WINDOW/WINDOWLESS SAMPLING BOREHOLE RECORD

		Exploratory Hole No:	WS1
Site Address:	72 Marsefield Gardens, NW3 5TD	Project No:	P1170J1222
Client:	Mads Jensen	Ground Level:	
Logged By:	RS, DB	Date Commenced:	17/10/2017
Checked By:	PSw TE	Date Completed:	17/10/2017
Type and diameter of equipment:	Premier 110 Windowless Sampling Rig	Sheet No:	1 Of 1

Water levels recorded during boring, m						
Date:	17/10/2017					
Hole depth:	4.00					
Casing depth:						
Level water on strike:	2.7					
Water Level after 20mins:						

Remarks

1: *Field description

2:

3:

4:

Sample or Tests										Strata				
Type	Depth (mbgl)	Result								Legend	Depth (mbgl)	Water Strikes (mbgl)	Strata Description	Installation
		75	75	75	75	75	75	N						
									0.00		0.07		Concrete. (MADE GROUND).	
E	0.25												Soft consistency* brown slightly sandy gravelly clay with thinly spaced rootlets. Gravel is fine brick and concrete. (MADE GROUND).	
E	0.50								0.50		0.50		Soft consistency* yellowish brown sandy slightly gravelly clay. Gravel is fine to medium subangular to rounded flint, brick and shell fragments. (MADE GROUND).	
S D	1.00	2	1	1	1	1	2	5	1.00		1.10			
											1.40		Greyish green low strength sandy silty slightly gravelly CLAY with frequent rootlets. Gravel is subrounded to rounded flint.	
									1.50				Loose yellowish brown sandy slightly gravelly SAND. Sand is fine; gravel is fine flint.	
S D	2.00	2	1	2	1	1	2	6	2.00		2.00		Medium dense yellowish brown very clayey fine SAND with frequent bands of orange medium sand.	
									2.50					
S D	3.00	3	2	3	2	2	3	10	3.00					
									3.50					
S D	4.00	3	3	4	3	4	3	14	4.00		4.45			
									4.50					
									5.00					

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

Jomas Associates Ltd - Lakeside House, 1 Furzeground Way, Stockley Park, UB11 1BD
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WINDOW/WINDOWLESS SAMPLING BOREHOLE RECORD

Exploratory Hole No:	WS2		
Site Address:	72 Marsefield Gardens, NW3 5TD	Project No:	P1170J1222
Client:	Mads Jensen	Ground Level:	
Logged By:	RS, DB	Date Commenced:	17/10/2017
Checked By:	PSw TE	Date Completed:	17/10/2017
Type and diameter of equipment:	Premier 110 Windowless Sampling Rig	Sheet No:	1 Of 1

Water levels recorded during boring, m						
Date:						
Hole depth:						
Casing depth:						
Level water on strike:						
Water Level after 20mins:						

Remarks

1: No water reported

2: *Field description

3:

4:

Sample or Tests										Strata				
Type	Depth (mbgl)	Result								Legend	Depth (mbgl)	Water Strikes (mbgl)	Strata Description	Installation
		75	75	75	75	75	75	N						
									0.00		0.10		Brown silty clay. (TOPSOIL).	
E	0.25												Soft* dark brown sandy gravelly clay with frequent rootlets. Gravel consists of fine to medium subangular flint and occasional fine brick fragments. (MADE GROUND).	
E	0.50								0.50					
											0.90			
S D	1.00	1	1	1	1	1	1	4	1.00				Loose dark brown clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to medium angular to subrounded flint.	
									1.50		1.50			
													Loose orangish green grey clayey silty gravelly SAND. Sand is fine. Gravel is ocassional fine to medium angular to subrounded flint.	
S D	2.00	1	1	2	1	1	2	6	2.00		2.20			
													Loose to medium dense yellowish brown very clayey SAND with frequent bands of orange medium sand. Sand is fine.	
									2.50					
S D	3.00	2	3	2	3	4	3	12	3.00					
									3.50					
S D	4.00	2	2	2	2	3	3	10	4.00		4.45			
									4.50					
									5.00					

