2	Brown sandy loam with gravel and vegetation.
2743140	Plot 70/71	12	0.55	Brown sand with gravel.

Analytical Report Number : 23-44160
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'E' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted

Analytical Report Number : 23-44160
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

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Analytical Report Number : 23-13144

Project / Site name:	Bridge Road	**Samples received on:**	20/01/2023
Your job number:	M41977	**Samples instructed on/ Analysis started on:**	23/01/2023
Your order number:	G1753	**Analysis completed by:**	01/02/2023
Report Issue Number:	1	**Report issued on:**	01/02/2023
Samples Analysed:	2 soil samples		

Signed: [redacted]

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-13144
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2561397	2561398
Sample Reference				Plot 75	Plot 76
Sample Number				None Supplied	None Supplied
Depth (m)				0.40	0.15
Date Sampled				20/01/2023	20/01/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	18
Total mass of sample received	kg	0.001	NONE	0.3	0.3

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	LFT	LFT

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	8.5
Organic Matter (automated)	%	0.1	MCERTS	4.2	7.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.35	0.52
Pyrene	mg/kg	0.05	MCERTS	0.33	0.48
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.23
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.39
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.25	0.46
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.09	0.21
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.35
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.02	2.64

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	430	28
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.8	0.4
Boron (water soluble)	mg/kg	0.2	MCERTS	3	1.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	42	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	22	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	32	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	76	28
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	73	61

Monoaromatics & Oxygenates

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

Analytical Report Number: 23-13144
Project / Site name: Bridge Road
Your Order No: G1753

Lab Sample Number				2561397	2561398
Sample Reference				Plot 75	Plot 76
Sample Number				None Supplied	None Supplied
Depth (m)				0.40	0.15
Date Sampled				20/01/2023	20/01/2023
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	NONE	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-13144
Project / Site name: Bridge Road

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2561397	Plot 75	None Supplied	0.4	Brown clay and sand with gravel and vegetation.
2561398	Plot 76	None Supplied	0.15	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 23-13144
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics

Analytical Report Number : 23-13144
Project / Site name: Bridge Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
_	Operator - understore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Appendix J - Waste Receivers' Environmental Permits

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Mick George Limited

Mepal Soil and Waste Treatment Centre
Witcham Meadlands Landfill Site
Block Fen Drove
Mepal
Chatteris
Cambridgeshire
CB6 2AY

Variation application number

EPR/EP3492SP/V007

Permit number

EPR/EP3492SP

Mepal Soil and Waste Treatment Centre
Permit number EPR/EP3492SP

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made.

This application seeks to vary the existing Environmental Permit at the Mepal Soil and Waste Treatment Centre to allow the treatment of waste soils and aggregates containing asbestos. The purpose of the activity is to segregate the bonded asbestos from the soils/aggregates to allow the soils and aggregates to proceed with further treatment via the soil washing facility that is currently regulated under the environmental permit. The bonded asbestos, once separated from the incoming waste streams, will be double bagged and then sent on to the Mepal Landfill Site for disposal, where Mick George operates a permitted landfill with a separate asbestos disposal cell. The operator also seeks to add four additional waste codes to the permit.

The site is currently authorised to treat hazardous wastes for both recovery and disposal.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	**Date**	**Comments**
Application EPR/EP3492SP/A001	17/08/2009	Application soil washing facility.
Permit determined EPR/EP3492SP (EAWML101125)	11/08/2010	Original permit issued to Mick George Limited.
Variation application EPR/EP3492SP/V002	28/11/2012	Application to vary permit to include two listed activities.
Variation determined EPR/EP3492SP/V002	25/02/2013	Varied and consolidated permit issued in modern condition format.
Agency variation determined EPR/EP3492SP/V003	04/03/2014	Agency variation to implement the changes introduced by IED.
Variation Application EPR/EP3492SP/V004	19/10/2015	Application to vary the permit to include additional waste codes.
Variation determined EPR/EP3492SP/V004 (PAS billing reference: XP3938RH)	03/02/2016	Varied permit issued.
Variation application EPR\EP3492SP/V005	19/04/2016	Application to vary the permit to include additional waste codes.
Variation determined EPR\EP3492SP/V005 (PAS billing reference: FP3630DM)	16/05/2016	Varied permit issued.
Variation application EPR/EP3492SP/V006	05/09/2016	Application to vary the permit to include additional waste codes.

Status log of the permit		
Description	**Date**	**Comments**
Variation determined EPR/EP3492SP/V006 (PAS billing reference: PP3336DD)	21/10/2016	Variation Permit Issued.
Application EPR/EP3492SP/V007 (variation and consolidation)	Duly made 30/04/2018	Application to vary permit to allow the treatment of waste soils and aggregates containing asbestos, to add four additional waste codes and to update the permit to modern conditions.
Variation determined EPR/EP3492SP (PAS billing reference: WP3833QD)	12/02/2019	Varied permit issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/EP3492SP

Issued to

Mick George Limited ("the operator")

whose registered office is

6 Lancaster Way
Ermine Business Park
Huntingdon
Cambridgeshire
PE29 6XU

company registration number 02417831

to operate a regulated facility at

Mepal Soil and Waste Treatment Centre
Witcham Meadlands Landfill Site
Block Fen Drove
Mepal
Chatteris
Cambridgeshire
CB6 2AY

to the extent set out in the schedules.

The notice shall take effect from 12/02/2019

Name	Date
Philip Lamb	**12/02/2019**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/EP3492SP

This is the consolidated permit referred to in the variation and consolidation notice for application **EPR/EP3492SP/V007** authorising,

Mick George Limited ("the operator"),

whose registered office is

6 Lancaster Way
Ermine Business Park
Huntingdon
Cambridgeshire
PE29 6XU

company registration number 02417831

to operate an installation at

Mepal Soil and Waste Treatment Centre
Witcham Meadlands Landfill Site
Block Fen Drove
Mepal
Chatteris
Cambridgeshire
CB6 2AY

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Philip Lamb	**12/02/2019**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Energy efficiency

1.2.1 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7 the operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7 the operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.1.2 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7 waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 Waste shall only be accepted if:

(a) it is of a type and quantity listed in schedule 2 tables S2.2, S2.3, S2.4 and S2.5; and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.5 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.6 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.3.7 Hazardous waste shall not be mixed, either with a different category of hazardous waste or with other waste, substances or materials, unless it is authorised by schedule 1 table S1.1 and appropriate measures are taken.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1 and S3.2; and

(b) process monitoring specified in table S3.3;

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 and S3.3 unless otherwise agreed in writing by the Environment Agency.

3.6 Pests

3.6.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.6.2 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;

(b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 For the following activities referenced in schedule 1, table S1.1, AR1 to AR7,a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production/treatment data set out in schedule 4 table S4.2; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.5 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately—

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1(a)(i), or 4.3.1(b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
AR1	S5.3 A(1)(a)(i)	**Bioremediation of hazardous waste** **Disposal or recovery** of hazardous waste with a capacity exceeding 10 tonnes per day involving biological treatment. **R3:** Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes). **D8**: Biological treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12	Bioremediation process for hazardous waste recovery. No liquid wastes are permitted. Hazardous waste types and quantities as specified within table S2.4.
AR2	S5.4 A(1)(b)(i)	**Bioremediation of non-hazardous waste** **Recovery** or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment. **R3:** Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	Bioremediation process for non-hazardous waste recovery. No liquid wastes are permitted. Non-hazardous waste types and quantities as specified within table S2.4.
AR3	S5.3 A(1)(a)(ii)	**Physical treatment of hazardous waste - Stabilisation** **Disposal** or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment. **D9:** Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12.	Stabilisation process for hazardous waste disposal. Hazardous waste types and quantities as specified within table S2.3.
AR4	S5.4 A(1)(a)(ii)	**Physical treatment of non-**	Stabilisation process for non-

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
		hazardous waste - Stabilisation **Disposal** of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment. **D9:** Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12, e.g. evaporation, drying, calcination.	hazardous waste disposal. Non-hazardous waste types and quantities as specified within table S2.3.
AR5	S5.3 A(1)(a)(ii)	**Physical treatment of hazardous waste – Soil Washing** Disposal or **recovery** of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment. **R3:** Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)	**Soil washing** process for **hazardous** waste recovery. Hazardous waste types and quantities as specified within table S2.2. No liquid wastes are permitted.
AR6	S5.3 A(1)(a)(ii)	**Physical treatment of hazardous waste - Asbestos** **Disposal** or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment. **D9:** Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12.	Asbestos removal from soils and construction and demolition waste. From receipt of hazardous waste through to storage of treated waste prior to being subject to bioremediation and / or stabilisation or sent off-site for disposal. Treatment consisting only of hand picking of identifiable pieces of bonded asbestos from waste soils in a dedicated enclosed picking line located within the building labelled as 'Asbestos Treatment Building' Asbestos removed from the soil shall be double bagged and kept within clearly identified, segregated, secure, lockable container located within the building labelled as 'Asbestos Treatment Building'. All treatment and storage shall take place on an impermeable surface with a sealed drainage system within

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
			the building labelled as 'Asbestos Treatment Building' as shown on drawing number 208-Building Rev. 2, dated 30/10/2018. Subject to any other requirements of this permit wastes shall be stored for no longer than 6 months prior to disposal. Waste types and quantities as specified in Table S2.5.
AR7	S5.6 A(1)(a)	**The storage of hazardous waste.** The temporary storage of hazardous waste in a facility with a total capacity exceeding 50 tonnes pending any of the activities listed in sections 5.1, 5.2 and 5.3. **D15:** Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced). **R13:** Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).	The temporary storage of hazardous waste. Hazardous waste types as specified in tables S2.2, S2.3, S2.4 and S2.5. Asbestos storage prior to treatment is limited to 4,000 tonnes at any one time. Subject to any other requirements of this permit wastes shall be stored for no longer than 6 months prior to disposal.
Activity reference	**Directly Associated Activity**		
AR8	Fuel storage	Storage of diesel.	From receipt of fuel to use on-site for power generation.
AR9	Water storage	Collection and storage of process water.	From collection of process water to re-use within the facility or discharge to foul sewer or tankering off site for further treatment.
AR10	Waste storage	Temporary storage of non-hazardous waste **D15**: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced)	From the receipt of non-hazardous waste to despatch for on-site operations or off-site disposal. Includes temporary storage of non-hazardous wastes not requiring further treatment prior to disposal.
AR11	Raw material storage	Temporary storage of raw materials including surfactant and seaweed extracts (Sea-Chem).	From the receipt of raw materials to despatch for use within the facility.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
Activity reference	**Description of activities for waste operations**		**Limits of activities**
AR12	**Non-hazardous and inert waste treatment** **R13:** Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced). **R5**: Recycling/reclamation of other inorganic compounds. **D9**: Physico-chemical treatment not specified elsewhere which results in final compounds or mixtures which are disposed of by any of the operations numbered D1 to D12. **D13**: Blending or mixing prior to submission to any of the operations numbered D1 to D12. **D15**: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection on the site where it is produced).		Treatment operations shall be limited to: Physical treatment including screening, crushing, soil washing, grading, sorting, separation by gravity, centrifugation & dewatering for the purpose of recovery and disposal. Waste shall be stored and treated on hard standing or on an impermeable surface with sealed drainage system. Non-hazardous waste types as specified in table S2.2.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application EPR/EP3492SP/A001	Application forms B2 and B3 and referenced supporting information.	03/08/2009
Application EPR/EP3492SP/A001	Site Report, reference: 509022/71DG/001 Section 3.4 and Section 3.5	03/08/2009
Application EPR/EP3492SP/V002	Table 3 – Technical standards of the application document in response to section 3 Operating techniques, Part C3 of the application form	28/11/2012
Application EPR/EP3492SP/V002	Appendix C – Operating Techniques and Appendix D Environmental Risk Assessment	28/11/2012
Application variation EPR/EP3492SP/V007.	Emails providing justification for accepting additional waste types	14/01/2016
Response to Schedule 5 notice.	Additional information	22/01/2016
Information in support of Improvement Condition 1	Report Bioaerosol monitoring risk assessment report MGL-A094648-MJ-EA-02	09/02/2016
Application EPR/EP3492SP/V007	Application form C2 and C3 section 3a – technical standards and referenced supporting information including the following; BAT Risk Assessment Excluding the following; Bioremediation Statement dated February 2016 Appendix C Environmental Risk Assessment Plan reference Building-208	31/04/2018