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

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WINDOW/WINDOWLESS SAMPLING BOREHOLE RECORD

Exploratory Hole No:	WS3		
Site Address:	72 Marsefield Gardens, NW3 5TD	Project No:	P1170J1222
Client:	Mads Jensen	Ground Level:	
Logged By:	RS, DB	Date Commenced:	17/10/2017
Checked By:	PSw TE	Date Completed:	17/10/2017
Type and diameter of equipment:	Premier 110 Windowless Sampling Rig	Sheet No:	1 Of 1

Water levels recorded during boring, m						
Date:						
Hole depth:						
Casing depth:						
Level water on strike:						
Water Level after 20mins:						

Remarks

1: *Field description

2: No water reported

3:

4:

Sample or Tests									Strata				
Type	Depth (mbgl)	Result							Legend	Depth (mbgl)	Water Strikes (mbgl)	Strata Description	Installation
		75	75	75	75	75	75	N					
										0.00			
										0.20		Brown silty clay. (TOPSOIL).	
E	0.25											Soft dark brown sandy gravelly clay with rootlets. Gravel is fine to medium subangular flint and occasional fine brick fragments. (MADE GROUND).	
E	0.50									0.50			
										0.90			
S D	1.00	1	1	2	1	1	2	6		1.00		Loose orangish green grey clayey silty slightly gravelly SAND. Sand is fine. Gravel is fine to medium angular to subrounded flint.	
										1.50			
										1.80			
S D	2.00	2	1	2	1	2	2	7		2.00		Loose yellowish brown very clayey slightly gravelly SAND with frequent bands of orange medium sand. Sand is fine to coarse; gravel is fine flint.	
										2.50			
S D	3.00	2	3	2	3	3	2	10		3.00			
										3.50			
S D	4.00	3	3	2	2	3	2	9		4.00			
										4.45			
										4.50			
										5.00			

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

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WINDOW/WINDOWLESS SAMPLING BOREHOLE RECORD

		Exploratory Hole No:	WS4
Site Address:	72 Marsefield Gardens, NW3 5TD	Project No:	P1170J1222
Client:	Mads Jensen	Ground Level:	
Logged By:	RS, DB	Date Commenced:	17/10/2017
Checked By:	TE	Date Completed:	17/10/2017
Type and diameter of equipment:	Premier 110 Windowless Sampling Rig	Sheet No:	1 Of 1

Water levels recorded during boring, m						
Date:						
Hole depth:						
Casing depth:						
Level water on strike:						
Water Level after 20mins:						

Remarks

1: *Field description

2: No water reported

3:

4:

Sample or Tests										Strata				
Type	Depth (mbgl)	Result								Legend	Depth (mbgl)	Water Strikes (mbgl)	Strata Description	Installation
		75	75	75	75	75	75	N						
									0.00					
											0.15		Brown organic silty clay. (TOPSOIL).	
E	0.25												Soft* light brown very sandy gravelly clay with frequent rootlets . Gravel consists of fine to medium subangular flint and fine brick fragments.	
E	0.50								0.50					
S D	1.00	2	3	4	3	2	2	11	1.00		1.10			
													Dark brown low strength very sandy slightly gravelly clay with frequent rootlets. Gravel consists of fine to medium subangular flint and fine brick fragments. (MADE GROUND).	
									1.50					
S D	2.00	1	1	2	1	2	2	7	2.00					
											2.50			
									2.50				Soft* greyish green silty sandy CLAY.	
											2.90			
S D	3.00	2	3	2	2	2	2	8	3.00				Loose light brown slightly sandy CLAY. Sand is fine.	
									3.50					
											3.80			
													Medium dense orangish grey clayey silty SAND with frequent bands of orange medium sand.	
S D	4.00	2	3	3	2	3	3	11	4.00					
											4.45			
									4.50					
									5.00					