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Further Information	Bioremediation Statement dated September 2018 including Site Plan MWP_01 detailing the external bioremediation treatment area bays 1 to 6.	01/10/2018
Schedule 5	Response to Schedule 5 and referenced supporting information	04/10/2018
Application EPR/EP3492SP/V007	Appendix 6 Environmental Risk Assessment Version 2	04/10/2018
Application EPR/EP3492SP/V007	Appendix 4 Plan reference Drg 208 Building Version 2	04/10/2018
Application EPR/EP3492SP/V007	Appendix 1 Site Condition Report	04/10/2018

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
-	-

Table S2.2 Permitted waste types and quantities for soil washing (AR5 and AR12)	
Maximum Quantities The total quantity of waste accepted at the site shall be a maximum of 250,000 tonnes a year.	
Exclusions Wastes having any of the following characteristics shall not be accepted: Wastes containing treated wood; Wood-preserving agents or other biocides; Japanese Knotweed; Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes; Waste containing asbestos; Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15; Waste containing persistent organic pollutants (POPs).	
Waste Code	**Description**
01	**Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 01	**wastes from mineral excavation**
01 01 02	wastes from mineral non-metalliferous excavation
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 05	**drilling muds and other drilling wastes**
01 05 04	freshwater drilling muds and wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
10	**Wastes from thermal processes**
10 01	**wastes from power stations and other combustion plants (except 19)**
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing hazardous substances
10 01 24	sands from fluidised beds

Table S2.2 Permitted waste types and quantities for soil washing (AR5 and AR12)	
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	**wood, glass and plastic**
17 02 02	glass
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 02	bituminous mixtures other than those mentioned in 17 03 01
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 03*	soil and stones containing hazardous substances
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 05*	dredging spoil containing hazardous substances
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 07*	track ballast containing hazardous substances
17 05 08	track ballast other than those mentioned in 17 05 07
17 09	**other construction and demolition wastes**
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	**Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption/industrial use**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 07*	solid wastes from gas treatment
19 01 11*	bottom ash and slag containing hazardous substances
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 13*	fly ash containing hazardous substances
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 15*	boiler dust containing hazardous substances
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 17*	pyrolysis wastes containing hazardous substances
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	premixed wastes composed only of non-hazardous wastes
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 06	saturated or spent ion exchange resins

Table S2.2 Permitted waste types and quantities for soil washing (AR5 and AR12)	
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 09	minerals (for example sand, stones)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	**wastes from soil and groundwater remediation**
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 05*	sludges from groundwater remediation containing hazardous substances
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 02	**garden and park wastes (including cemetery waste)**
20 02 02	soil and stones
20 02 03	other non-biodegradable waste

Table S2.3 Permitted waste types and quantities for stabilisation (AR3, AR4) and storage of hazardous waste (AR7)	
Maximum Quantities The combined total quantity of waste accepted at the site for stabilisation and bioremediation shall be a maximum of 150,000 tonnes a year.	
Exclusions Wastes having any of the following characteristics shall not be accepted: Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes; Waste containing asbestos; Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15; Waste containing persistent organic pollutants (POPs). The following waste codes will only be accepted for stabilisation following the bioremediation process: 17 05 03*, 17 09 03*, 19 12 11*, 19 13 01*, 19 13 03*, 19 13 05*	
Waste Code	**Description**
01	**Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 07*	wastes containing hazardous substances from physical and chemical processing of non-metalliferous minerals
01 05	**drilling muds and other drilling wastes**
01 05 04	freshwater drilling muds and wastes
01 05 05*	oil-containing drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06

Table S2.3 Permitted waste types and quantities for stabilisation (AR3, AR4) and storage of hazardous waste (AR7)	
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
05	**Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal**
05 01	**wastes from petroleum refining**
05 01 15*	spent filter cakes
08	**Wastes from the manufacture, formulation and supply and use (mfsu) of coating (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks**
08 01	**wastes from MFSU and removal of paint and varnish**
08 01 13*	sludges from paint or varnish containing organic solvents or other hazardous substances
10	**Wastes from thermal processes**
10 01	**wastes from power stations and other combustion plants (except 19)**
10 01 01	bottom ash and slag from power stations (furnace bottom ash)
10 01 02	PFA from power stations
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing hazardous substances
10 01 15	incinerator bottom ash
10 01 16*	fly ash from co-incineration containing hazardous substances
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 13	**wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 14	waste concrete and concrete sludge
11	**Wastes from chemical surface treatment and coating of metals and other minerals, non-ferrous hydro-metallurgy**
11 01	**wastes from chemical surface treatment and coating of metals and other minerals; non-ferrous hydro-metallurgy**
11 01 09*	sludges and filter cakes containing hazardous substances
12	**Wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 16	waste blasting material containing hazardous substances
12 01 17	waste blasting material other than those mentioned in 12 01 16
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 03	tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 01*	bituminous mixtures containing coal tar
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 03*	soil and stones containing hazardous substances

Table S2.3 Permitted waste types and quantities for stabilisation (AR3, AR4) and storage of hazardous waste (AR7)	
17 09	**other construction and demolition wastes**
17 09 01*	construction and demolition wastes containing mercury
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
19	**Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption/industrial use**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 07*	solid wastes from gas treatment
19 01 11*	bottom ash and slag containing hazardous substances
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 13*	fly ash containing hazardous substances
19 01 14	fly ash other than those mentioned in 19 01 13
19 03	**stabilised/solidified wastes**
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 01	screenings
19 08 02	waste from desanding
19 11	**wastes from oil regeneration**
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 11 99	wastes not otherwise specified
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 05	glass
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 13	**wastes from soil and groundwater remediation**
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
19 13 05*	sludges from groundwater remediation containing hazardous substances
19 13 06	sludges from groundwater remediation other than those mentioned in 19 13 05
20	**Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 03	**other municipal wastes**
20 03 03	street-cleaning residues

Table S2.4 Permitted waste types and quantities for bioremediation (AR1, AR2) and storage of hazardous waste (AR7)	
Maximum Quantities The combined total quantity of waste accepted at the site for stabilisation and bioremediation combined shall be a maximum of 150,000 tonnes a year.	
Waste Code	**Description**
Exclusions Wastes having any of the following characteristics shall not be accepted: Wastes containing treated wood; Wood-preserving agents or other biocides; Japanese Knotweed; Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes; Waste containing asbestos; Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15; Waste containing persistent organic pollutants (POPs).	
01	**Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 05	**drilling muds and other drilling wastes**
01 05 04	freshwater drilling muds and waste
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
02	**Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing**
02 01	**wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
05	**Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal**
05 01	**wastes from petroleum refining**
05 01 03*	tank bottom sludges
05 01 15*	spent filter cakes
08	**Wastes from the manufacture, formulation and supply and use (mfsu) of coating (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks**
08 01	**wastes from MFSU and removal of paint and varnish**
08 01 13*	sludges from paint or varnish containing organic solvents or other hazardous substances
11	**Wastes from chemical surface treatment and coating of metals and other minerals, non-ferrous hydro-metallurgy**
11 01	**wastes from chemical surface treatment and coating of metals and other minerals; non-ferrous hydro-metallurgy**
11 01 09*	sludges and filter cakes containing hazardous substances

Table S2.4 Permitted waste types and quantities for bioremediation (AR1, AR2) and storage of hazardous waste (AR7)	
12	**Wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01	**sludges from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 16	waste blasting material containing hazardous substances
13	**Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)**
13 05	**oil/water separator contents**
13 05 01	solids from grit chambers and oil/water separators
13 05 03	interceptor sludges
13 05 08	mixtures of wastes from grit chambers and oil/water separators
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 01*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 03 03*	coal tar and tarred products
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 03*	soil and stones containing hazardous substances
17 05 05*	dredging spoil containing hazardous substances
17 05 07*	track ballast containing hazardous substances
17 09	**other construction and demolition wastes**
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
19	**Wastes from waste management facilities, off-site waste water treatment plants and preparation of water intended for human consumption/industrial use**
19 03	**stabilised/solidified wastes**
19 03 04*	wastes marked as hazardous, partly stabilised other than 19 03 08*
19 03 06*	wastes marked as hazardous, solidified
19 11	**wastes from oil regeneration**
19 11 05*	sludges from on-site effluent treatment containing hazardous substances
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 13	**wastes from soil and groundwater remediation**
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 05*	sludges from groundwater remediation containing hazardous substances

Table S2.5 Permitted waste types and quantities for handpicking of asbestos waste (AR6, AR7)	
Maximum quantity	**In total no more than 150,000 tonnes per annum of hazardous waste will be accepted for treatment at the site.**
Exclusions	**Wastes having any of the following characteristics shall not be accepted:** Wastes consisting solely or mainly of dusts, powders or loose fibres; Waste liquids; Odorous wastes; Asbestos in unbound fibrous form (FREE CHRYSOTILE FIBROUS ASBESTOS IN SOIL AND CONSTRUCTION AND DEMOLITION WASTES AS DETAILED BELOW MUST BE <0.1% w/w. OTHER FORMS OR MIXED FORMS OF FIBROUS ASBESTOS IN THE WASTE MUST BE <0.01% w/w) Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15.
Waste code	**Description**
17	**Construction and demolition wastes (including excavated soil from contaminated sites)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 03*	soil and stones containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 05 04	soil and stones other than those mentioned in 17 05 03 (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 06	**insulation materials and asbestos-containing construction materials**
17 06 05*	construction materials containing asbestos (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 09	**other construction and demolition wastes**
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
FB1 as shown on plan Asbestos Treatment Building Plan 208-Building Rev.2	Air extraction via bag filter release point	Asbestos fibres	0.1 fibre/ml	Hourly average	Monthly NOTE 1	ISO 17020 ISO 17025 HSG248
		Particulate matter	5 mg/m^3	Hourly average	Once every six months	BS EN 13284-1
NOTE 1: May be reduced to a quarterly frequency after 12 monthly monitoring events with the written agreement of the Environment Agency.						

Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (incl. unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
Sealed Drainage Area - Sump	Site effluent from waste processing and storage areas - transfer of water off-site by tanker	No parameter set	No limit set	--	Annually	--

ER Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	**Parameter**	**Limit**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Sampling points M1, M2, M3 and M4 as shown on plan Asbestos Treatment Building Plan 208-Building Rev.2 Air testing within the building for the duration of the asbestos hand picking works.	Asbestos fibres	Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present.	During asbestos hand picking works NOTE 2 1 hour at 8 l/min or 2 hours at 4 l/min	In line with M17 monitoring guidance While asbestos is being treated. • Pumped sampling • 1 m above ground level • Minimum sample volume = 480 litres at variable rates • Filter pore size = 0.8-1.2 µm Asbestos fibre limit of detection = 0.001 fibres/ml	--
20 m downwind of asbestos building	Asbestos Fibres	Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	Monthly 1 hour at 8 l/min or 2 hours at 4 l/min	In line with M17 monitoring guidance While asbestos is being treated. • Pumped sampling • 1 m above ground level • Minimum sample volume = 480 litres at variable rates • Filter pore size = 0.8-1.2 µm Asbestos fibre limit of detection = 0.001 fibres/ml	--
50 m upwind of asbestos building					
Site boundary downwind of asbestos building					
SW1 Sealed Drainage Tank as shown on plan Asbestos Treatment Building Plan 208-Building Rev.2.	Asbestos fibres	Where process water from the tank is reused on site total fibre concentration must be less than 0.001 fibres/ml	Monthly	In line with M17 monitoring guidance Asbestos fibre limit of detection = 0.001 fibres/ml	--
Internal for each windrow during bioremediation and stabilisation stage	Temperature °C		None specified	Temperature probe	
	Moisture		None specified	Not specified	
Internal for each windrow during stabilisation stage	pH range		Continuous	Not specified	
NOTE 2: Monitoring frequency may be reduced to a frequency agreed in writing by the Environment Agency after 6 months of continuous monitoring.					

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Point source emission to air As specified by schedule 3, table S3.1 Parameters as required by condition 3.5.1	FB1	Every 3 months	1 January, 1 April, 1 July, 1 October
Point source emission to sewer, effluent treatment plant, tankering or other off site transfer As specified by schedule 3, table S3.2 Parameters as required by condition 3.5.1	Sump	Every 12 months	1 January
Process Monitoring As required by schedule 3, table S3.3 Parameters as required by condition 3.5.1	M1, M2, M3 and M4 Fibre monitoring at 20m, 50m and site boundary downwind of asbestos building. SW1	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2 Annual production/treatment	
Parameter	**Units**
Bioremediation Plant (treatment)	Tonnes per year
Soil Stabilisation Plant (treatment)	Tonnes per year
Soil Washing Plant (treatment)	Tonnes per year
Asbestos Picking Plant (treatment)	Tonnes per year
Treatment of hazardous waste (total)	Tonnes per year
Treatment of non-hazardous waste (total)	Tonnes per year
Waste Recovered (total)	Tonnes per year
Waste Disposed (total)	Tonnes per year
Discharge of contaminated water off-site by tanker - Sump	Tonnes per year
Discharge of contaminated process water off-site by tanker – SW1 Sealed Tank	Tonnes per year

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Total raw material used	Annually	tonnes

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Air	Form air 1 or other form as agreed in writing by the Environment Agency	05/02/2019
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	05/02/2019
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	05/02/2019
Waste Return	E-waste Return Form	-

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“background concentration” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“disposal” means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2016 No. 1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Hazardous property” has the meaning in Annex lll of the Waste Framework Directive.