Sampling Code: U- Undisturbed B - Large Disturbed D - Small Disturbed W - Water (U*) Non recovery of Sample

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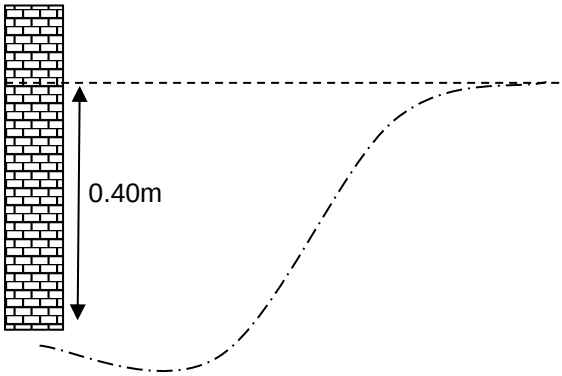
Specialists in the investigation & reclamation of brownfield sites

Job No.:	P1170J1222	**Issue Date:**	October 2017
Project:	72 Maresfield Gardens	**Reference:**	P1170J1222/jwt
Subject:	Foundation Inspection Pit Sketches	**Prepared by:**	JWT

TP01

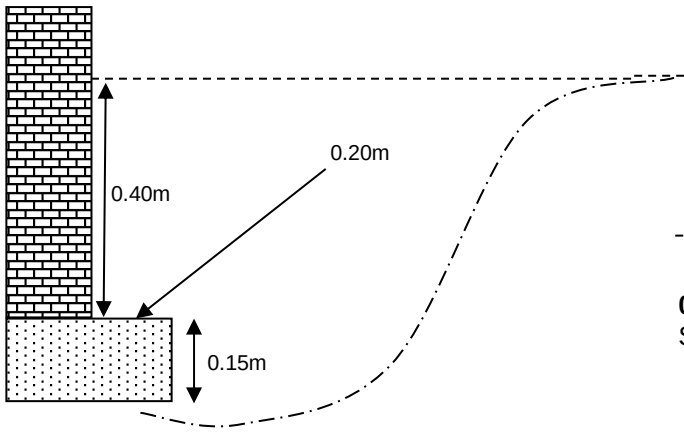


GL – 0.05m Concrete patio slab (MADE GROUND).

0.05m – 0.40m Light brown gravelly sand. Gravel consists of angular to sub-rounded brick, concrete and Type 1 crush (MADE GROUND).

(Not to scale)

TP02



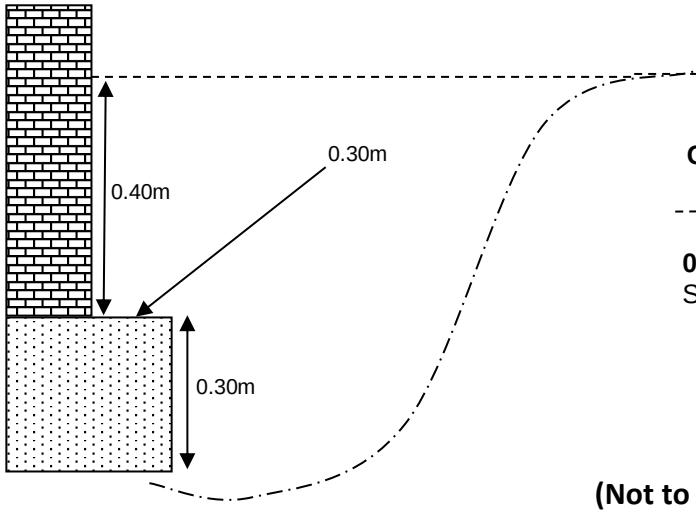
GL

GL – 0.15m Concrete slab, no rebar or hardcore (MADE GROUND).

0.15m – 0.75m Light orange-brown silty gravelly SAND.