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“Industrial Emissions Directive” means Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“Pests” means Birds, Vermin and Insects.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

“Waste Framework Directive” or “WFD” means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

When the following terms appear in the waste code list in Schedule 2, tables 2.2, 2.3, 2.4 and 2.5, for those tables, they have the meaning given below:

“hazardous substance” means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008.

“heavy metal” means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances.

“PCBs” means:

- polychlorinated biphenyls;
- polychlorinated terphenyls;
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane;
- any mixture containing any of the above mentioned substances in a total of more than 0.005% by weight.

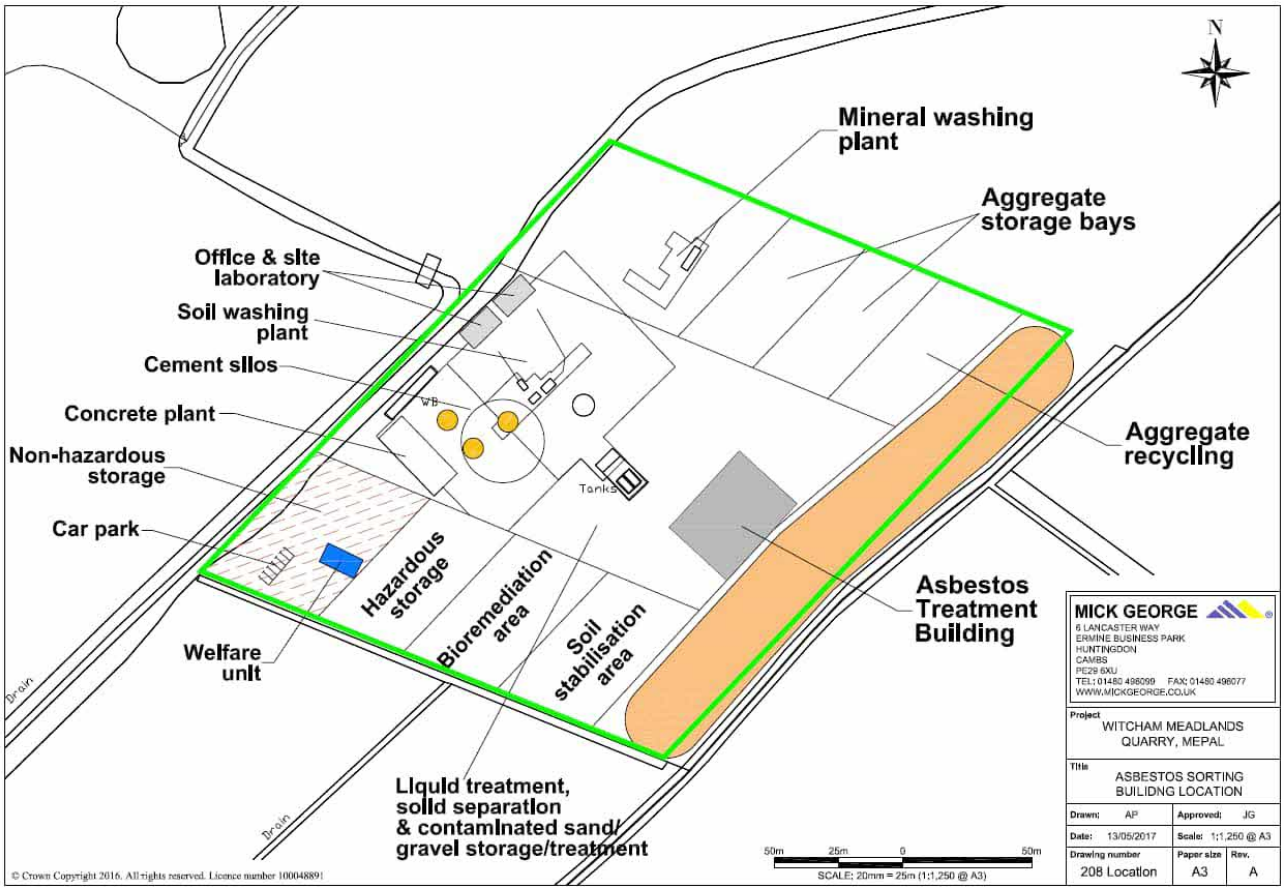
“transition metals” means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances.

“stabilisation” means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste.

“solidification” means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste.

“partly stabilised wastes” means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

Schedule 7 – Site plan



END OF PERMIT

Permit

The Environmental Permitting (England & Wales) Regulations 2016

DB Cargo (UK) Limited

Barking Eurohub
Box Lane
Renwick Road
Barking
IG11 0SQ

Permit number

EPR/GB3003GR

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/GB3003GR

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016

DB Cargo (UK) Limited ("the operator"),

whose registered office is/whose principal office is

Lakeside Business Park
Carolina Way
Doncaster
South Yorkshire
DN4 5PN

company registration number 02938988

to operate waste operations described in standard rules **SR2009No5** at

Barking Eurohub
Box Lane
Renwick Road
Barking
IG11 0SQ

to the extent authorised by and subject to the conditions of this permit.

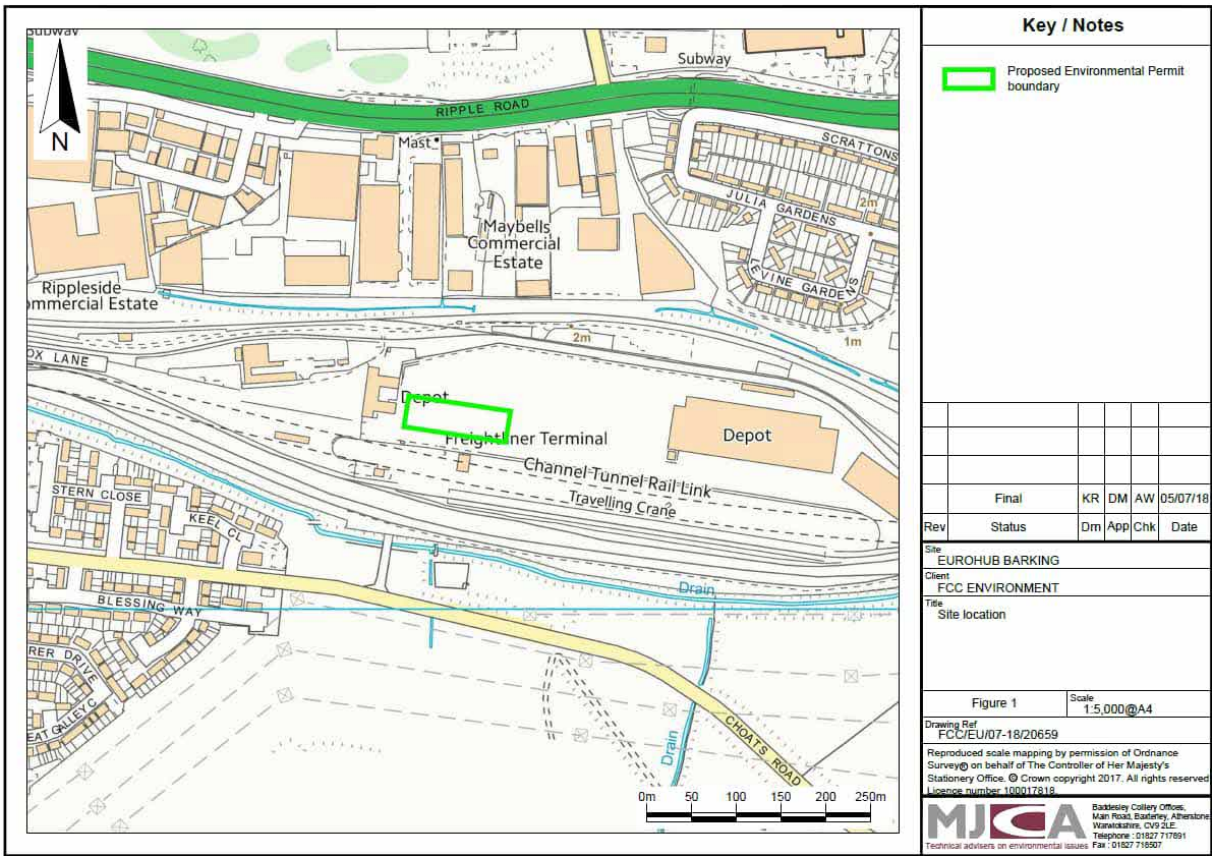
Under regulation 27(2) of the Regulations, standard rules **SR2009No5** are conditions of this permit.

Name	Date
Helen Smith	**17/07/2018**

Authorised on behalf of the Environment Agency

Schedule 1 – Site plan

This is the plan referred to in the standard rules SR2009No5.



Appendix K – JNP Group Post Works Gas Monitoring & Assessment Technical Note

Job name: Former Sunninghill Gas Works, Bridge Road

Job No: M41977

Note No: TN0004

Date: 23/02/2022

Prepared by: Hilary Ilsley

Subject: Post Remediation / Earthworks Off-Site Gas Migration Risk Assessment

1. Introduction

1.1 In accordance with the agreed Remediation Strategy for the site (M41977 RE003 Rev G Options Appraisal and Remediation Strategy. 14 October 2019) JNP Group were required to undertake six rounds of post remediation gas monitoring to confirm the risks from off-site gas migration.

2. Installation of Monitoring Points, Gas Monitoring Visits and Results

2.1 Five shallow perimeter boreholes were drilled to between 3-4 m below ground level via dynamic sampling at locations around the south-eastern, southern and western boundaries (adjacent to residential properties). The locations of these are shown on drawings M41977-JNP-XX-ZZ-DR-G0328 Mon BH North and M41977-JNP-XX-ZZ-DR-G0329 Mon BH South, given in Appendix B.

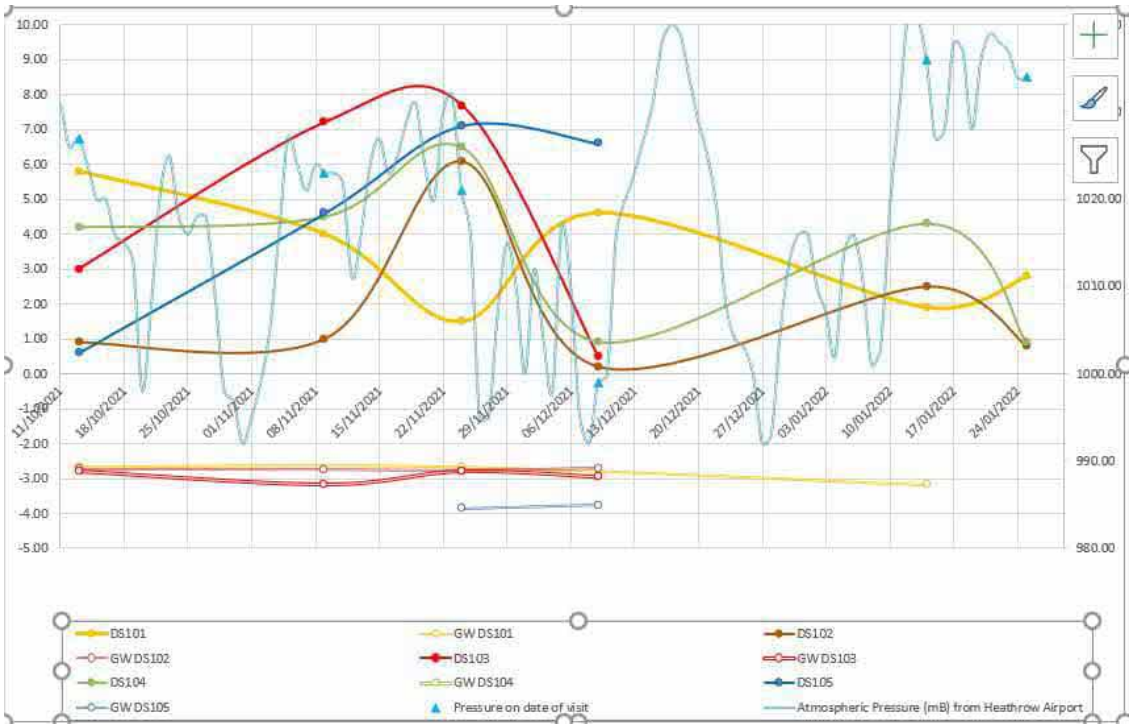
2.2 Gas monitoring commenced on 13 October 2021 following completion of the remediation works (source areas treated by bioremediation, chemical oxidation and source removal) and the main earthworks, although the piling works were still on going at this time. Visits (9 and 14 November 2021, 9 December 2021, 14 and 25 January 2021) continued on a fortnightly basis, excluding the Christmas break.