(Not to scale)

TP03

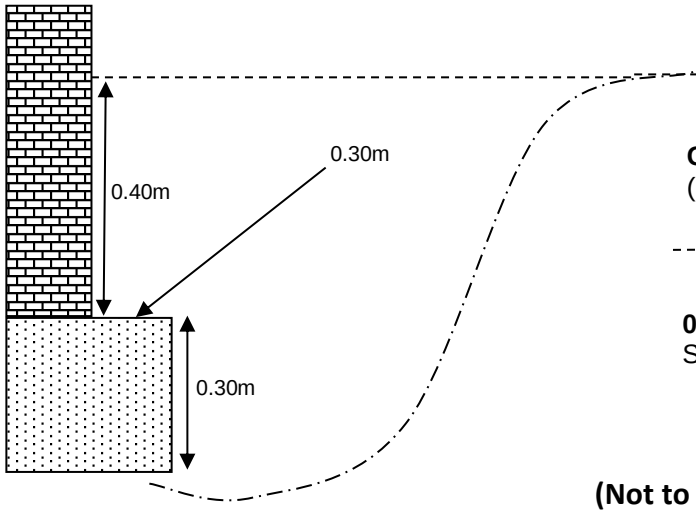


GL – 0.125m Concrete slab (MADE GROUND).

0.125m – 0.85m Light orange-brown silty gravelly SAND.

(Not to scale)

TP04

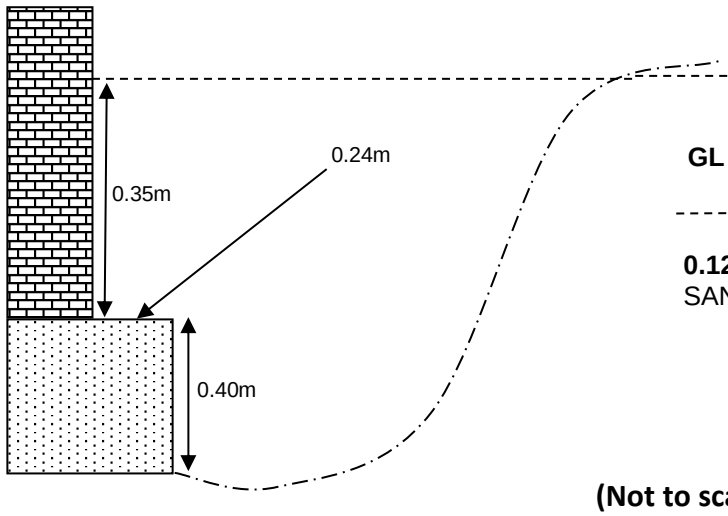


GL – 0.15m Concrete slab on hardcore fill, no rebar. (MADE GROUND).

0.15m – 0.75m Light orange-brown silty gravelly SAND.

(Not to scale)

TP05

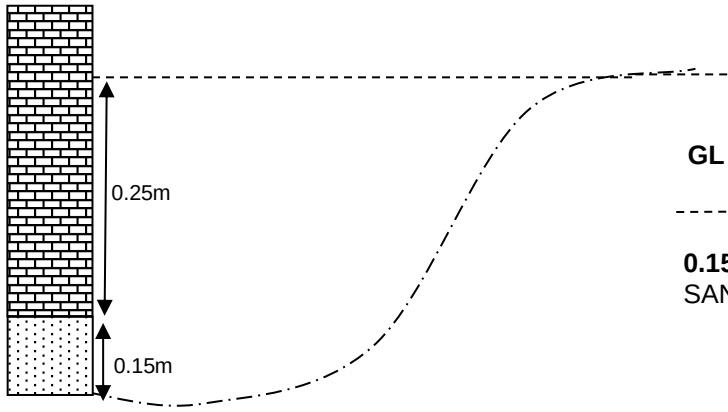


GL – 0.125m Concrete slab (MADE GROUND).

0.125m – 0.75m Light orange-brown silty gravelly SAND.