2.3 It should be noted that boreholes DS103 (located along north-west) and DS105 (south-east boundary) were destroyed during the progression of the on going infrastructure works. As a result, only four rounds of monitoring were undertaken in these two boreholes.

2.4 Monitoring involved the measurement of methane, carbon dioxide and oxygen concentrations. Together with atmospheric pressure, downhole pressure and flow rates using a Gas Data GFM430 meter. Following the gas reading, the depth to groundwater within the installation was also recorded.

2.5 One of the monitoring visits was undertaken when atmospheric pressure was below 1000 mb and several of the visits were taken during falling atmospheric pressure. This is shown in Figure 1 that follows over page.

Figure 1 -Atmospheric Trend Graph



2.6 During the monitoring visits methane concentrations were all recorded at the less than the limited of detection (0.1 %v/v). Overall, carbon dioxide concentrations ranged between 0.1% to 7.7% v/v.

2.7 From Figure 1, the correlation between low or falling pressure and volume of gas produced varies in each borehole: DS101 and DS105 recorded concentrations of 4.6 % and 6.6% v/v respectively during low pressure whereas the other boreholes all have results of less than 1% v/v. In general, where pressure was falling, concentrations were higher than 1% v/v in most of the boreholes.

2.8 Flow rates were all recorded at less than the limit of instrument detection, which was 0.1 l/hr. A copy of the monitoring results are given as Appendix C to this technical note.

2.9 If should be noted that piling works and utility diversion works were being undertaken during the monitoring period, which could have affected the carbon dioxide concentrations.

3. Off-Site Gas Risk Assessment

3.1 JNP Group has used the guidance in the following documents to assess the risk from off-site gas migration:

BS 8485. Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings. 2015 +A1 2019;

CL:AIRE RB 17. A Pragmatic Approach to Ground Gas Risk Assessment. 2012.

3.2 In line with the guidance within BS 8485 (2015), the gas volume in each perimeter borehole (Q_{hg}) has been calculated using the following equation:

$$Q_{hg}=(C_{hg}/100) \times q$$

Where C_{hg} is the measured gas concentration and q is the flow rate (l/hr).

3.3 The maximum carbon dioxide concentrations, the maximum flow rate, and the screening values for each perimeter borehole, are summarised in Table 3.1.

Table 31.1 Calculated Gas Screening Values

Location	Maximum Carbon Dioxide Concentration (% v/v)	Maximum Flow Rate (l/hr)	Maximum Gas Volume (l/hr)
DS101 (South)	5.8	<0.1	0.0058
DS102 (west)	6.1	<0.1	0.0061
DS103 (north-west)	7.7	<0.1	0.0077
DS104 (south)	6.5	<0.1	0.0065
DS105 (south-east)	7.1	<0.1	0.0071

3.4 From the above table it can be seen, that whilst some carbon dioxide has been recorded at all the monitoring boreholes, there is no flow.

3.5 Following the guidance given in BS 8485, the flow rates are less than 70 litres per hr and the Q_{hg} is less than 0.7 l/hr, hence it is considered by JNP Group that the site poses a very low risk for generating any off-site gas migration.

3.6 In addition, considering that the site has been remediated, which involved a combination of remediation of hydrocarbon impacted soils and groundwater and the removal of contaminated soils to a suitable waste receiver, the original source of contamination (hydrocarbons) has been removed or treated to an acceptable agreed criteria, thus reducing the future potential for gas generation.

4. Conclusions

4.1 Based on the results obtained from the post remediation gas monitoring, JNP Group consider that given the absence of flow and the source removal remediation work that has been undertaken, that the site does not pose a significant risk to off-site receptors from gas migration and therefore a gas vent trench is not required along the site boundaries.

4.2 The post monitoring gas results do not affect the gas protection proposals for the residential dwellings across the site, which require suitable protection to a CS2 determination.

Document Issue Record

Technical Note No	Rev	Date	Prepared	Reviewed	Approved
TN004		21.2.21	HI	CAW	PT

List of Appendices

Appendix A Limitations

Appendix B Monitoring Borehole Location Drawings

Appendix C Post Remediation Gas Monitoring Results

Appendix A

Limitations

1 Limitations

1.1.1 Introduction

1.1.2 This report is confidential and has been prepared solely for the benefit of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JNP Group; a charge may be levied against such approval. JNP Group accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned, and: this document to any third party with whom and agreement has not been executed.

1.1.3 Any comments given within this report are based on the understanding that the proposed works to be undertaken will be as described in the introduction and the information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group and JNP Group will not accept any liability or responsibility for any inaccuracy in such information.

1.1.4 Any deviation from the recommendations or conclusions contained in this report should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this report without prior consultation and our full approval.

1.1.5 The details contained within this report reflect the site conditions prevailing at the time of investigation. JNP Group warrants the accuracy of this report up to and including that date. Additional information, improved practice or changes in legislation may necessitate this report having to be reviewed in whole or in part after that date. If necessary, this report should be referred back to JNP Group for re-assessment and, if necessary, re-appraisal.

1.1.6 This report is only valid when used in its entirety. Any information or advice included in the report should not be relied upon until considered in the context of the whole report. Whilst this report and the opinion made herein are correct to the best of JNP Groups' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

1.1.6 The report represents the finding and opinions of experience geotechnical and geo-environmental engineers. JNP Group does not provide legal advice and the advice of lawyers may also be required.

1.1.8 It should be noted that the following were not included as part of the agreed scope of works with the client: detailed ecological surveys and assessment; groundwater sampling.

1.1.9 JNP Group has provided advice and made recommendations based on the findings of the work undertaken, however this is subject to the approval / acceptance by the relevant regulatory authorities.

1.2 Objectives

1.2.1 The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly. It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

1.3 Phase II Intrusive Investigations

1.3.1 The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, and ground and groundwater conditions to allow a reasonable risk assessment to be made.

1.3.2 Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered. The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

1.3.3 The objectives of the investigation have been linked to establishing the risks associated with potential human targets, building materials, the environment (including adjacent land), and to surface and ground water. The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to areas unoccupied by the building(s) on the site and by buried services.

1.3.4 Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

1.4 Gas Membranes

1.4.1 Where JNP Group are commissioned to undertake the inspection and validation of a gas membrane, we, at the time of inspection, will ensure that the membrane is laid in accordance with the relevant arrangements and sections. At that time we will ensure that the venting media is laid correctly in preparation of the membrane and we will ensure that any tears in the membrane or bad workmanship is reported and instructions given to be rectified. Thereafter it is the duty of the Principal Contractor to ensure that tears and defects are rectified.

1.5 Remediation and Verification Reports Limitations

1.5.1 The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

1.5.2 Where intrusive investigations have been undertaken they have been designed to provide a reasonable level of assurance on the conditions. Given the discrete nature sampling, no investigation technique is capable of identifying all conditions present in all areas. The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

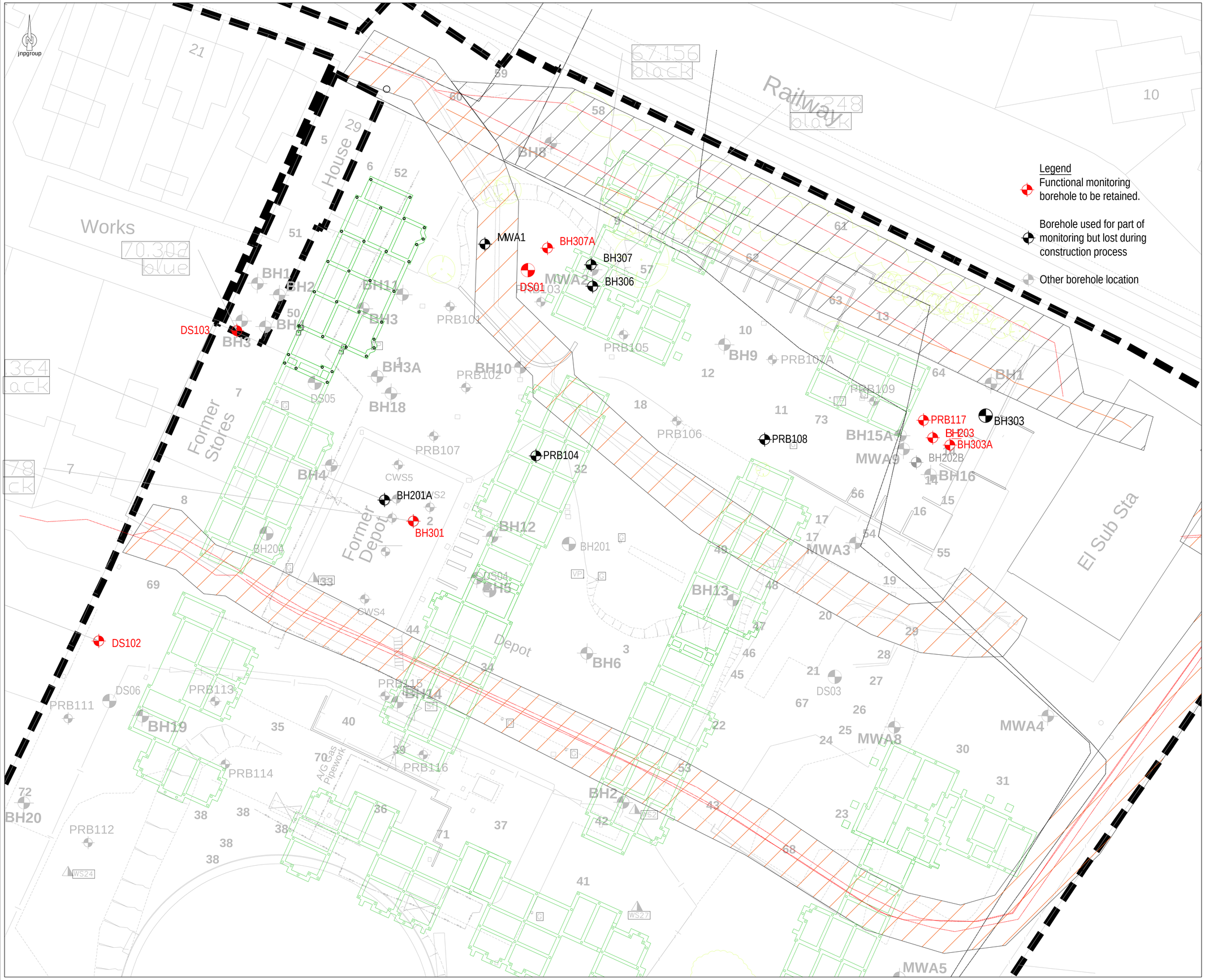
1.5.3 If costs have been included in relation to the site remediation these must be confirmed by a qualified quantity surveyor. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed from Third Party should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JNP Group reserves the right to review such information and, if warranted, to modify the opinions accordingly.

1.5.4 Whilst this report and the opinion made herein are correct to the best of JNP Groups' belief, JNP Group cannot guarantee the accuracy or completeness of any information provided by third parties.

1.1.6 Gas and groundwater levels may vary from those reported due to seasonal, or other effects.

Appendix B

Borehole Location Drawings



General Notes

1. Where this drawing has been issued in electronic .dwg format it has been done so in good faith. JNP Group do not take any responsibility for any inaccuracies in the electronic data, which should be checked against the paper (or .pdf) drawing issue. Any apparent discrepancies should be immediately reported to JNP Group. The electronic .dwg file should not be assumed to be to scale and should not be used for 'overlaying', setting out or checking of any third party information. All dimensions should be taken from the paper (or .pdf) version of the drawing. Electronic drawings may contain third party information. JNP Group take no responsibility for this information, which should be checked against the originators paper drawing(s).
2. All dimensions to be checked on site prior to construction/fabrication.
3. Do not scale from this drawing.
4. Any discrepancies between drawings of different scales, and between drawings and specification where appropriate to be notified to JNP Group for decision.
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6. This drawing should only be used for construction if the drawing status is "Construction". JNP Group take no responsibility for construction works undertaken to drawings which are not marked with this status.

Health & Safety Note

The details on this drawing have been prepared on the assumption that a competent contractor will be carrying out the works. If the contractor(s) considers that there is insufficient Health and Safety information on this drawing, this should immediately be brought to the attention of the designer.

HAZARD IDENTIFICATION BOX			
This table is provided to assist the Principal Contractor to fulfil their obligations under the CDM Regulations 2015			
Hazard Ref	Hazard Type (Construction/Maintenance/ Cleaning/Demolition/Adaptation)	Hazard Description	Mitigation Measures/ Residual Risk
1			

Rev.	Date	Description	Drn / Chk'd / App'd

Suitability:

S2 - Suitable for Information

JNP GROUP
CONSULTING ENGINEERS
Chesham ● Brighouse ● Glasgow ● Hartlepool
Leamington Spa ● Sheffield
www.jnpgroup.co.uk

Client: Berkeley Homes

Job: Sunninghill Gasworks

Title: Location plan - Monitoring points to be retained. (North)

Classification: FI_60_20

Scale @ A1: 1:250

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number: M41977 - JNP - XX - ZZ - DR - G - 0328 (Document/Drawing Number)

Revision: P05

JNP Group Internal Project Number: M3977

Complies to ISO17100:2015 - JNP QA Rev: QD03 Rev F

General Notes

1. Where this drawing has been issued in electronic .dwg format it has been done so in good faith. JNP Group do not take any responsibility for any inaccuracies in the electronic data, which should be checked against the paper (or .pdf) drawing issue. Any apparent discrepancies should be immediately reported to JNP Group. The electronic .dwg file should not be assumed to be to scale and should not be used for 'overlaying', setting out or checking of any third party information. All dimensions should be taken from the paper (or .pdf) version of the drawing. Electronic drawings may contain third party information. JNP Group take no responsibility for this information, which should be checked against the originators paper drawing(s).
2. All dimensions to be checked on site prior to construction/fabrication.
3. Do not scale from this drawing.
4. Any discrepancies between drawings of different scales, and between drawings and specification where appropriate to be notified to JNP Group for decision.
5. Copyright reserved. This drawing may only be used for The Client and location specified in the title block. It may not be copied or disclosed to any third party without the prior written consent of JNP Group.
6. This drawing should only be used for construction if the drawing status is "Construction". JNP Group take no responsibility for construction works undertaken to drawings which are not marked with this status.

Health & Safety Note

The details on this drawing have been prepared on the assumption that a competent contractor will be carrying out the works. If the contractor(s) considers that there is insufficient Health and Safety information on this drawing, this should immediately be brought to the attention of the designer.

HAZARD IDENTIFICATION BOX			
This table is provided to assist the Principal Contractor to fulfil their obligations under the CDM Regulations 2015			
Hazard Ref	Hazard Type (Construction/Maintenance/ Cleaning/Demolition/Adaptation)	Hazard Description	Mitigation Measures/ Residual Risk
1			

Legend

Functional monitoring borehole to be retained.

Borehole used for part of monitoring but lost during construction process

Other borehole location

Rev	Date	Description	Drn / Chk'd / App'd

Suitability: S2 - Suitable for Information

JNP GROUP
CONSULTING ENGINEERS
Chesham ● Brighouse ● Glasgow ● Hartlepool
Leamington Spa ● Sheffield
www.jnpgroup.co.uk

Client: Berkeley Homes

Job: Sunninghill Gasworks

Title: Location plan - Monitoring points to be retained. (Sorth)

Classification: FI_60_20

Scale @ A1: 1:250

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number: M41977 - JNP - XX - ZZ - DR - C - 0329 (Document/Drawing Number)

Revision: P03

JNP Group Internal Project Number: M3977

Complies to ISO7200:2004 - JNP QA Ref: QD031Rev F

Appendix C

Post Remediation Gas Monitoring Results

GAS MONITORING DATA

Site:	Sunninghill Gasworks, Ascot		
Project:	M41977	Date:	13-Oct-21

Operator:	CW
Weather:	Dry

JNP GROUP
CONSULTING ENGINEERS

Monitoring Location	Standpipe diameter (mm)	Standpipe Depth (m bgl)	Water Level (m bgl)	Atmos. Pressure (mb)	Initial Flow Rate (litres/hr)	Average Flow Rate (litres/hr)	Temp (^{o}C)	Reading Duration (s)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	Notes
DS101	50	3.20	2.68	1019	0.0	0.0	13	15	0.0	5.2	15.0	
								30	0.0	5.8	14.9	
								60	0.0	3.0	18.1	
								90	0.0	2.0	18.8	
								120	0.0	1.4	19.1	
								180	0.0	1.4	19.3	
								240	0.0	1.0	20.0	
								300	0.0	1.0	20.1	
DS102	50	3.00	2.78	1019	0.0	0.0	13	15	0.0	0.3	20.4	
								30	0.0	0.8	18.9	
								60	0.0	0.9	18.8	
								30	0.0	0.8	18.9	
								120	0.0	0.7	19.0	
								180	0.0	0.6	19.0	
								240	0.0	0.7	19.1	
								300	0.0	0.6	19.1	
DS103	50	3.00	2.78	1019	0.0	0.0	13	15	0.0	0.3	20.4	
								30	0.0	2.0	19.7	
								60	0.0	3.0	17.9	
								90	0.0	1.6	18.5	
								120	0.0	1.8	18.3	
								180	0.0	3.7	16.8	
								240	0.0	2.8	17.1	
								300	0.0	2.3	17.9	
DS104	50	4.00	DRY	1019	0.0	0.0	13	15	0.0	0.9	19.8	
								30	0.0	1.0	19.6	
								60	0.0	1.8	18.8	
								90	0.0	2.3	17.8	
								120	0.0	2.8	17.1	
								180	0.0	3.1	16.8	
								240	0.0	3.7	16.6	
								300	0.0	4.2	15.1	
DS105	50	4.00	DRY	1019	0.0	0.0	13	15	0.0	0.6	19.9	
								30	0.0	0.6	19.9	
								60	0.0	0.6	20.0	
								90	0.0	0.5	20.0	
								120	0.0	0.5	20.0	
								180	0.0	0.4	20.0	
								240	0.0	0.4	20.0	
								300	0.0	0.4	20.0	

GAS MONITORING DATA

Site:	Sunninghill Gasworks, Ascot		
Project:	M41977	Date:	09-Nov-21

Operator:	CW
Weather:	Dry

JNP GROUP
CONSULTING ENGINEERS

Monitoring Location	Standpipe diameter (mm)	Standpipe Depth (m bgl)	Water Level (m bgl)	Atmos. Pressure (mb)	Initial Flow Rate (litres/hr)	Average Flow Rate (litres/hr)	Temp (^{o}C)	Reading Duration (s)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	Notes
DS101	50	3.20	3.17	1014	0.0	0.0	15	15	0.0	4.0	14.5	
								30	0.0	3.3	15.8	
								60	0.0	2.5	16.3	
								90	0.0	2.0	17.4	
								120	0.0	1.8	17.6	
								180	0.0	1.7	17.7	
								240	0.0	1.6	17.7	
								300	0.0	1.6	17.7	
DS102	50	3.00	2.74	1014	-20.0	0.0	15	15	0.0	0.9	19.0	
								30	0.0	1.0	18.8	
								60	0.0	1.0	18.5	
								30	0.0	1.0	18.9	
								120	0.0	0.9	18.7	
								180	0.0	0.9	18.8	
								240	0.0	0.9	18.8	
								300	0.0	0.9	18.8	
DS103	50	3.00	DRY	1013	0.0	0.0	15	15	0.0	0.3	20.5	
								30	0.0	2.1	17.7	
								60	0.0	3.0	16.8	
								90	0.0	5.3	14.7	
								120	0.0	3.3	15.4	
								180	0.0	6.3	12.2	
								240	0.0	6.8	11.7	
								300	0.0	7.2	10.4	
DS104	50	4.00	DRY	1013	0.0	0.0	15	15	0.0	4.5	14.5	
								30	0.0	4.2	14.8	
								60	0.0	4.1	15.3	
								90	0.0	3.7	15.4	
								120	0.0	3.7	15.4	
								180	0.0	3.7	15.5	
								240	0.0	3.7	15.5	
								300	0.0	3.7	15.5	
DS105	50	4.00	DRY	1013	0.0	0.0	15	15	0.0	4.2	14.4	
								30	0.0	4.5	14.0	
								60	0.0	4.6	13.9	
								90	0.0	4.0	14.2	
								120	0.0	3.5	15.1	
								180	0.0	3.2	16.0	
								240	0.0	2.7	17.0	
								300	0.0	2.2	17.0	

GAS MONITORING DATA

Site:	Sunninghill Gasworks, Ascot		
Project:	M41977	Date:	24-Nov-21

Operator:	CW
Weather:	Cold, overcast

JNP GROUP
CONSULTING ENGINEERS

Monitoring Location	Standpipe diameter (mm)	Standpipe Depth (m bgl)	Water Level (m bgl)	Atmos. Pressure (mb)	Initial Flow Rate (litres/hr)	Average Flow Rate (litres/hr)	Temp (^{o}C)	Reading Duration (s)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	Notes
DS101	50	3.20	2.68	1014	0.0	0.0	8	15	0.0	1.2	18.9	
								30	0.0	1.5	18.7	
								60	0.0	1.3	18.7	
								90	0.0	1.0	18.6	
								120	0.0	0.9	18.8	
								180	0.0	0.9	19.0	
								240	0.0	0.8	19.0	
								300	0.0	0.8	19.1	
DS102	50	3.00	2.77	1014	0.0	0.0	8	15	0.0	5.5	1.3	
								30	0.0	5.7	9.5	
								60	0.0	6.0	9.3	
								30	0.0	6.0	9.2	
								120	0.0	6.0	9.1	
								180	0.0	6.1	9.1	
								240	0.0	6.1	9.0	
								300	0.0	6.1	9.0	
DS103	50	3.00	2.78	1014	0.0	0.0	8	15	0.0	6.6	11.0	
								30	0.0	7.2	10.4	
								60	0.0	7.4	8.9	
								90	0.0	7.7	8.7	
								120	0.0	7.7	8.7	
								180	0.0	7.7	8.6	
								240	0.0	7.7	8.6	
								300	0.0	7.7	8.6	
DS104	50	4.00	DRY	1014	0.0	0.0	8	15	0.0	4.3	15.1	
								30	0.0	5.2	14.0	
								60	0.0	5.4	13.4	
								90	0.0	5.8	13.2	
								120	0.0	6.1	12.7	
								180	0.0	6.4	12.5	
								240	0.0	6.5	12.4	
								300	0.0	6.5	12.4	
DS105	50	4.00	3.85	1014	0.0	0.0	8	15	0.0	5.5	14.5	
								30	0.0	6.6	13.6	
								60	0.0	6.7	13.3	
								90	0.0	6.8	13.2	
								120	0.0	7.0	13.0	
								180	0.0	7.0	13.0	
								240	0.0	7.1	12.9	
								300	0.0	7.1	12.9	
DS01	50	2.00	DRY	1014	0.0	0.0	8	15	0.0	2.5	13.6	
								30	0.0	2.5	14.2	
								60	0.0	2.3	14.4	
								90	0.0	2.1	14.6	
								120	0.0	1.7	15.2	
								180	0.0	1.5	17.1	
								240	0.0	1.1	17.2	
								300	0.0	1.0	17.3	

GAS MONITORING DATA

Site:	Sunninghill Gasworks, Ascot		
Project:	M41977	Date:	09-Dec-21

Operator:	CW
Weather:	Cold, overcast

JNP GROUP
CONSULTING ENGINEERS

Monitoring Location	Standpipe diameter (mm)	Standpipe Depth (m bgl)	Water Level (m bgl)	Atmos. Pressure (mb)	Initial Flow Rate (litres/hr)	Average Flow Rate (litres/hr)	Temp (^{o}C)	Reading Duration (s)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	Notes
DS101	50	3.20	DRY	995	0.0	0.0	5	15	0.0	4.1	11.5	
								30	0.0	4.1	7.7	
								60	0.0	4.2	7.5	
								90	0.0	4.2	5.4	
								120	0.0	4.5	7.4	
								180	0.0	4.6	7.3	
								240	0.0	4.5	7.3	
								300	0.0	4.5	7.3	
DS102	50	3.00	2.69	995	0.0	0.0	5	15	0.0	0.1	20.8	
								30	0.0	0.1	20.7	
								60	0.0	0.1	20.7	
								30	0.0	0.1	20.7	
								120	0.0	0.1	20.7	
								180	0.0	0.1	20.7	
								240	0.0	0.1	20.7	
								300	0.0	0.1	20.7	
DS103	50	3.00	2.95	995	0.0	0.0	5	15	0.0	0.3	20.5	
								30	0.0	0.4	20.4	
								60	0.0	0.5	20.2	
								90	0.0	0.5	20.2	
								120	0.0	0.4	20.2	
								180	0.0	0.4	20.3	
								240	0.0	0.3	20.4	
								300	0.0	0.2	20.4	
DS104	50	4.00	DRY	995	0.0	0.0	5	15	0.0	0.7	20.6	
								30	0.0	0.7	20.3	
								60	0.0	0.8	20.2	
								90	0.0	0.8	20.2	
								120	0.0	0.8	20.2	
								180	0.0	0.9	20.2	
								240	0.0	0.9	20.2	
								300	0.0	0.9	20.2	
DS105	50	4.00	3.95	995	0.0	0.0	5	15	0.0	6.5	17.8	
								30	0.0	6.6	14.6	
								60	0.0	6.6	14.4	
								90	0.0	6.6	14.3	
								120	0.0	6.6	14.3	
								180	0.0	6.6	14.3	
								240	0.0	6.6	14.3	
								300	0.0	6.6	14.3	
DS01	50	2.00	DRY	995	0.0	0.0	5	15	0.0	0.1	20.8	
								30	0.0	0.1	20.7	
								60	0.0	0.1	20.7	
								90	0.0	0.1	20.7	
								120	0.0	0.1	20.7	
								180	0.0	0.1	20.7	
								240	0.0	0.1	20.7	
								300	0.0	0.1	20.7	

GAS MONITORING DATA

Site:	Sunninghill Gasworks, Ascot		
Project:	M41977	Date:	14-Jan-22

Operator:	CW
Weather:	Cold, bright

JNP GROUP
CONSULTING ENGINEERS

Monitoring Location	Standpipe diameter (mm)	Standpipe Depth (m bgl)	Water Level (m bgl)	Atmos. Pressure (mb)	Initial Flow Rate (litres/hr)	Average Flow Rate (litres/hr)	Temp (^{o}C)	Reading Duration (s)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	Notes
DS101	50	3.20	3.17	1028	0.0	0.0	1	15	0.0	1.8	15.7	
								30	0.0	1.8	8.2	
								60	0.0	1.8	7.9	
								90	0.0	1.8	7.9	
								120	0.0	1.9	7.9	
								180	0.0	1.9	7.9	
								240	0.0	1.8	7.9	
								300	0.0	1.8	7.9	
DS102	50	3.00	DRY	1028	0.0	0.0	1	15	0.0	2.5	17.3	
								30	0.0	2.5	16.0	
								60	0.0	2.5	15.9	
								30	0.0	2.5	15.9	
								120	0.0	2.5	15.9	
								180	0.0	2.5	15.9	
								240	0.0	2.5	15.9	
								300	0.0	2.5	15.9	
DS103												Borehole decomissioned
												by Groundworks
DS104	50	4.00	DRY	1028	0.0	0.0	1	15	0.0	4.1	16.8	
								30	0.0	4.2	16.8	
								60	0.0	4.2	16.6	
								90	0.0	4.2	16.6	
								120	0.0	4.3	16.6	
								180	0.0	4.3	16.6	
								240	0.0	4.3	16.6	
								300	0.0	4.3	16.6	
DS105												Borehole decomissioned
												by Groundworks
DS01												Borehole decomissioned
												by Groundworks

GAS MONITORING DATA

Site:	Sunninghill Gasworks, Ascot		
Project:	M41977	Date:	25-Jan-22

Operator:	CW
Weather:	Cold, bright

JNP GROUP
CONSULTING ENGINEERS

Monitoring Location	Standpipe diameter (mm)	Standpipe Depth (m bgl)	Water Level (m bgl)	Atmos. Pressure (mb)	Initial Flow Rate (litres/hr)	Average Flow Rate (litres/hr)	Temp (^{o}C)	Reading Duration (s)	CH_4 (% v/v)	CO_2 (% v/v)	O_2 (% v/v)	Notes
DS101	50	3.20	DRY	1028	0.0	0.0	2	15	0.0	2.8	18.1	
								30	0.0	2.5	18.3	
								60	0.0	2.0	18.5	
								90	0.0	1.6	19.0	
								120	0.0	1.3	19.0	
								180	0.0	1.3	19.0	
								240	0.0	1.3	19.0	
								300	0.0	1.3	19.0	
DS102	50	3.00	DRY	1028	0.0	0.0	2	15	0.0	0.8	20.7	
								30	0.0	0.8	20.8	
								60	0.0	0.8	20.8	
								30	0.0	0.7	20.8	
								120	0.0	0.7	20.8	
								180	0.0	0.7	20.8	
								240	0.0	0.7	20.8	
								300	0.0	0.7	20.8	
DS103												Borehole decomissioned
												by Groundworks
DS104	50	4.00	DRY	1028	0.0	0.0	2	15	0.0	0.9	20.5	
								30	0.0	0.9	20.5	
								60	0.0	0.9	20.4	
								90	0.0	0.9	20.4	
								120	0.0	0.9	20.4	
								180	0.0	0.9	20.4	
								240	0.0	0.9	20.4	
								300	0.0	0.9	20.4	
DS105												Borehole decomissioned
												by Groundworks
DS01												Borehole decomissioned
												by Groundworks

Appendix L – MEC Ltd Gas Verification Report

MEC ENVIRONMENTAL LTD

Gas Membrane Installation

Validation Report

Berkley Homes

Cavindish Meads

Sunninghill

Ascot

Berkshire

SL5 9TB

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1. INTRODUCTION

1.1 Purpose

UK Membranes are installing a gas protection membrane to the aforementioned site. MEC Environmental Ltd (MEC) has been appointed by UK Membranes to carry out independent validation of the installation of the membrane on the site as per our terms of engagement. The frequency of independent inspections has been determined by the client, comprehensive CQA should be forwarded by the installer to cover any data gaps for areas that have not been subjected to independent inspections.

The **SOLE** purpose of the works undertaken by MEC Environmental is to provide independent inspections and a factual report as and when requested to assist the client in gaining regulatory approval with regards to the gas membrane installation. This is as per the scope of work section within our term's engagement.

1.2 Limitations

This report is limited to providing lines of evidence to the regulatory authority for the areas components inspected by MEC only in support of the discharging of the relevant planning conditions only and cannot be used or relied upon for any other purpose. No professional liability shall be extended to any other parties by MEC, the report should explicitly not be relied on by any future vendor or tenant as proof that the gas protection measures are sufficient for the site and functioning at the time of purchase or start of any tenancy. Gas protection systems are not solely reliant on the gas membrane as points are scored under BS8485 for the floor slab, membrane and venting, these components work collaboratively to provide a gas protection system. This is as per the conditions within our term's engagement.

The report has been provided on the assumption that no damage or works that may have compromised the components and integrity of the gas membrane have been made after our inspections, failure to report any such occurrences will invalidate any liability and render the report and contents invalid. This is as per the conditions within our term's engagement.

This report has been prepared in accordance with the best available practice and the relevant guidance documents listed below of which the author of the report was a contributor and member of the steering committees:

Mallett H, Wilson S, Corban M (2014) "Good practice on the testing and verification of protection systems for buildings against hazardous ground gases". CIRIA Report C735

1.3 Compliance with Regulation 7 of Building Regulations

Regulation 7 of the building regulations requires that building work shall be carried out in a workmanlike manner. Approved document 7 suggests installation can comply with the regulation if workmanship is such that, where relevant, materials are adequately mixed or prepared and applied, used or fixed so as to perform adequately the functions for which they are intended.

A reasonable standard may be demonstrated by:

Compliance with a standard and independent certification - The relevant standard for gas protection measures is BS8485:2015 +A1:2019, Table 7 of the standard requires that gas membranes are verified as per CIRIA C735.

Past experience – The installers qualifications are checked by MEC Environmental to ensure that the installation supervisor holds the NVQ Level 2 in gas membrane installations.

Integrity Testing methods. – are carried out as prescribed in CIRIA C735, unless stated elsewhere Frequency of Visits – MEC have not been employed to prepare a validation plan for this project, the frequency of visits is as per the instructions of the client, in essence MEC inspected the available membrane that could be inspected each time an inspection visit was requested. The area inspected on each visit is noted on the survey sheets in appendix 1. This report should be read in conjunction with the installers CQA report.

1.4 Method of Inspection (Per Visit)

All seams and non-seam areas of the available gas membrane were inspected/tested by the Validation Surveyor for identification of defects, protruding and penetrating objects, lack of subgrade support, overheating, holes, blisters, undispersed raw materials, scratches and gouges, and any sign of contamination by foreign matter.

Any portion of the gas membrane exhibiting a flaw or failing a visual inspection/testing was repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure was agreed upon between the Validation Consultant and the Installer at the time of the repair and is noted in the survey sheets.

Major repairs are visually inspected/tested, repairs passing the inspection/testing were considered acceptable. In some cases minor repairs maybe carried out under contractor CQA and photographic evidence supplied to the verifier for inclusion in the report.

1.5 MEC Staff Competency

All site inspections have been carried out by suitably qualified staff as defined in CIRIA C735, the qualification held by all MEC inspection surveyors is either the NVQ Level 4 in gas protection verification or the NVQ Level 2 in gas membrane installation

The author of this report is also a CL:AIRE accredited Specialist in Gas Protection Verification (SGPV) and holds both the NVQ Level 2 in gas membrane installation and the NVQ Level 4 in gas protection verification.

1.6 Conclusion

During our inspections to the areas denoted in Appendix 1 (Site Surveys Sheets) we witnessed the installer carrying out the installation in a workmanlike manner, the materials were adequately prepared and applied, used and fixed so as to perform adequately the functions for which they are intended as per Regulation 7 of the building regulations. In instances were 100% of the installation has not been independently inspected/tested then this report should be read in conjunction with the gas membrane installers CQA records.

The installers all hold the NVQ Level 2 “Gas membrane Installations” qualification and as such are classed as a qualified and experienced installer. MEC Environmental have checked the CSCS Trade Cards of the installers, which confirms the holder has attained the qualification.

Signed  Date: 14/10/2022

Michael Corban S.G.P.V.
Director
MEC Environmental Ltd

Appendix 1 – Site Survey Sheets

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 4,5,6 & 7.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB.	**Weather: 13 ºC Dry**	**Terrace**	☒
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 28/02/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☒ Infill Only ☐ Other ☐

If other, please describe Full line out to attached garage in plot 4.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: Plot 4 = 9no & Plots 5,6 & 7 = 5no per plot.		
Materials used:	Membrane Name: Visqueen HC Blok gas membrane.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒ / Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

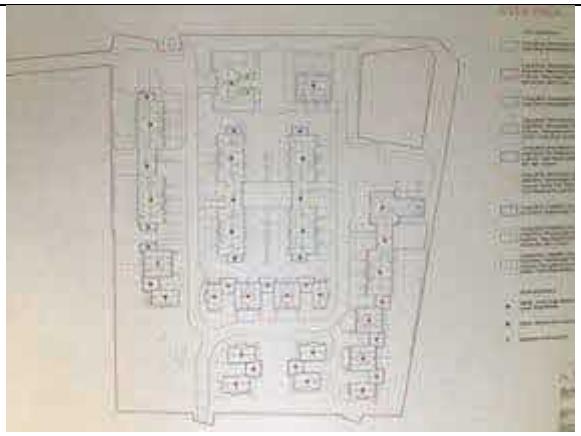
Surveyors Comments

N/A. Note: 2no pipe penetrations per plot have been sealed during our inspection the remaining pipe penetrations will be done on the infill.

Result of Inspection The Plots/Area has passed inspection

Signed: **Adam Mcdermott** Date: **28/02/2022**

Photographs 28/02/2022



Site plan.

Plot 4 overview of installed membrane to the garage.

Plot 4 overview of installed membrane to the perimeters and party walls.

Plot 4 pick testing all weld laps.

Plot 4 seal using SAGM to the front of the garage.

Plot 5 overview of installed membrane to the perimeter and party walls.

Plot 5 pick testing all SAGM detailing.

Plot 5 typical corner and pipe penetration seal using SAGM.

Plot 6 overview of installed membrane.

Plot 6 air brick in place.

Plot 6 typical door threshold seal using SAGM.

Plot 7 overview of installed membrane.

Plot 7 typical bay window corner seals using SAGM.

Plot 7 typical door seal using SAGM.

Air lancing all weld laps and SAGM detailing.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plot 1.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☒
		Semi-Detached	☐
Postcode: SL5 9TB.	**Weather: 16 ºC Dry**	**Terrace**	☐
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 26/05/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: 10no.		
Materials used:	Membrane Name: Visqueen HC Blok gas membrane.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒	Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

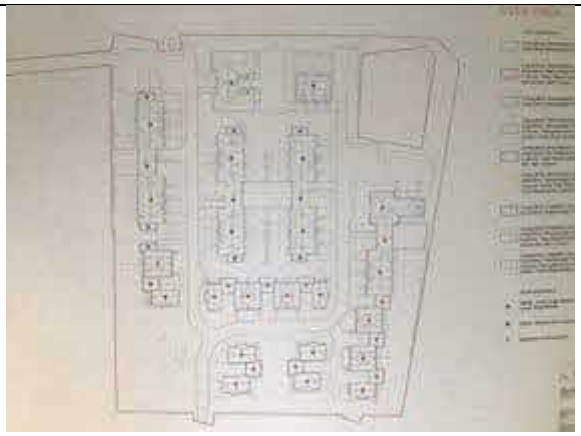
Surveyors Comments

Prior to our inspection 5no patch repairs were made by the installers due to damage caused by follow on trades and repaired using SAGM.

Result of Inspection The Plots/Area has passed inspection

Signed: **Adam Mcdermott** Date: **26/05/2022**

Photographs 26/05/2022



Site plan.

Overview of installed membrane.

Air lancing all welded membrane laps.

Typical pipe penetration seal using SAGM.

Pick testing all SAGM detailing.

Door threshold seal using SAGM.

Patch repair using SAGM to damaged perimeter membrane.

Retro fit detail using SAGM to the internal block work wall.

Air brick in place at the time of our inspection.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 73 & 74.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☒
Postcode: SL5 9TB.	**Weather: 16 ºC Dry**	**Terrace**	☐
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 26/05/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☒ Infill Only ☐ Other ☐

If other, please describe Internal walls and integral garage perimeter walls.

Item	**Comments**			
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐	
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐			
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐			
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐			
	Number of Vents: 10no per plot.			
Materials used:	Membrane Name: Visqueen HC Blok gas membrane.			
	Self-Adhesive Membrane ☒	Preformed Tophats ☐		
	Double Sided Butyl Tape ☐	Preformed Corners ☐		
	Others Please List: N/A.			
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒	Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test	
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)		

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

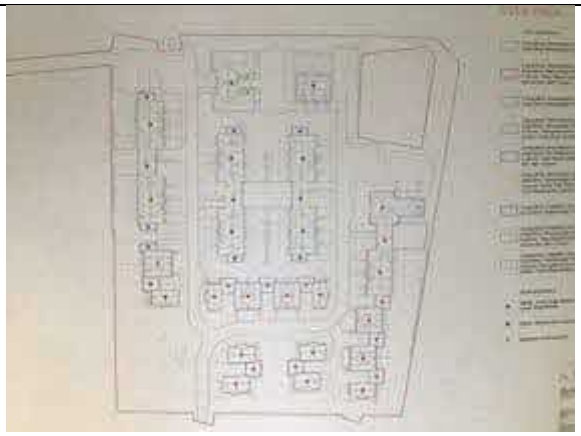
Surveyors Comments

N/A.

Result of Inspection The Plots/Area has passed inspection

Signed: **Adam Mcdermott** Date: **26/05/2022**

Photographs 26/05/2022



Site plan.

Overview of installed perimeter membrane to plots 73 & 74.

Plot 73 typical door threshold seal using SAGM.

Plot 73 air brick in place.

Plot 73 typical corner seal using SAGM.

Plot 74 pick testing all SAGM detailing.

Plot 74 typical double pipe penetration seal using SAGM.

Plot 74 hand welded membrane laps over the cavity wall.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 2 & 3.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☒
Postcode: SL5 9TB.	**Weather: 14 ºC Dry**	**Terrace**	☐
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 07/06/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: 8no per plot.		
Materials used:	Membrane Name: Visqueen HC Blok gas membrane.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒	Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

Prior to our inspection patch repairs were made by the installers due to damage caused by follow on trades and repaired using SAGM to plots:

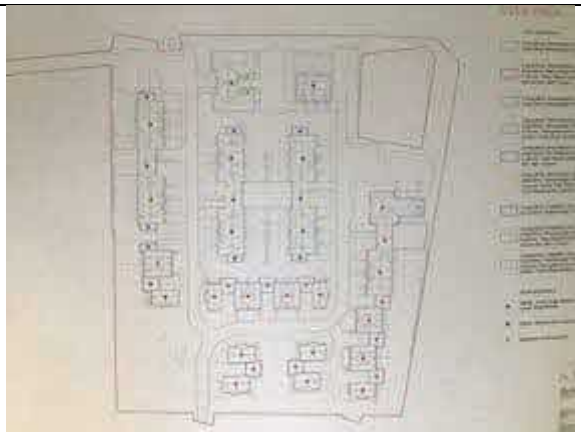
Plot 2 = 4no.

Plot 3 = 3no.

Result of Inspection The Plots/Area has passed inspection

Signed: **Adam Mcdermott** Date: **07/06/2022**

Photographs 07/06/2022



Site plan.

Plot 2 overview of installed membrane.

Plot 2 typical pipe penetration seal using SAGM.

Plot 2 typical door threshold seal using SAGM.

Plot 2 air lancing all weld laps and SAGM detailing.

Plot 3 overview of installed membrane.

Plot 3 typical double pipe penetration seal using SAGM.

Plot 3 retro fit detail over the damaged membrane that is under the internal block work wall.

Plot 3 pick testing all SAGM detailing.

Air brick in place at the time of our inspection.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 75 & 76.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☒
		Semi-Detached	☐
Postcode: SL5 9TB.	**Weather: 24 ºC Dry.**	**Terrace**	☐
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 25/07/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: 12no per plot.		
Materials used:	Membrane Name: Visqueen HC Blok gas barrier.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒ / Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

During our inspection the damaged membrane around the perimeter which was caused by follow on trades was repaired using SAGM to plots:

Plot 75 = 17no.
Plot 76 = 12no.

Result of Inspection The Plots/Area has passed inspection but the above information is drawn to the contractors attention

Signed: **Adam Mcdermott** Date: **25/07/2022**

Photographs 25/07/2022

Plot 75 overview of installed membrane.

Plot 75 typical double pipe penetration seal using SAGM.

Plot 75 repaired damaged membrane using SAGM.

Plot 75 air lancing all weld laps and SAGM detailing.

Plot 76 air brick in place at the time of our inspection.

Plot 76 pick testing all SAGM detailing.

Plot 76 picture framing detail using SAGM to internal block work wall.

Plot 76 overview of installed membrane.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 4 & 5.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB.	**Weather: 32 ºC Dry.**	**Terrace**	☒
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 12/08/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: 5no per plot.		
Materials used:	Membrane Name: Visqueen HC Blok gas barrier.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒	Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☐ N/A

Surveyors Comments

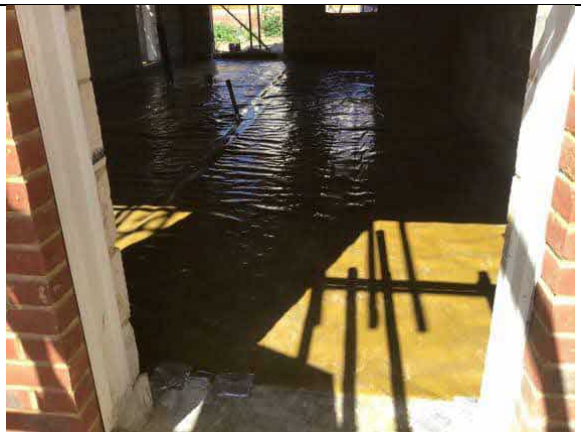
During our inspection the damaged membrane around the perimeter which was caused by follow on trades was repaired using SAGM to plots:

Plot 4 = 11no.
Plot 5 = 12no.

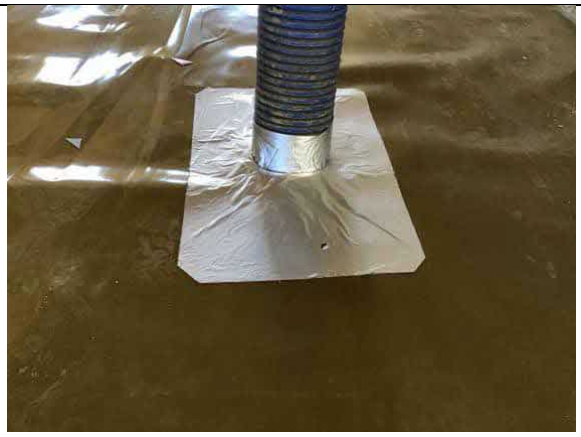
Result of Inspection The Plots/Area has passed inspection but the above information is drawn to the contractors attention

Signed: **Adam Mcdermott** Date: **12/08/2022**

Photographs 12/08/2022



Plot 4 overview of installed membrane.



Plot 4 typical pipe penetration seal using SAGM.

Plot 4 hand welded membrane lap.

Plot 4 patch repair using SAGM.

Plot 5 overview of installed membrane.

Plot 5 typical double pipe penetration seal using SAGM.

Plot 5 air lancing all SAGM detailing and welded membrane laps.

Plot 5 air brick in place at the time of our inspection.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 6 & 7.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB.	**Weather: 24 ºC Dry.**	**Terrace**	☒
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 19/08/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**			
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐	
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐			
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐			
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐			
	Number of Vents: 5no per plot.			
Materials used:	Membrane Name: Visqueen HC Blok gas barrier.			
	Self-Adhesive Membrane ☒	Preformed Tophats ☐		
	Double Sided Butyl Tape ☐	Preformed Corners ☐		
	Others Please List: N/A.			
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒	Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test	
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)		

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

During our inspection the damaged membrane around the perimeter which was caused by follow on trades was repaired using SAGM to plots:

Plot 6 = 12no.
Plot 7 = 10no.

Result of Inspection The Plots/Area has passed inspection but the above information is drawn to the contractors attention

Signed: **Adam Mcdermott** Date: **19/08/2022**

Photographs 19/08/2022

Plot 7 overview of installed membrane.

Plot 7 typical double pipe penetration seal using SAGM.

Plot 7 patch repair using SAGM.

Plot 7 air lancing all welded membrane laps.

Plot 6 overview of installed membrane.

Plot 6 repaired door threshold detail using SAGM.

Plot 6 typical pipe penetration seal using SAGM.

Plot 6 pick testing all SAGM detailing.

5no air bricks per plot were in place at the time of our inspection.

Housebuilder Name: Berkeley Homes		**Plot Number: 8 FOG, 9 Terrace**	
Site Name: Sunninghill Square, Cavindish meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB	**Weather: 22 ºC Fine**	**Terrace**	☒
Installer: UK Membranes		**Apartment Block**	☐
Surveyor: Keith Barsby		**Detached Garage**	☐
Date: 02/09/2022		**Flat Over Garage**	☒

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe

Item	**Comments**			
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐	
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐			
	The venting has passed inspection and is installed as per the design ☐ The venting has failed inspection, see notes in defects section ☐			
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐			
	Number of Vents: Plot 8=0no, Plot 9=7no			
Materials used:	Membrane Name: Visqueen HC Blok			
	Self-Adhesive Membrane ☒	Preformed Tophats ☐		
	Double Sided Butyl Tape ☐	Preformed Corners ☐		
	Others Please List: N/A			
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒	Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test	
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)		

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

Patch repairs made using SAGM to damage caused by follow on trades around the previously installed perimeter: Plot 8=12no, Plot 9=2no.

Result of Inspection The Plots/Area has passed inspection

Signed: **Keith Barsby** Date: **02/09/2022**

Photographs 02/09/2022

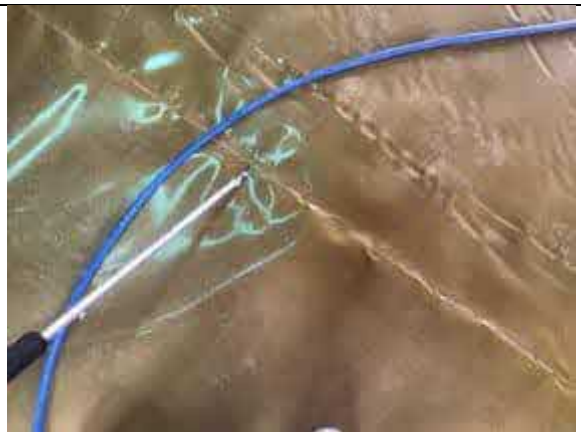
Plot 8 overview

Plot 8 hand welded joint being air lanced

Plot 8 corner detail and pipe penetration sealed using SAGM

Plot 9 overview

Plot 9 pipe penetrations sealed using SAGM



Plot 9 hand welded joint being air lanced

Housebuilder Name: Berkeley Homes		**Plot Number: 10-11-12**	
Site Name: Cavendish meads. Sunninghill, Ascot. Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB	**Weather: 17 ºC Dry**	**Terrace**	☒
Installer: UK Membranes		**Apartment Block**	☐
Surveyor: Ross Edwards		**Detached Garage**	☐
Date: 09/09/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☒

If other, please describe

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☐	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: Plots 10-11-12 = 16no		
Materials used:	Membrane Name: Visqueen HC Bloc		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒ / Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☐ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

Membrane has been installed across the footprint and welded to the perimeter membrane, all detailing sealed using SAGM

Result of Inspection The Plots/Area has passed inspection

Signed: **Ross Edwards** Date: **09/09/2022**

Photographs 09/09/2022

Overview to Plot 12 infill lined out using Visqueen HC Bloc.

Two typical pipe details sealed with SAGM to Plot 12.

Pick testing along the hand welded lap joint.

Lance testing to the perimeter hand welded lap joints.

Plot 11 infill overview.

Overview looking down the hand welded lap joint.

Pipe details within Plot 11 sealed with SAGM.

Overview to the air lance test in process to Plot 11.

Plot 10 overview.

Overview to the perimeter membrane welded to the infill membrane.

SAGM patches applied prior to inspection to the perimeter membrane within Plot 10.

Air lance testing to Plot 10 lap joints.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 33 & 34.**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB	**Weather: 16 ºC Dry.**	**Terrace**	☒
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 23/09/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: 4no per plot.		
Materials used:	Membrane Name: Visqueen HC Blok gas barrier.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒ / Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

Prior to our inspection patch repairs were made by the installers to the damaged perimeter membrane caused by follow on trades and repaired using SAGM to plots:

Plot 33 = 18no.
Plot 34 = 17no.

Result of Inspection The Plots/Area has passed inspection but the above information is drawn to the contractors attention

Signed: **Adam Mcdermott** Date: **23/09/2022**

Photographs 23/09/2022

Plot 33 overview of installed Visqueen HC Blok Gas Barrier as an infill.

Plot 33 typical pipe penetration seal using SAGM.

Plot 33 hand welded membrane lap.

Plot 34 overview of installed Visqueen HC Blok Gas Barrier.

Plot 34 patch repair using SAGM to damaged perimeter membrane.

Plot 34 air lancing all welded membrane laps.

Air brick in place at the time of our inspection.

Housebuilder Name: Berkeley Homes.		**Plot Number: Plots 32 & 35**	
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.		**Detached House**	☐
		Semi-Detached	☐
Postcode: SL5 9TB	**Weather: 12 ºC Dry.**	**Terrace**	☒
Installer: UK Membranes.		**Apartment Block**	☐
Surveyor: Adam Mcdermott		**Detached Garage**	☐
Date: 28/09/2022		**Flat Over Garage**	☐

Full Footprint ☐ Perimeter Only ☐ Infill Only ☒ Other ☐

If other, please describe N/A.

Item	**Comments**		
Sub-floor void	Inspected by MEC ☐	Not Inspected by MEC contractor advised ☒	N/A ☐
	Beam & Block min 150mm ☒ Strips of 25mm Geocomposite ☐ Full Cover of 25mm Geocomposite ☐		
	The venting has passed inspection and is installed as per the design ☒ The venting has failed inspection, see notes in defects section ☐		
Ventilation Inlets and Outlets	(Inlet/Outlet Type) Air Bricks ☒ Ventboxes ☐ Not in Place at Time of Inspection ☐		
	Number of Vents: 4no per plot.		
Materials used:	Membrane Name: Visqueen HC Blok gas barrier.		
	Self-Adhesive Membrane ☒	Preformed Tophats ☐	
	Double Sided Butyl Tape ☐	Preformed Corners ☐	
	Others Please List: N/A.		
Type of Joint	Tape Joint ☐	Auto Weld ☐	Hand Weld ☒ / Extrusion Weld ☐
Testing/Inspection	☒ Visual Inspection	☒ Air Lance (ASTM D4437)	☐ Tracer Gas Test
	☒ Probe Test (ASTM D4437)	☐ Dielectric Test (NACE RP0188-99)	

Laps, welds and detailing	Have all joints passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all pipes passed testing prior to surveyor leaving site?	☒ Yes	☐ No	☐ N/A
	Have all corners passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

	Have all acoustic details passed testing prior to surveyor leaving site?	☐ Yes	☐ No	☒ N/A

Surveyors Comments

Prior to our inspection patch repairs were made by the installers to the damaged perimeter membrane caused by follow on trades and repaired using SAGM to plots:

Plot 32 = 7no.
Plot 35 = 12no.

NOTE: the attached garage to plot 35 was incomplete at the time of our inspection due to scaffolding being in place.

Result of Inspection The Plots/Area has passed inspection but the above information is drawn to the contractors attention

Signed: **Adam Mcdermott** Date: **28/09/2022**

Photographs 28/09/2022

Plot 35 overview of installed Visqueen HC Blok Gas Barrier as an infill.

Plot 35 typical double pipe penetration seal using SAGM.

Plot 35 pick testing all SAGM detailing.

Plot 35 hand welded membrane laps.

Plot 35 attached garage incomplete at the time of our inspection.

Plot 32 overview of installed Visqueen HC Blok Gas membrane.

Plot 32 air lancing all welded membrane laps.

Plot 32 air brick in place at the time of our inspection.

Plot 32 patch repair to damaged membrane caused by follow on trades and repaired using SAGM.

Housebuilder Name: Berkeley Homes - Sunninghill Square			**Date: 07/10/2022**
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.			**Weather: 16 ºC Fine**
			Installer: UK Membranes
Postcode: SL5 9TB	**Surveyor: James Hall (NVQ 2)**		

Plot Number	Building Type	Extent of Inspection	Result
29 & 30	Terrace	Infill	Pass
63 (FOG Unit)	FOG Unit	Full Footprint	Pass

(Section 1, Materials and Method of Seal)

Gas Membrane Name: Visqueen Ultimate HC Blok

Corner Seal Method: Corners have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735

Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735

Annulus to Water Pipe Duct: The alkathene water pipe has either not been sealed or is not in place at the time of our inspection, this will require sealing to an approved method, this is outside the remit of the result of todays inspection

Door Threshold Seal Method: Door Thresholds have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735

Cavity Vent Seal Method: The cavity vents sit below the membrane that seals the cavity and do not require a specialist seal

Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of hand welding with a hot air gun and neoprene roller, the width of the welded joint is a minimum of 30mm.

Others Please List: N/A

(Section 2, Testing and Inspection Method)

Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection
Joint Testing	The surveyor carried out Air Lance testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like, The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work

	is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
Plot Number	**(Section 3, Defects List)**	**Action Required**
29-30 & 63 FOG Unit	No Defects recorded at the time of our inspection	N/A

Signed: **James Hall (NVQ 2)** Date: **07/10/2022**

Plot Overview Photographs

Plot 29 - Overview of Visqueen Ultimate HC Blok Gas Barrier infill installation.

Plot 30 - Overview of Visqueen Ultimate HC Blok Gas Barrier infill installation.

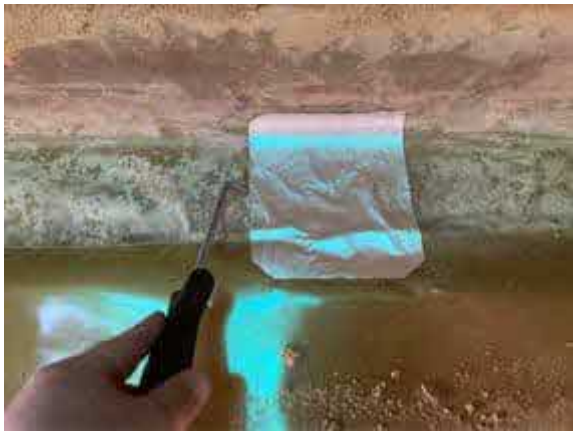
Plot 63 FOG Unit - Overview of Installation of Visqueen Ultimate HC Blok.

Detailing Sample Photographs

Plot 29 - Successfully hand welded membrane lap joint.

Plot 29 - Air lance integrity test upon a hand welded membrane lap joint.

Plot 29 - Pipe penetration's sealed using SAGM.



Plot 29 - Pick test upon a successful patch repair using SAGM.

Plot 30 - Air lance test conducted upon all membrane lap joints.

Plot 30 - Hand welded membrane lap joint.

Plot 30 - Patch repairs using SAGM.

Plot 30 - Typical pipe penetration's sealed using SAGM.

Plot 63 FOG Unit - Corner detailing sealed using SAGM.

Plot 63 FOG Unit - Typical threshold detail sealed using SAGM.

Plot 63 FOG Unit - Pick test upon a successfully hand welded lap joint.

Plot 63 FOG Unit - Typical pipe penetration sealed using SAGM.

Housebuilder Name: Berkeley Homes.			**Date: 14/10/2022**
Site Name: Cavindish Meads, Sunninghill, Ascot, Berkshire.			**Weather: 13 ºC Dry**
			Installer: UK Membranes
Postcode: SL5 9TB.	**Surveyor: Adam McDermott (TGPV)**		
Plot Number	**Building Type**	**Extent of Inspection**	**Result**
Plots 27 & 28.	Terrace.	Infill	Pass

(Section 1, Materials and Method of Seal)
Gas Membrane Name: Visqueen HC Blok gas membrane.
Corner Seal Method: Corners have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735
Annulus to Water Pipe Duct: The alkathene water pipe has either not been sealed or is not in place at the time of our inspection, this will require sealing to an approved method, this is outside the remit of the result of todays inspection
Door Threshold Seal Method: Door Thresholds have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735
Cavity Vent Seal Method: The cavity vents sit below the membrane that seals the cavity and do not require a specialist seal
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of hand welding with a hot air gun and neoprene roller, the width of the welded joint is a minimum of 30mm.
Others Please List: N/A

(Section 2, Testing and Inspection Method)	
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection
Joint Testing	The surveyor carried out Air Lance testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like

Plot Number	(Section 3, Defects List)	Action Required
Plots 27 & 28.	No Defects recorded at the time of our inspection.	N/A

Signed: **Adam McDermott (TGPV)** Date: **14/10/2022**

Plot Overview Photographs

Overview of installed membrane to plot 27.

Overview of installed membrane to plot 28.

Detailing Sample Photographs

Plot 27 air lancing all weld laps.

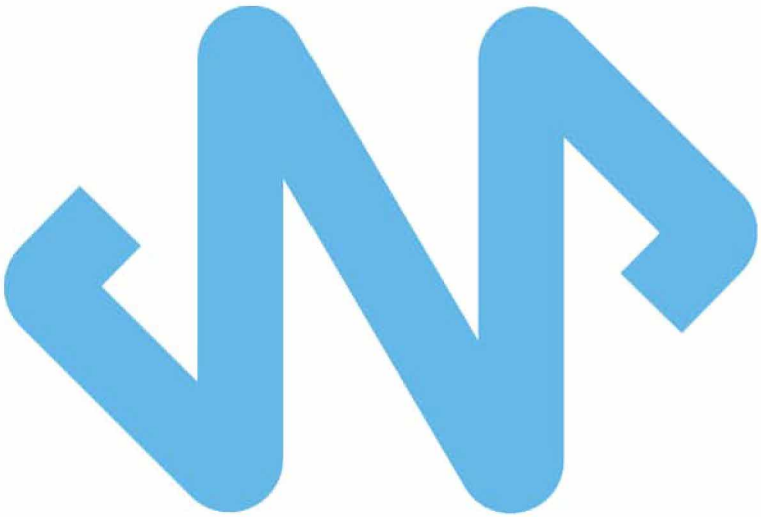
Plot 27 typical double pipe penetration seal using SAGM.

Plot 27 patch repair using SAGM to damage caused by follow on trades.

Plot 28 typical pipe penetration seal using SAGM.

Plot 28 retro fit detail using SAGM.

Plot 28 pick testing all SAGM detailing.



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