(Not to scale)

TP06

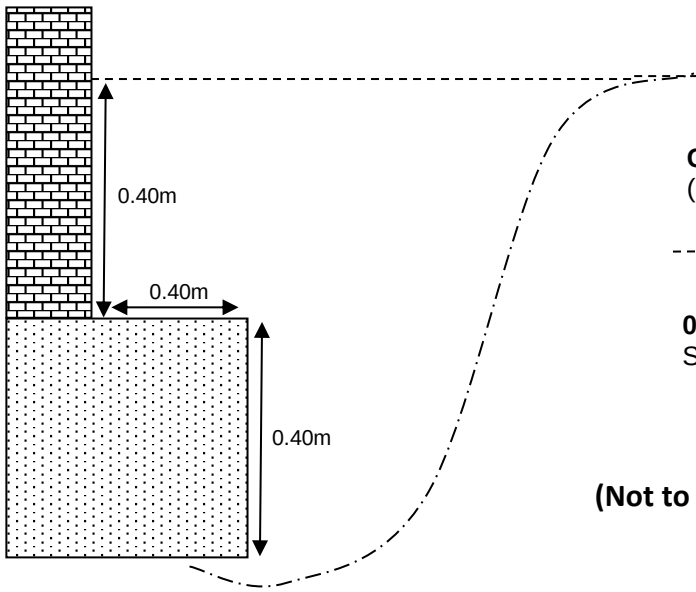


GL – 0.15m Concrete slab (MADE GROUND).

0.15m – 0.40m Light orange-brown silty gravelly SAND.

(Not to scale)

TP07

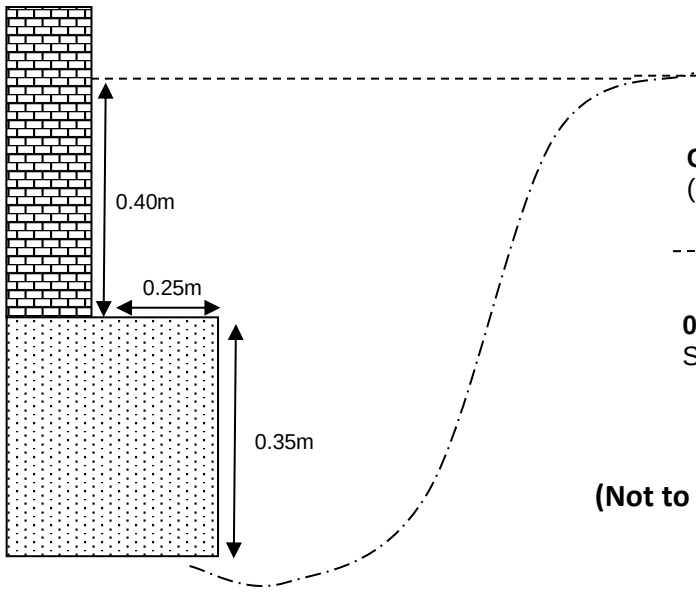


GL – 0.15m Concrete slab on hardcore fill, no rebar. (MADE GROUND).

0.15m – 0.75m Light orange-brown silty gravelly SAND.

(Not to scale)

TP08

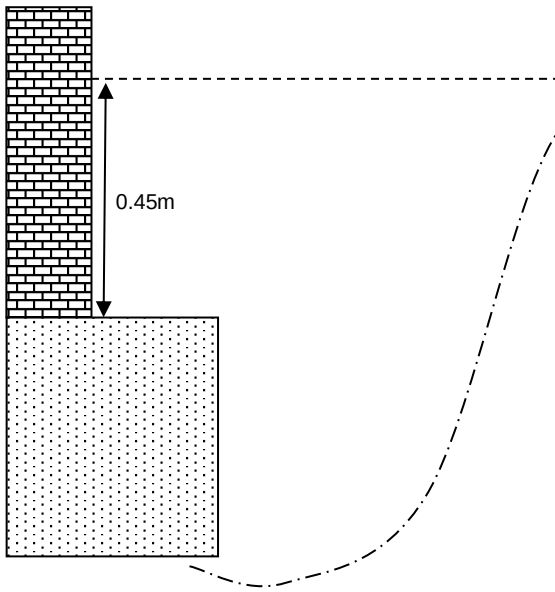


GL – 0.175m Concrete slab on hardcore fill, no rebar. (MADE GROUND).

0.175m – 0.75m Light orange-brown silty gravelly SAND.

(Not to scale)

TP09



GL – 0.15m Concrete slab on hardcore fill, no rebar (MADE GROUND).

0.15m – 1.00m Coarse angular to sub-angular gravel consisting of brick and concrete with frequent cobbles (MADE GROUND).

(Not to scale)

APPENDIX 7 – CHEMICAL LABORATORY TEST RESULTS

Emma Hucker
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1 Furzeground Way
Stockley Park
UB11 1BD

e: Jomas Group

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 17-64780

Project / Site name:	72 Marsefield Gardens, NW3 5TD	**Samples received on:**	20/10/2017
Your job number:	JJ1222	**Samples instructed on:**	20/10/2017
Your order number:	P1170JJ1222.3	**Analysis completed by:**	27/10/2017
Report Issue Number:	1	**Report issued on:**	27/10/2017
Samples Analysed:	2 10:1 WAC samples		

Signed: CCStone

Dr Claire Stone
Quality Manager
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.

i2 Analytical
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Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
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email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**17-64780**						
					Client:	**JOMASASSOC**	
Location	**72 Marsefield Gardens, NW3 5TD**						
Lab Reference (Sample Number)	841472 / 841473				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	17/10/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS1 P+J						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.5				3%	5%	6%
Loss on Ignition (%) **	1.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.9				100	--	--
pH (units)**	7.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	10				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:01	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0080			0.0477	0.5	2	25
Barium *	0.0184			0.110	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0057			0.034	0.5	10	70
Copper *	0.0078			0.046	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0019			0.0112	0.5	10	30
Nickel *	0.0020			0.012	0.4	10	40
Lead *	0.035			0.21	0.5	10	50
Antimony *	0.0023			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0081			0.049	4	50	200
Chloride *	2.6			15	800	4000	25000
Fluoride	0.76			4.6	10	150	500
Sulphate *	3.7			22	1000	20000	50000
TDS	63			380	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	9.09			54.4	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	89						
Moisture (%)	11						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation
** = MCERTS accredited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**17-64780**						
					Client:	**JOMASASSOC**	
Location	**72 Marsefield Gardens, NW3 5TD**						
Lab Reference (Sample Number)	841474 / 841475				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	17/10/2017				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS2 P+J						
Depth (m)	0.25						
Solid Waste Analysis							
TOC (%)**	1.4				3%	5%	6%
Loss on Ignition (%) **	2.7				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	21				100	--	--
pH (units)**	6.8				--	>6	--
Acid Neutralisation Capacity (mol / kg)	-3.4				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:01	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0053			0.0303	0.5	2	25
Barium *	0.0402			0.232	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0069			0.040	0.5	10	70
Copper *	0.015			0.088	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0006			< 0.0040	0.5	10	30
Nickel *	0.0040			0.023	0.4	10	40
Lead *	0.025			0.14	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.022			0.13	4	50	200
Chloride *	1.6			9.4	800	4000	25000
Fluoride	0.50			2.9	10	150	500
Sulphate *	3.3			19	1000	20000	50000
TDS	38			220	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	10.9			62.8	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.4						
Dry Matter (%)	88						
Moisture (%)	12						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
Stated limits are for guidance only and i2 cannot be held responsible for any discrepencies with current legislation
** = MCERTS accrediited

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 17-64780

Project / Site name: 72 Marsefield Gardens, NW3 5TD

* 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 *
841472	WS1	P+J	0.50	Brown sandy clay with gravel and rubble.
841474	WS2	P+J	0.25	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 17-64780

Project / Site name: 72 Marsefield Gardens, NW3 5TD

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-UK	W	NONE
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	in-house method	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated WAC-17 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	NONE
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
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS