APPENDIX E

Monitoring Results

GAS MONITORING RECORD SHEET

JOB DETAILS			
Site:	West End Lane	Job No:	CG/38293
Date:	10/03/2020	Engineer:	EJS
Time:	09:00 - 12:30	Client	A2 Dominon

METEOROLOGICAL & SITE INFORMATION

State of ground:	Dry	x	Moist		Wet				
Wind:	Calm		Light		Moderate	x	Strong		
Cloud cover:	None		Slight		Cloudy		Overcast	x	
Precipitation:	None	x	Slight		Moderate		Heavy		

Barometric pressure (mb): 1004 Local pressure system*: Falling Air temperature (°C): 12

Well No.	Time (s)	Flow (l/hr)	dA (PA)	O_2 (% vol. in air)	CO_2 (% vol. in air)	CH_4 (% vol. in air)	PID (ppm)	Depth to Groundwater (mbgl)	Depth to base (mbgl)
WS6	0	<0.1	<0.1	19.1	<0.1	<0.1	0.4	1.2	2.17
	15	<0.1	<0.1	19.6	<0.1	<0.1			
	30	<0.1	<0.1	19.2	<0.1	<0.1			
	45	<0.1	<0.1	19.0	<0.1	<0.1			
	60	<0.1	<0.1	18.9	<0.1	<0.1			
	90	<0.1	<0.1	18.7	0.1	<0.1			
	120	<0.1	<0.1	18.6	0.1	<0.1			
	150			18.6	0.1	<0.1			
	180			18.5	0.2	<0.1			
	240			18.5	0.3	<0.1			
	300			18.4	0.4	<0.1			
	360			18.5	0.4	<0.1			
	420			18.5	0.4	<0.1			
BH2	0	<0.1	<0.1	20.2	<0.1	<0.1	<0.1	0.71	3.84
	15	<0.1	<0.1	20.7	<0.1	<0.1			
	30	<0.1	<0.1	20.5	<0.1	<0.1			
	45	<0.1	<0.1	20.2	<0.1	<0.1			
	60	<0.1	<0.1	20.4	<0.1	<0.1			
	90	<0.1	<0.1	20.4	<0.1	<0.1			
	120	<0.1	<0.1	20.5	<0.1	<0.1			
	150			20.5	<0.1	<0.1			
	180								
	240								
	300								
WS7	0	<0.1	<0.1	19.9	<0.1	<0.1	1.6	dry	4.18
	15	<0.1	<0.1	14.7	2.2	<0.1			
	30	<0.1	<0.1	12.6	2.3	<0.1			
	45	<0.1	<0.1	12.4	2.3	<0.1			
	60	<0.1	<0.1	12.3	2.3	<0.1			
	90	<0.1	<0.1	12.2	2.3	<0.1			
	120	<0.1	<0.1	12.1	2.3	<0.1			
	150			12.1	2.3	<0.1			
	180			12.3	2.3	<0.1			
	240			12.8	2.3	<0.1			
	300			13.0	2.3	<0.1			
BH1	0	<0.1	<0.1	20.4	<0.1	<0.1	0.3	Could not remove bung to dip water level.	
	15	<0.1	<0.1	17.5	2.3	<0.1			
	30	<0.1	<0.1	15.5	3.1	<0.1			
	45	<0.1	<0.1	16.2	2.2	<0.1			
	60	<0.1	<0.1	16.0	2.0	<0.1			
	90	<0.1	<0.1	16.4	2.2	<0.1			
	120	<0.1	<0.1	16.4	2.0	<0.1			
	150			16.5	2.0	<0.1			
	180			14.8	2.2	<0.1			
	240			15.0	2.7	<0.1			
	300			16.8	3.0	<0.1			
	360			15.2	3.0	<0.1			
	420			16.6	2.3	<0.1			
	0								
	15								
	30								
	45								
	60								
	90								
	120								
	150								
	180								
	240								
	300								

Notes:

The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.
** With reference to the Weather Online weather archive for London City weather station.*
NR= Not recorded

GROUNDWATER MONITORING RECORD SHEET

JOB DETAILS			
Site:	West End Lane	Job No:	CG/38293
Date:	10/03/2020	Engineer:	EJS
Time:	11 00 - 12:00	Client	A2 Dominon
Weather:	Windy, overcast		

MONITORING & SAMPLING DETAILS								
Well / Borehole reference:	WS6	BH2						
Monitoring details								
Ground elevation (+mOD)	54.18	53.00						
Groundwater depth (mbgl)	1.15	0.71						
Groundwater elevation (+mOD)	53.03	52.29						
Depth to base of well (mbgl)	2.17	3 84						
Diameter of well (m)	0.05	0 05						
Condition of well	Good	Good						
Top of response zone (mbgl)	0.5	1.0						
Base of response zone (mbgl)	2.0	4.0						
Free product thickness (m)	None	None						
Hydrocarbon sheen noted (Y/N)	None	None						
Purging details								
Purge method	Bailer	Bailer						
Purged volume (litres)	4	18						
Recharge (good / poor)	Poor	Moderate						
Sampling details								
Sampling method	Bailer	Bailer						
Volume of water sample taken (litres)	2xJar 2xVial	2xJar 2xVial						
Volume of free product sample taken (litres)	None	None						
Colour / odours noted*	Orange brown, cloudy	Orange brown, cloudy						
In-situ measurements								
pH	7.69	7 86						
Temperature (^{o}C)	10 8	11.8						
Dissolved oxygen (mg/l)	11 5	7.9						
Redox potential (mV)	-36	70						
Electrical conductivity (µS/cm)	3125	1601						
Total dissolved solids (ppt)	1551	795						

* Respiratory protective equipment to be worn if odours are noted during initial monitoring & on sites which are potentially contaminated

NOTES

Recharge was poor when purging WS6. 2x vials were taken directly from borehole after purging, 2x jars were taken from the volume of purged water. When purging both boreholes, the first bailer brought out clear water, and then the subsequent water was orange brown in colour. WS7 was dry and BH1, could not remove the bung to monitor.

APPENDIX F

Chemical Laboratory Results

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Analytical Report Number : 20-89588

Project / Site name:	West End Lane, West Hampstead	**Samples received on:**	26/02/2020
Your job number:	CG-38293	**Samples instructed on:**	28/02/2020
Your order number:	4164	**Analysis completed by:**	09/03/2020
Report Issue Number:	1	**Report issued on:**	09/03/2020
Samples Analysed:	6 soil samples		

Signed:

Zina Abdul Razzak
Senior Quality 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: 20-89588

Project / Site name: West End Lane, West Hampstead
Your Order No: 4164

Lab Sample Number				1456486	1456487	1456488	1456489	1456490
Sample Reference				BH1	BH1	WS6	WS6	WS7
Sample Number				2	6	1	3	1
Depth (m)				1.00	5.00	0.30	1.10	0.60
Date Sampled				25/02/2020	25/02/2020	25/02/2020	25/02/2020	25/02/2020
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	%	N/A	NONE	6.0	20	6.6	12	9.0
Total mass of sample received	kg	0.001	NONE	2.0	1.7	2.0	1.9	2.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.5	8.1	11.8	8.0	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	5300	17000	5300	17000	510
Organic Matter	%	0.1	MCERTS	0.6	0.2	0.3	1.0	0.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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 32	< 0.05	< 0.05	0.39	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0 05	0.14	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0 50	< 0.05	< 0.05	0.45	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0 51	< 0.05	< 0.05	0.44	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.47	< 0.05	< 0.05	0.33	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.40	< 0.05	< 0.05	0.25	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.72	< 0.05	< 0.05	0.36	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.19	< 0.05	< 0.05	0.12	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0 68	< 0.05	< 0.05	0.26	< 0.05
Indeno(1 2 3-cd)pyrene	mg/kg	0.05	MCERTS	0 39	< 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	0.49	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0 05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	4.7	< 0.9	< 0.9	2.7	< 0.9
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	4.4	2.6	6.4	5.6	3.7
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	21	17	17	52
Barium (aqua regia extractable)	mg/kg	1	MCERTS	100	66	96	170	55
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0 54	1.6	0.65	0.67	1.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	1.8	0.9	2.1	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.3	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	17	62	27	24	33
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	62	28	24	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	28	18	75	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180	49	150	450	48
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	13	45	19	18	55
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	2.4	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	97	43	42	76
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	82	67	260	130

Analytical Report Number: 20-89588

Project / Site name: West End Lane, West Hampstead
Your Order No: 4164

Lab Sample Number				1456486	1456487	1456488	1456489	1456490
Sample Reference				BH1	BH1	WS6	WS6	WS7
Sample Number				2	6	1	3	1
Depth (m)				1.00	5.00	0.30	1.10	0.60
Date Sampled				25/02/2020	25/02/2020	25/02/2020	25/02/2020	25/02/2020
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	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	4.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	16	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	4.6	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	0.070	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	13	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	59	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	73	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	0.041	< 0 001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 20-89588

Project / Site name: West End Lane, West Hampstead
Your Order No: 4164

Lab Sample Number				1456491				
Sample Reference				WS7				
Sample Number				2				
Depth (m)				1.30				
Date Sampled				25/02/2020				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	7.7				
Total mass of sample received	kg	0.001	NONE	2.0				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.0				
Total Cyanide	mg/kg	1	MCERTS	< 1				
Total Sulphate as SO_4	mg/kg	50	MCERTS	600				
Organic Matter	%	0.1	MCERTS	< 0.1				
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05				
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05				
Fluorene	mg/kg	0.05	MCERTS	< 0.05				
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05				
Anthracene	mg/kg	0.05	MCERTS	< 0.05				
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Pyrene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Chrysene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05				
Indeno(1 2 3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05				
Dibenz(a h)anthracene	mg/kg	0.05	MCERTS	< 0.05				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				
Coronene	mg/kg	0.05	NONE	< 0.05				
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.9				
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.8				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	50				
Barium (aqua regia extractable)	mg/kg	1	MCERTS	49				
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0 85				
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2				
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2				
Chromium (III)	mg/kg	1	NONE	28				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	26				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	59				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	60				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120				

Analytical Report Number: 20-89588

Project / Site name: West End Lane, West Hampstead
Your Order No: 4164

Lab Sample Number				1456491				
Sample Reference				WS7				
Sample Number				2				
Depth (m)				1.30				
Date Sampled				25/02/2020				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

Analytical Report Number : 20-89588

Project / Site name: West End Lane, West Hampstead

* 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 *
1456486	BH1	2	1.00	Brown loam and sand with gravel and brick.
1456487	BH1	6	5.00	Brown clay with gravel.
1456488	WS6	1	0.30	Brown loam and clay with gravel.
1456489	WS6	3	1.10	Brown loam and clay with gravel.
1456490	WS7	1	0.60	Brown clay and loam with gravel.
1456491	WS7	2	1.30	Brown clay and loam with gravel.

Analytical Report Number : 20-89588

Project / Site name: West End Lane, West Hampstead

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion 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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-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
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
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. MCERTS accredited except Coronene.	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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.

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Analytical Report Number : 20-89996

Project / Site name:	West End Lane, West Hampstead	**Samples received on:**	02/03/2020
Your job number:	CG-38293	**Samples instructed on:**	02/03/2020
Your order number:	4164	**Analysis completed by:**	12/03/2020
Report Issue Number:	1	**Report issued on:**	12/03/2020
Samples Analysed:	2 soil samples		

Signed:

Zina Abdul Razzak
Senior Quality 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: 20-89996

Project / Site name: West End Lane, West Hampstead
Your Order No: 4164

Lab Sample Number				1458689	1458690			
Sample Reference				BH2	BH2			
Sample Number				1	3			
Depth (m)				0.80	3.00			
Date Sampled				02/03/2020	02/03/2020			
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	%	N/A	NONE	24	23			
Total mass of sample received	kg	0.001	NONE	1.6	1.0			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected			
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.0	8.0			
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1			
Total Sulphate as SO_4	mg/kg	50	MCERTS	1000	590			
Organic Matter	%	0.1	MCERTS	2.4	1.0			
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05			
Acenaphthylene	mg/kg	0.05	MCERTS	0 32	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	0 22	< 0.05			
Fluorene	mg/kg	0.05	MCERTS	0 66	< 0.05			
Phenanthrene	mg/kg	0.05	MCERTS	6.2	< 0.05			
Anthracene	mg/kg	0.05	MCERTS	1.0	< 0.05			
Fluoranthene	mg/kg	0.05	MCERTS	6.6	< 0.05			
Pyrene	mg/kg	0.05	MCERTS	5.4	< 0.05			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.6	< 0.05			
Chrysene	mg/kg	0.05	MCERTS	2.8	< 0.05			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.4	< 0.05			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.8	< 0.05			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.2	< 0.05			
Indeno(1 2 3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	< 0.05			
Dibenz(a h)anthracene	mg/kg	0.05	MCERTS	0 22	< 0.05			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.2	< 0.05			
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05			
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	37	< 0.9			
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.3	< 1.0			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	10			
Barium (aqua regia extractable)	mg/kg	1	MCERTS	88	40			
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0 82	0.82			
Boron (water soluble)	mg/kg	0.2	MCERTS	2.7	2.2			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2			
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2			
Chromium (III)	mg/kg	1	NONE	29	33			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	34			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	30	16			
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	68			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3			
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	15			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0			
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	51	53			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	160	87			

Analytical Report Number: 20-89996

Project / Site name: West End Lane, West Hampstead
Your Order No: 4164

Lab Sample Number				1458689	1458690			
Sample Reference				BH2	BH2			
Sample Number				1	3			
Depth (m)				0.80	3.00			
Date Sampled				02/03/2020	02/03/2020			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	5.5	< 1.0			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	8.4	< 2.0			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	20	< 8.0			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	110	< 8.0			
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	140	< 10			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	23	< 10			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	24	< 10			
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	49	< 10			

Analytical Report Number : 20-89996

Project / Site name: West End Lane, West Hampstead

* 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 *
1458689	BH2	1	0.80	Brown sandy clay.
1458690	BH2	3	3.00	Brown clay and sand.

The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 20-89996

Project / Site name: West End Lane, West Hampstead

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion 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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-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
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
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. MCERTS accredited except Coronene.	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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.

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Analytical Report Number : 20-81752

Project / Site name:	West End Lane	**Samples received on:**	17/01/2020
Your job number:	CG-38293	**Samples instructed on:**	17/01/2020
Your order number:	4164	**Analysis completed by:**	28/01/2020
Report Issue Number:	1	**Report issued on:**	28/01/2020
Samples Analysed:	3 soil samples		

Signed:

Zina Abdul Razzak
Senior Quality 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: 20-81752

Project / Site name: West End Lane
Your Order No: 4164

Lab Sample Number				1415467	1415468	1415469		
Sample Reference				TP4	TP4	TP2		
Sample Number				2	3	1		
Depth (m)				0.80	0.75	0.50		
Date Sampled				15/01/2020	16/01/2020	15/01/2020		
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	%	N/A	NONE	22	17	15		
Total mass of sample received	kg	0.001	NONE	1.2	0.51	1.1		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.2	8.2	9.9		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Sulphate as SO_4	mg/kg	50	MCERTS	1400	1100	15000		
Organic Matter	%	0.1	MCERTS	0.8	5.9	1.3		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.80	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	1.8	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	5.7	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	7.4	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	0.70	27	1.2		
Anthracene	mg/kg	0.05	MCERTS	0.17	15	0.31		
Fluoranthene	mg/kg	0.05	MCERTS	1.6	80	1.6		
Pyrene	mg/kg	0.05	MCERTS	1.4	68	1.3		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0 89	46	0.76		
Chrysene	mg/kg	0.05	MCERTS	0 63	27	0.81		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0 85	48	0.85		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.41	23	0.35		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.73	47	0.77		
Indeno(1 2 3-cd)pyrene	mg/kg	0.05	MCERTS	0.45	21	0.54		
Dibenz(a h)anthracene	mg/kg	0.05	MCERTS	< 0.05	5.8	0.20		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.48	23	0.72		
Coronene	mg/kg	0.05	NONE	< 0.05	5.2	< 0.05		
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	8.2	450	9.5		
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.5	6.4	5.5		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	15	16		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	290	170		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.1	1.4	0.76		
Boron (water soluble)	mg/kg	0.2	MCERTS	2.2	3.2	1.1		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.8	< 0.2		
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2		
Chromium (III)	mg/kg	1	NONE	41	33	22		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	41	33	23		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	63	32		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	240	370	570		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.7	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	22	17		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	63	68	41		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	250	120		

Analytical Report Number: 20-81752

Project / Site name: West End Lane
Your Order No: 4164

Lab Sample Number				1415467	1415468	1415469		
Sample Reference				TP4	TP4	TP2		
Sample Number				2	3	1		
Depth (m)				0.80	0.75	0.50		
Date Sampled				15/01/2020	16/01/2020	15/01/2020		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	5.8	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	14	27	9.2		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	45	290	18		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	65	320	28		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	1.6	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	5.9	15	3.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	18	190	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	30	300	16		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	55	510	26		

Analytical Report Number : 20-81752

Project / Site name: West End Lane

* 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 *
1415467	TP4	2	0.80	Brown clay and sand with gravel.
1415468	TP4	3	0.75	Grey clay and sand with gravel.
1415469	TP2	1	0.50	Light brown clay and sand with brick and rubble.

Analytical Report Number : 20-81752

Project / Site name: West End Lane

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion 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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
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
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-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
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
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. MCERTS accredited except Coronene.	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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.

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Analytical Report Number : 20-92523

Project / Site name:	West End Lane	**Samples received on:**	13/03/2020
Your job number:	CG38293	**Samples instructed on:**	13/03/2020
Your order number:	4164	**Analysis completed by:**	20/03/2020
Report Issue Number:	1	**Report issued on:**	20/03/2020
Samples Analysed:	4 soil samples		

Signed:

Zina Abdul Razzak
Senior Quality 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: 20-92523

Project / Site name: West End Lane
Your Order No: 4164

Lab Sample Number				1471916	1471917	1471918	1471919	
Sample Reference				TP1	TP1	TP1	TP2	
Sample Number				1	3	5	1	
Depth (m)				0.50	1.40	2.70	0.30	
Date Sampled				13/03/2020	13/03/2020	13/03/2020	13/03/2020	
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	%	N/A	NONE	12	4.9	8.8	10	
Total mass of sample received	kg	0.001	NONE	1.1	1.6	1.6	1.4	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	Not-detected	
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.3	8.3	8.3	10 6	
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	
Total Sulphate as SO_4	mg/kg	50	MCERTS	2800	650	840	10000	
Organic Matter	%	0.1	MCERTS	2.3	< 0.1	0.3	1.2	
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.46	< 0.05	< 0.05	0.38	
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	0.82	
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0 05	0.46	
Phenanthrene	mg/kg	0.05	MCERTS	2.7	< 0.05	< 0.05	8.5	
Anthracene	mg/kg	0.05	MCERTS	0.77	< 0.05	< 0.05	1.9	
Fluoranthene	mg/kg	0.05	MCERTS	4.6	< 0.05	0.32	12	
Pyrene	mg/kg	0.05	MCERTS	4.2	< 0.05	0.30	10	
Benzo(a)anthracene	mg/kg	0.05	MCERTS	5.8	< 0.05	0.33	9.8	
Chrysene	mg/kg	0.05	MCERTS	4.3	< 0.05	0.24	6.6	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	9.2	< 0.05	0.27	7.9	
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.7	< 0.05	0.19	5.7	
Benzo(a)pyrene	mg/kg	0.05	MCERTS	9.0	< 0.05	0.26	9.0	
Indeno(1 2 3-cd)pyrene	mg/kg	0.05	MCERTS	5.0	< 0.05	< 0.05	3.9	
Dibenz(a h)anthracene	mg/kg	0.05	MCERTS	1.4	< 0.05	< 0.05	1.5	
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	6.5	< 0.05	< 0.05	5.1	
Coronene	mg/kg	0.05	NONE	3.3	< 0.05	< 0.05	1.7	
Total PAH								
Total WAC-17 PAHs	mg/kg	0.85	NONE	61	< 0.9	1.9	85	
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.6	< 1.0	1.1	19	
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	16	21	17	
Barium (aqua regia extractable)	mg/kg	1	MCERTS	140	61	56	360	
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0 85	0.63	0.87	0.77	
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	0.6	1.5	1.0	
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.3	
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	
Chromium (III)	mg/kg	1	NONE	21	15	22	27	
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	15	22	28	
Copper (aqua regia extractable)	mg/kg	1	MCERTS	37	9.2	17	40	
Lead (aqua regia extractable)	mg/kg	1	MCERTS	220	21	38	530	
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.2	< 0.3	< 0.3	0.6	
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	22	24	18	
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	38	27	37	37	
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	89	38	63	260	

Analytical Report Number: 20-92523

Project / Site name: West End Lane
Your Order No: 4164

Lab Sample Number				1471916	1471917	1471918	1471919	
Sample Reference				TP1	TP1	TP1	TP2	
Sample Number				1	3	5	1	
Depth (m)				0.50	1.40	2.70	0.30	
Date Sampled				13/03/2020	13/03/2020	13/03/2020	13/03/2020	
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	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	18	
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	13	< 10	< 10	34	
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	53	< 10	< 10	63	
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	66	< 10	< 10	120	

Analytical Report Number : 20-92523

Project / Site name: West End Lane

* 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 *
1471916	TP1	1	0.50	Brown loam and clay with gravel.
1471917	TP1	3	1.40	Brown clay and sand with gravel.
1471918	TP1	5	2.70	Brown clay and sand with gravel.
1471919	TP2	1	0.30	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 20-92523

Project / Site name: West End Lane

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
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion 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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-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
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
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. MCERTS accredited except Coronene.	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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	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

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.

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Analytical Report Number : 20-91937

Project / Site name:	West End Lane	**Samples received on:**	11/03/2020
Your job number:	CG-38293	**Samples instructed on:**	11/03/2020
Your order number:	4567	**Analysis completed by:**	20/03/2020
Report Issue Number:	1	**Report issued on:**	20/03/2020
Samples Analysed:	2 water samples		

Signed: A. Czerwińska

Agnieszka Czerwińska

Technical Reviewer (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: 20-91937

Project / Site name: West End Lane

Your Order No: 4567

Lab Sample Number				1468978	1468979			
Sample Reference				WS6	BH2			
Sample Number				1	1			
Depth (m)				None Supplied	None Supplied			
Date Sampled				10/03/2020	10/03/2020			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	3.9	7.6			
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0	< 1.0			
Sulphate as SO_4	µg/l	45	ISO 17025	1210000	736000			
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	11000	170			
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	98.9	21.9			
Hardness - Total	mgCaCO3/l	1	ISO 17025	1450	737			
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0			
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Indeno(1 2 3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01			
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16			
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	4.6	1.1			
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.57	1.48			
Barium (dissolved)	µg/l	0.06	ISO 17025	99	86			
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1			
Boron (dissolved)	µg/l	10	ISO 17025	460	93			
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0 03			
Calcium (dissolved)	mg/l	0.012	ISO 17025	450	150			
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0			
Chromium (III)	µg/l	1	NONE	< 1.0	< 1.0			
Chromium (dissolved)	µg/l	0.2	ISO 17025	0.3	0.6			
Copper (dissolved)	µg/l	0.5	ISO 17025	1.1	4.4			
Lead (dissolved)	µg/l	0.2	ISO 17025	7.4	0.8			
Magnesium (dissolved)	mg/l	0.005	ISO 17025	83	87			
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05			
Nickel (dissolved)	µg/l	0.5	ISO 17025	3.9	4.7			
Selenium (dissolved)	µg/l	0.6	ISO 17025	14	4.2			
Vanadium (dissolved)	µg/l	0.2	ISO 17025	1.1	0.7			
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.9	3.9			

Analytical Report Number: 20-91937

Project / Site name: West End Lane

Your Order No: 4567

Lab Sample Number				1468978	1468979			
Sample Reference				WS6	BH2			
Sample Number				1	1			
Depth (m)				None Supplied	None Supplied			
Date Sampled				10/03/2020	10/03/2020			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0			
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0			
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0			
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10			

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 20-91937

Project / Site name: West End Lane

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
Ammoniacal Nitrogen as N in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Low level total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water - LOW LEVEL 1 ug/l	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW, PrW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' 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.

APPENDIX G

Geotechnical Laboratory Results

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	26/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	16/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

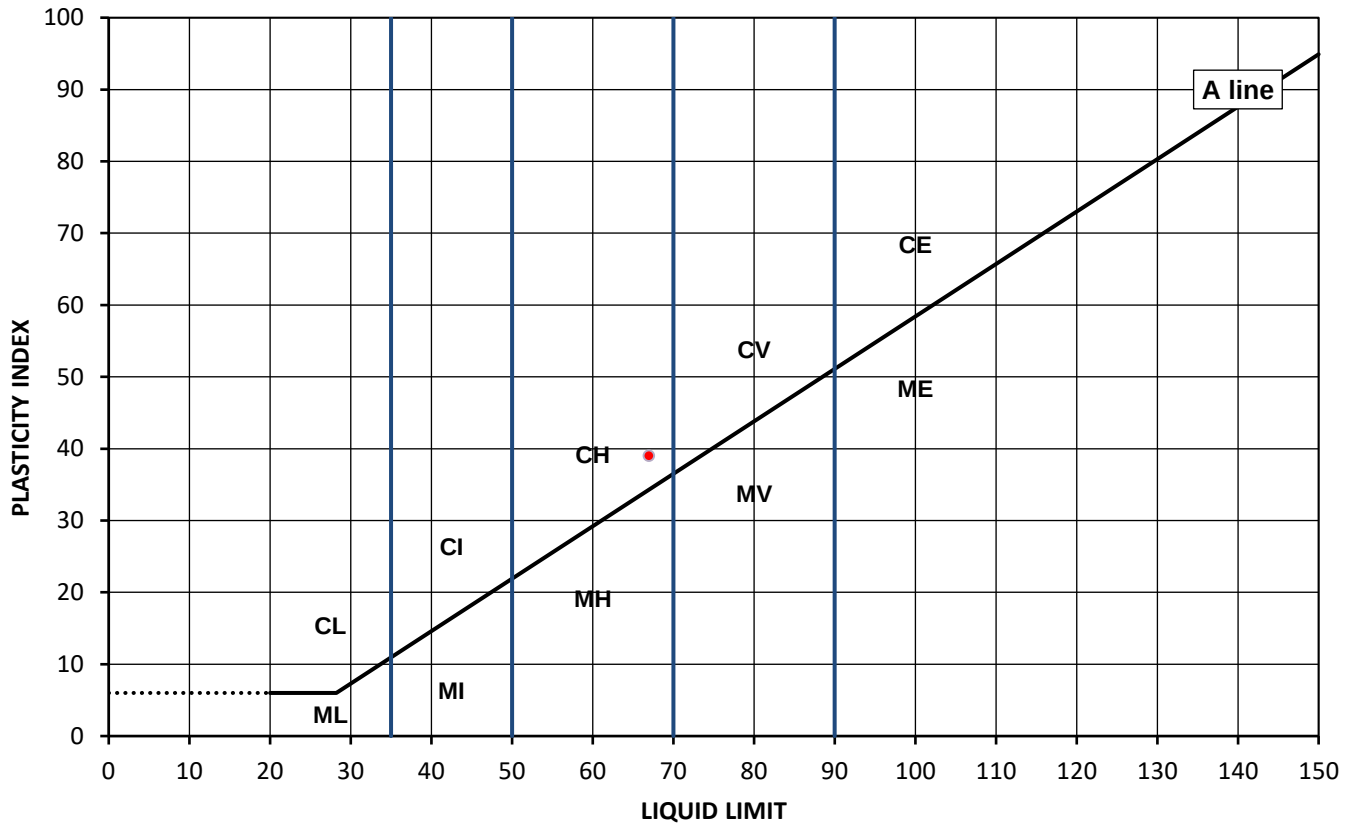
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466987	Depth Top [m]:	6.00
Hole No.:	BH1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
29	67	28	39	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	26/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	16/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

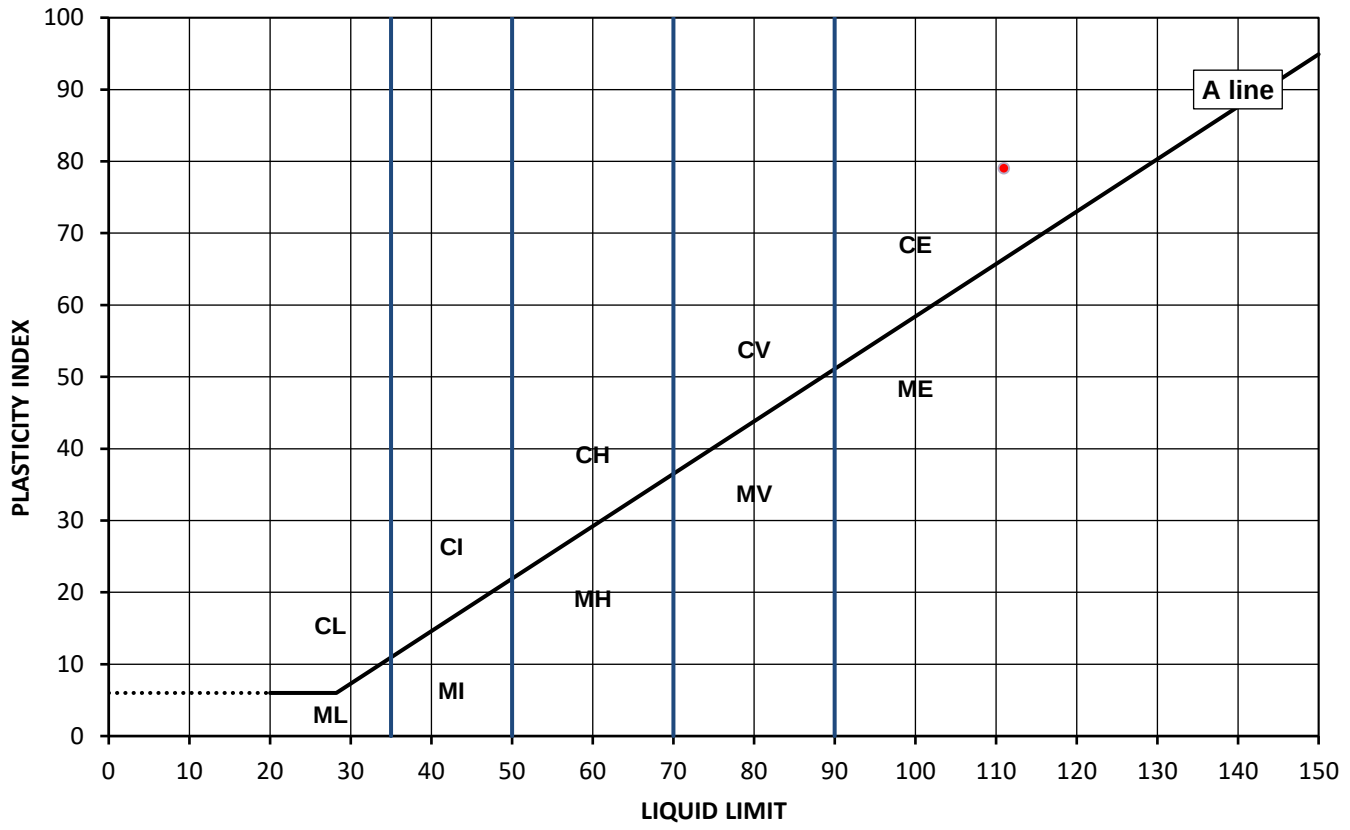
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466990	Depth Top [m]:	12.00
Hole No.:	BH1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Soil Description:	Greyish brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
41	111	32	79	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	26/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	16/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

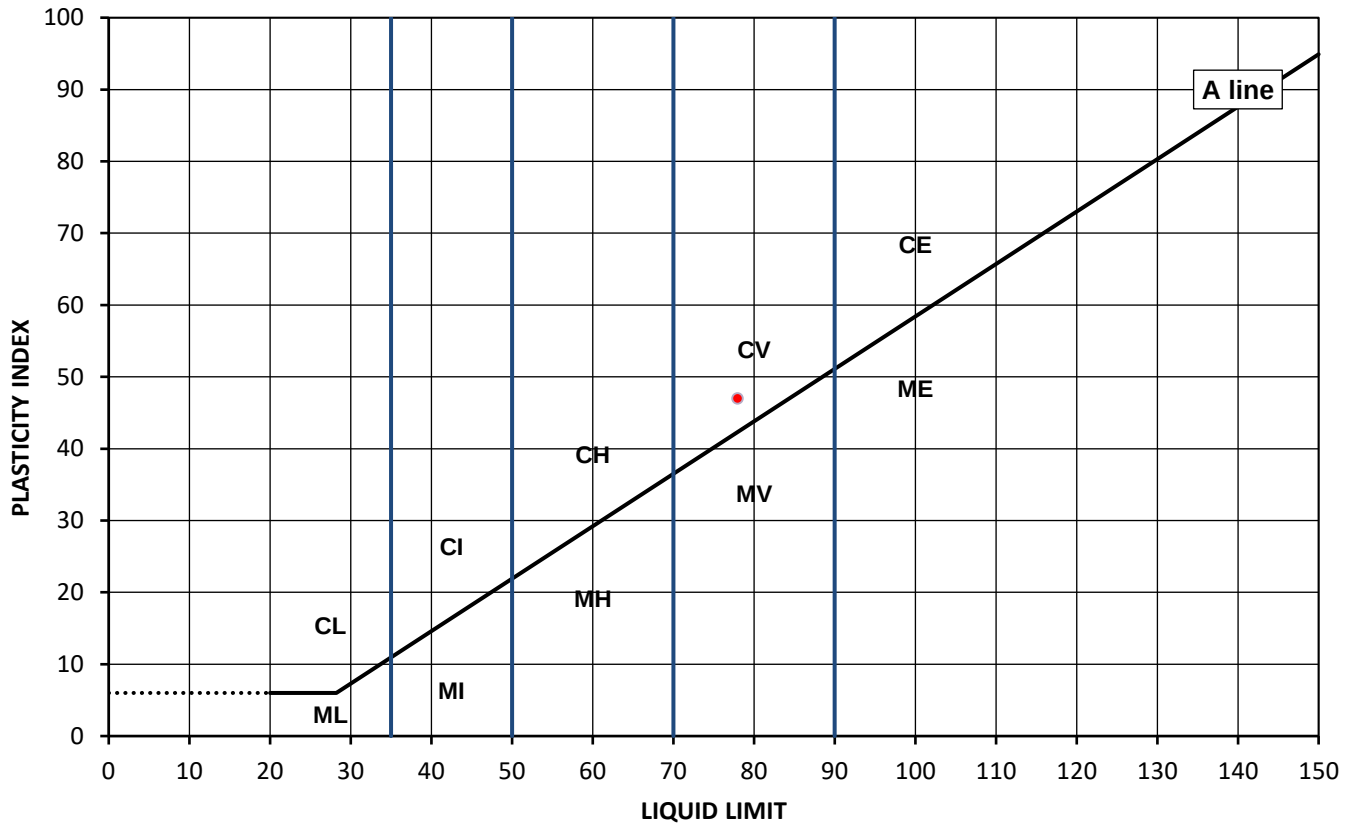
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466992	Depth Top [m]:	19.50
Hole No.:	BH1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Greyish brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
28	78	31	47	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	27/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	16/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

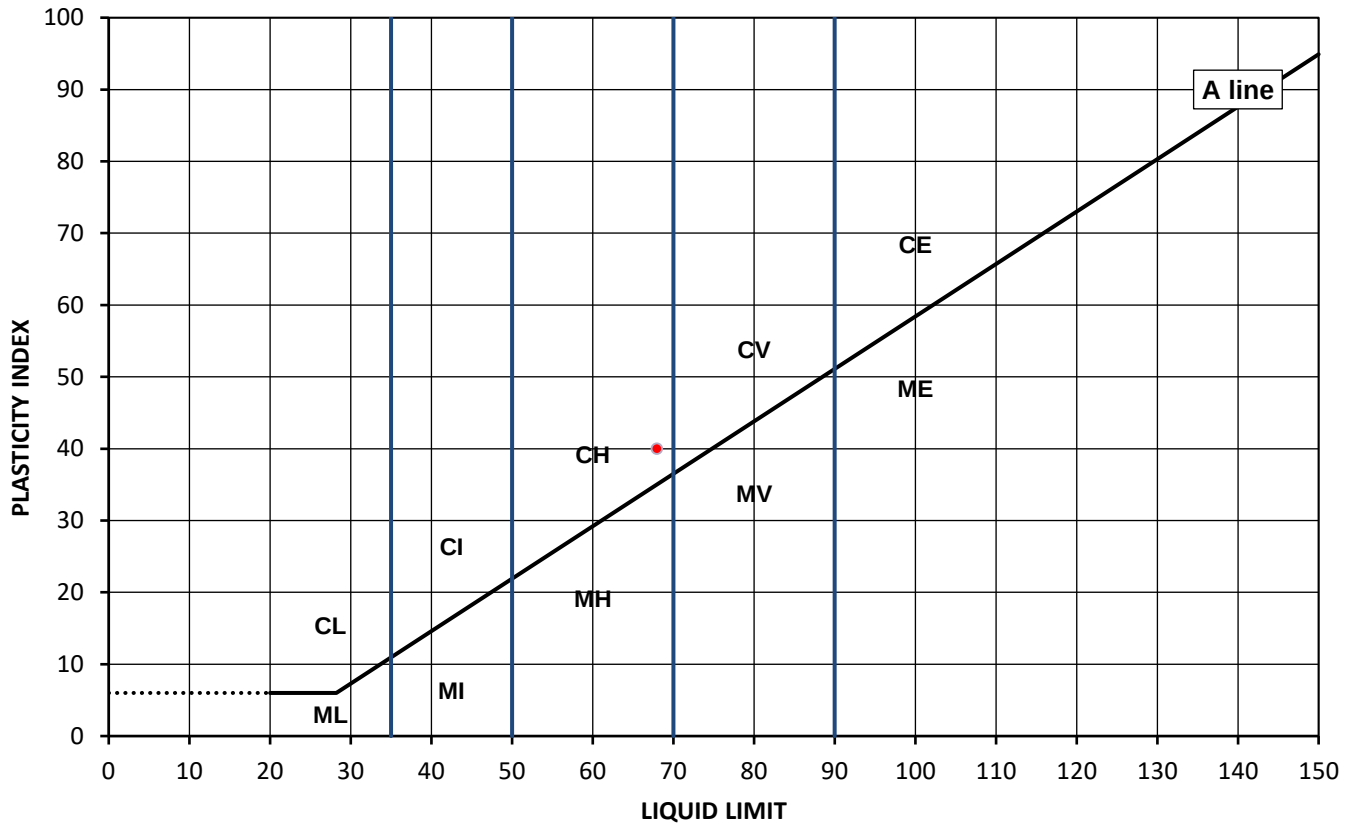
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466995	Depth Top [m]:	28.50
Hole No.:	BH1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Greyish brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
28	68	28	40	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	28/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

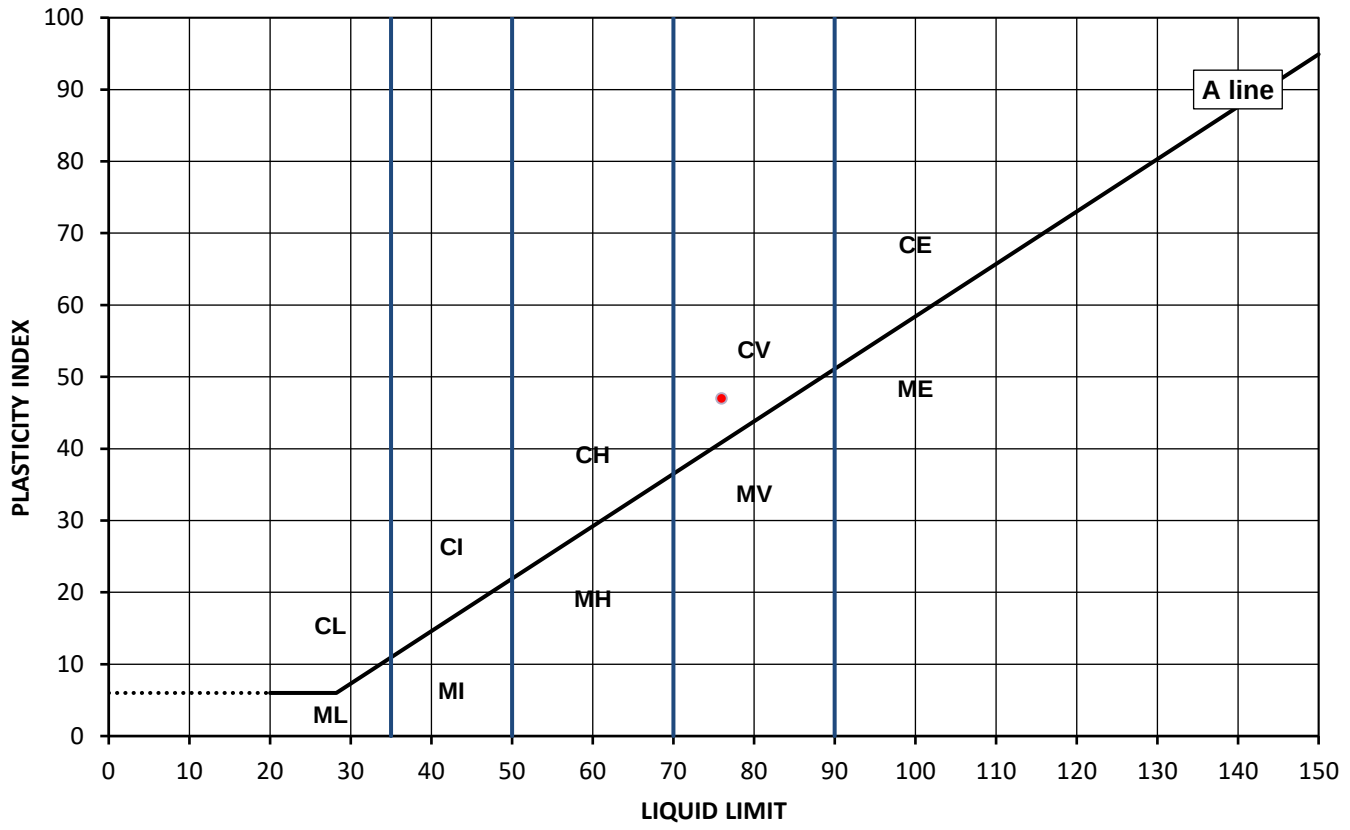
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1467000	Depth Top [m]:	4.00
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Soil Description:	Brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
27	76	29	47	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	28/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

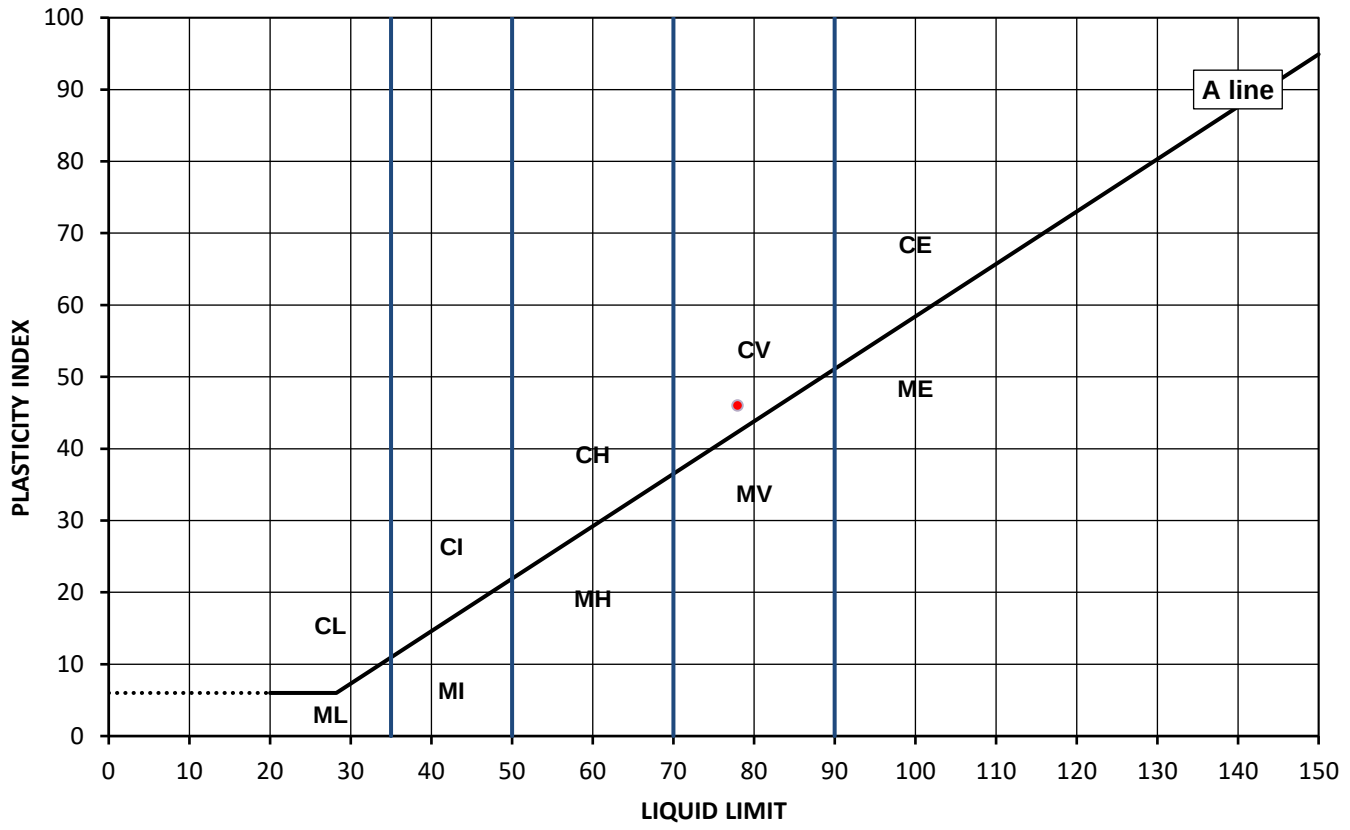
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1467003	Depth Top [m]:	9.00
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Soil Description:	Brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
33	78	32	46	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	28/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	16/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

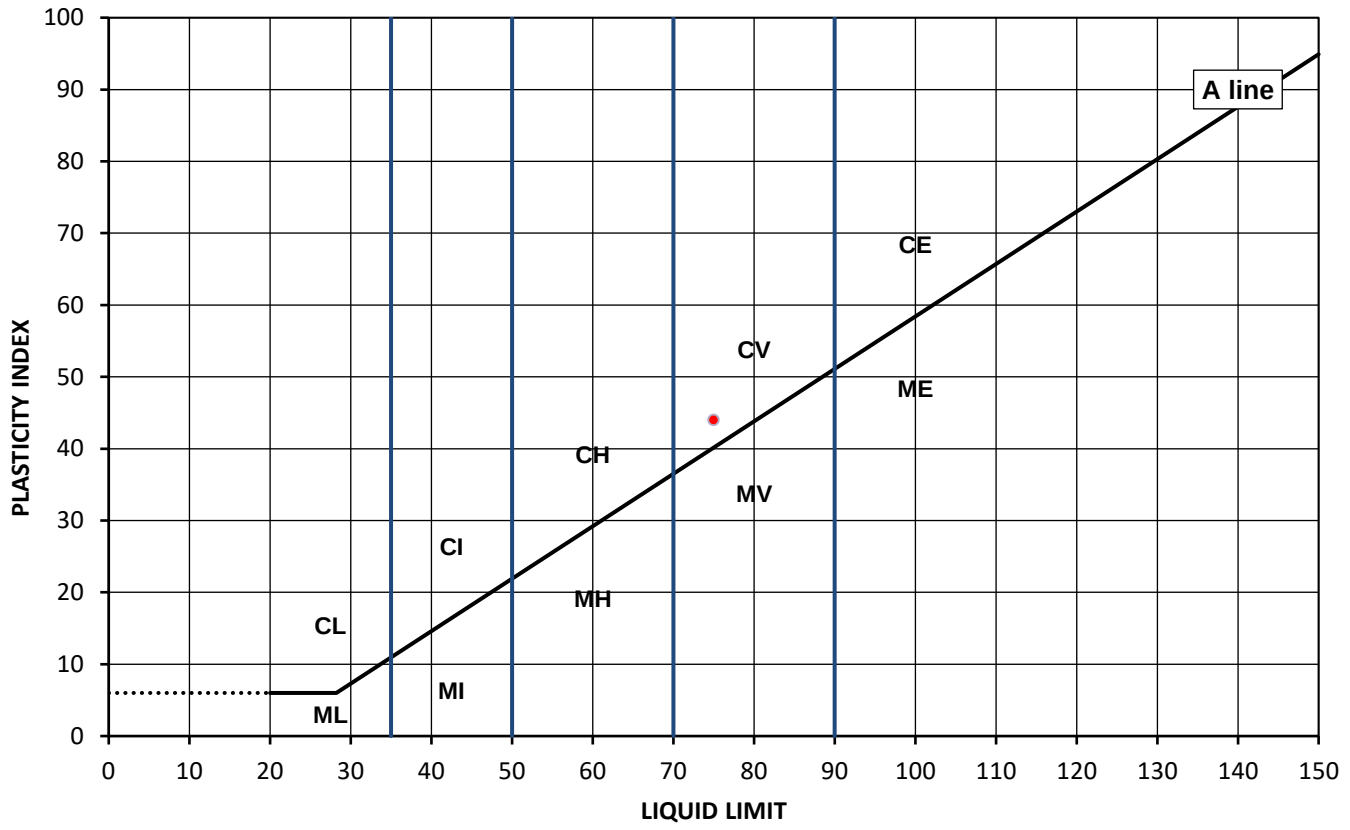
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1467006	Depth Top [m]:	15.00
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Greyish brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
32	75	31	44	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

TEST CERTIFICATE

Liquid and Plastic Limits

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

Tested in Accordance wi h: BS 1377-2: 1990: Clause 4.4 and 5

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	02/03/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	16/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

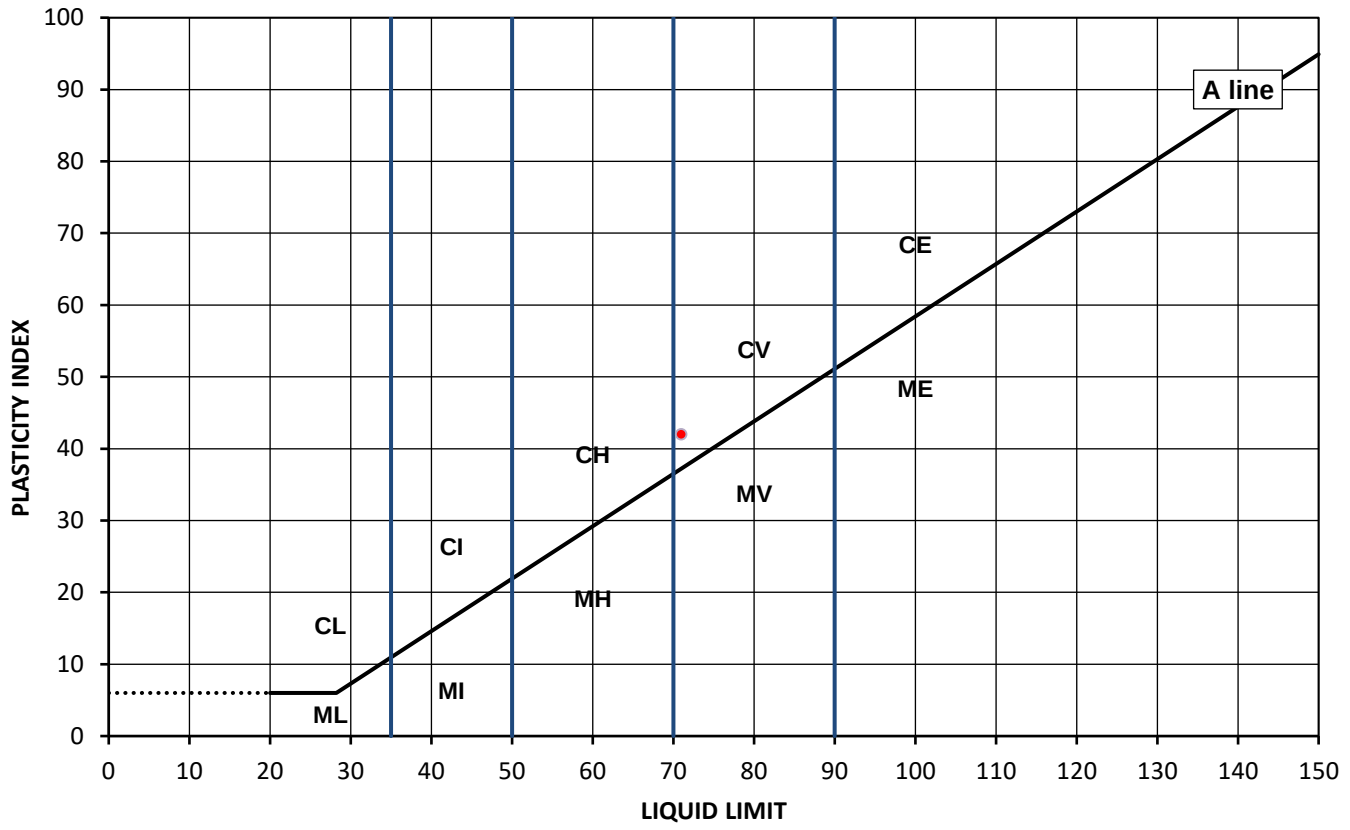
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1467010	Depth Top [m]:	24.85
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Soil Description:	Greyish brown CLAY		

Sample Preparation: Tested in natural condition

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
27	71	29	42	100



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Note: Moisture Content by BS 1377-2: 1990: Clause 3.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 232.8

SUMMARY REPORT

Summary of Classification Test Results

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Tested in Accordance with:

MC by BS 1377-2: 1990: Clause 3.2; WC by BS EN 17892-1: 2014; Atterberg by BS 1377-2: 1990: Clause 4.3, Clause 4.4 and 5; PD by BS 1377-2: 1990: Clause 8.2

Client: Card Geotechnics Ltd
Client Address: 4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW
Contact: Jess Whelan
Site Address: West End Lane, West Hampstead

Client Reference: CG-38293
Job Number: 20-91551
Date Sampled: 26/02 - 02/03/2020
Date Received: 02/03/2020
Date Tested: 16/03 - 17/03/2020
Sampled By: Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	MC	WC	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	LL	PL	PI	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
1466987	BH1	Not Given	6 00	Not Given	D	Brown CLAY	Atterberg 1 Point	29		100	67	28	39						
1466990	BH1	Not Given	12.00	Not Given	B	Greyish brown CLAY	Atterberg 1 Point	41		100	111	32	79						
1466992	BH1	Not Given	19.50	Not Given	D	Greyish brown CLAY	Atterberg 1 Point	28		100	78	31	47						
1466995	BH1	Not Given	28.50	Not Given	D	Greyish brown CLAY	Atterberg 1 Point	28		100	68	28	40						
1467000	BH2	Not Given	4 00	Not Given	B	Brown CLAY	Atterberg 1 Point	27		100	76	29	47						
1467003	BH2	Not Given	9 00	Not Given	B	Brown CLAY	Atterberg 1 Point	33		100	78	32	46						
1467006	BH2	Not Given	15.00	Not Given	D	Greyish brown CLAY	Atterberg 1 Point	32		100	75	31	44						
1467010	BH2	Not Given	24.85	Not Given	D	Greyish brown CLAY	Atterberg 1 Point	27		100	71	29	42						

Note: # Non accredited; NP - Non plastic

Comments: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 234.10

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

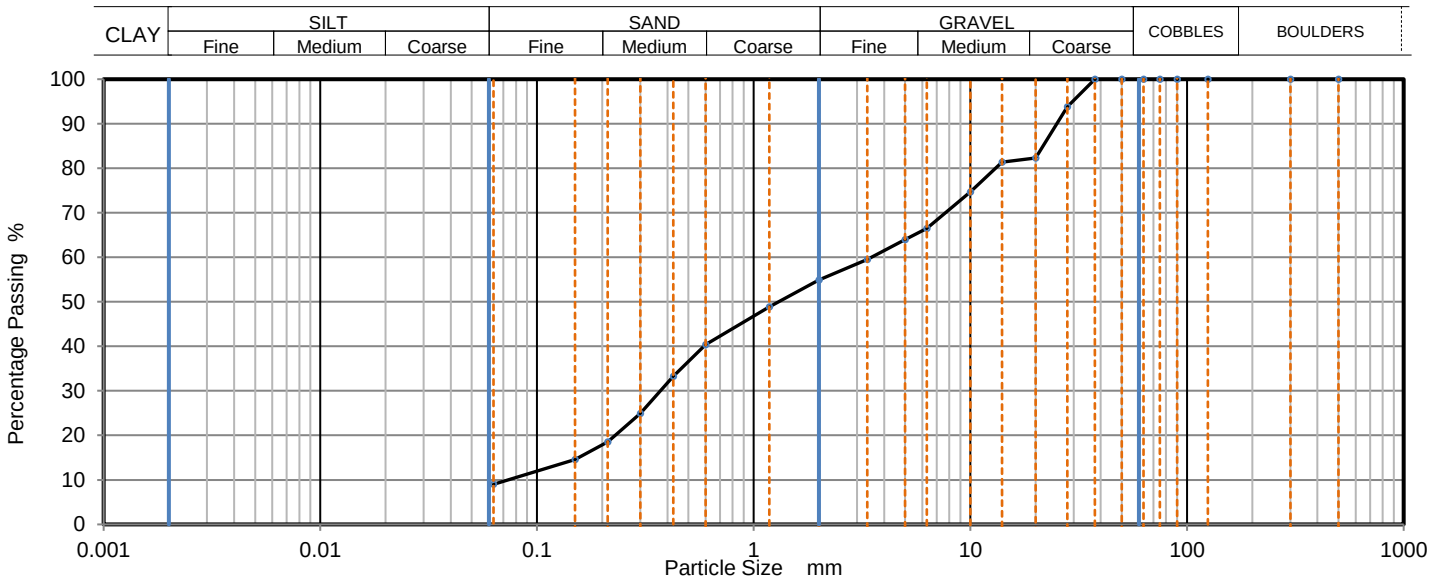
i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	25/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466984	Depth Top [m]:	1.00
Hole No.:	BH1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown clayey SAND and GRAVEL		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	94		
20	82		
14	81		
10	75		
6.3	67		
5	64		
3.35	60		
2	55		
1.18	49		
0.6	40		
0.425	33		
0.3	25		
0.212	19		
0.15	15		
0.063	9.9		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	45.10
Sand	45.00
Fines <0.063mm	9.90

Grading Analysis		
D100	mm	37.5
D60	mm	3.51
D30	mm	0.37
D10	mm	0.0641
Uniformity Coefficient		55
Curvature Coefficient		0.61

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 100.16

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

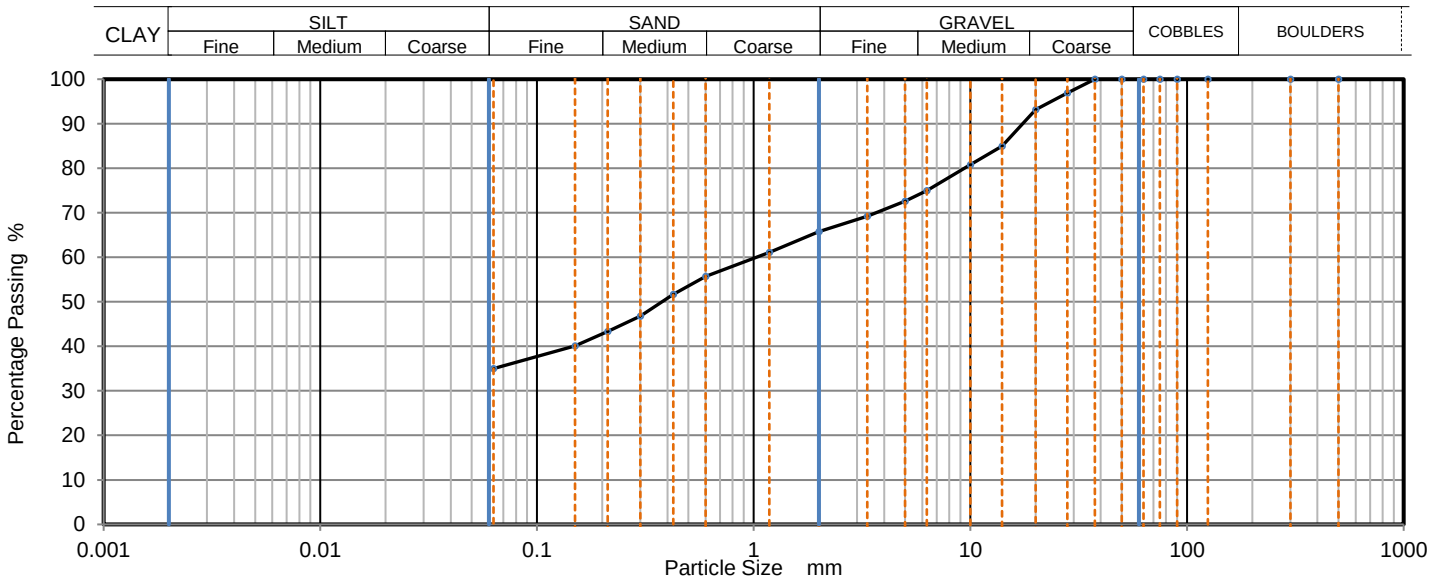
i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	25/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466985	Depth Top [m]:	2.60
Hole No.:	BH1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown very gravelly very sandy CLAY		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	97		
20	93		
14	85		
10	81		
6.3	75		
5	73		
3.35	69		
2	66		
1.18	61		
0.6	56		
0.425	52		
0.3	47		
0.212	43		
0.15	40		
0.063	35.1		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	34.20
Sand	30.60
Fines <0.063mm	35.10

Grading Analysis		
D100	mm	37.5
D60	mm	1.03
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 100.16

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

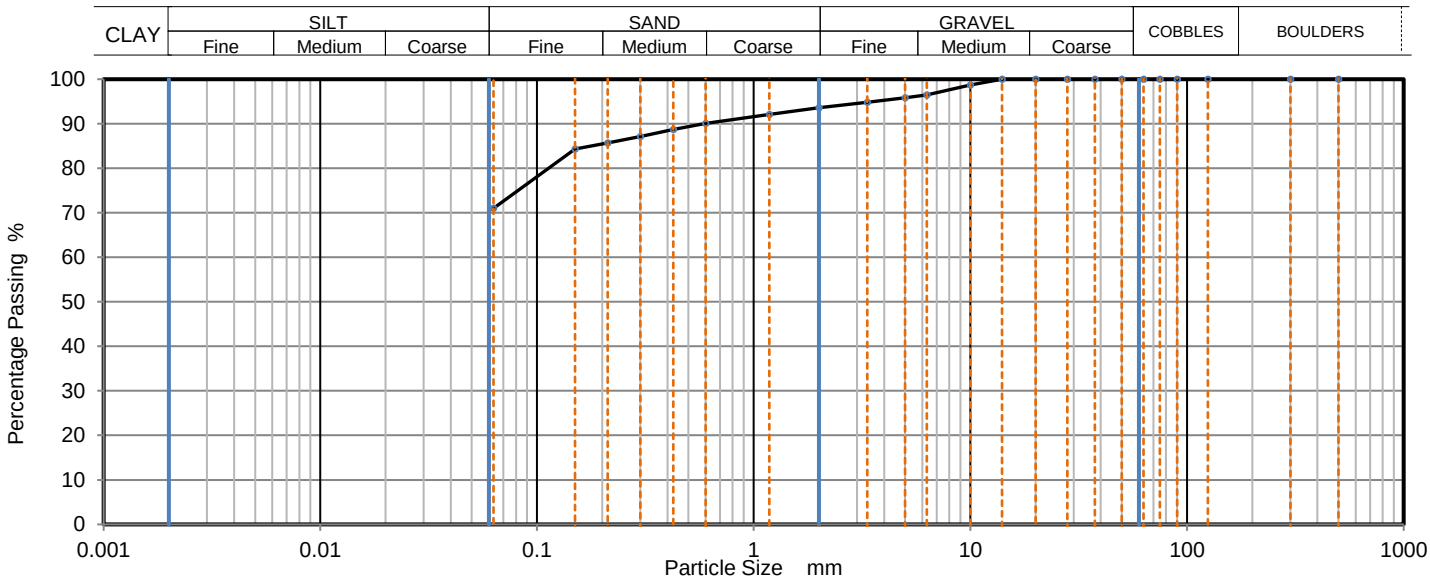
i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	28/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466997	Depth Top [m]:	0.80
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly sandy CLAY		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	97		
5	96		
3.35	95		
2	94		
1.18	92		
0.6	90		
0.425	89		
0.3	87		
0.212	86		
0.15	84		
0.063	71.7		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	6.40
Sand	21.90
Fines <0.063mm	71.70

Grading Analysis		
D100	mm	14
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 100.16

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

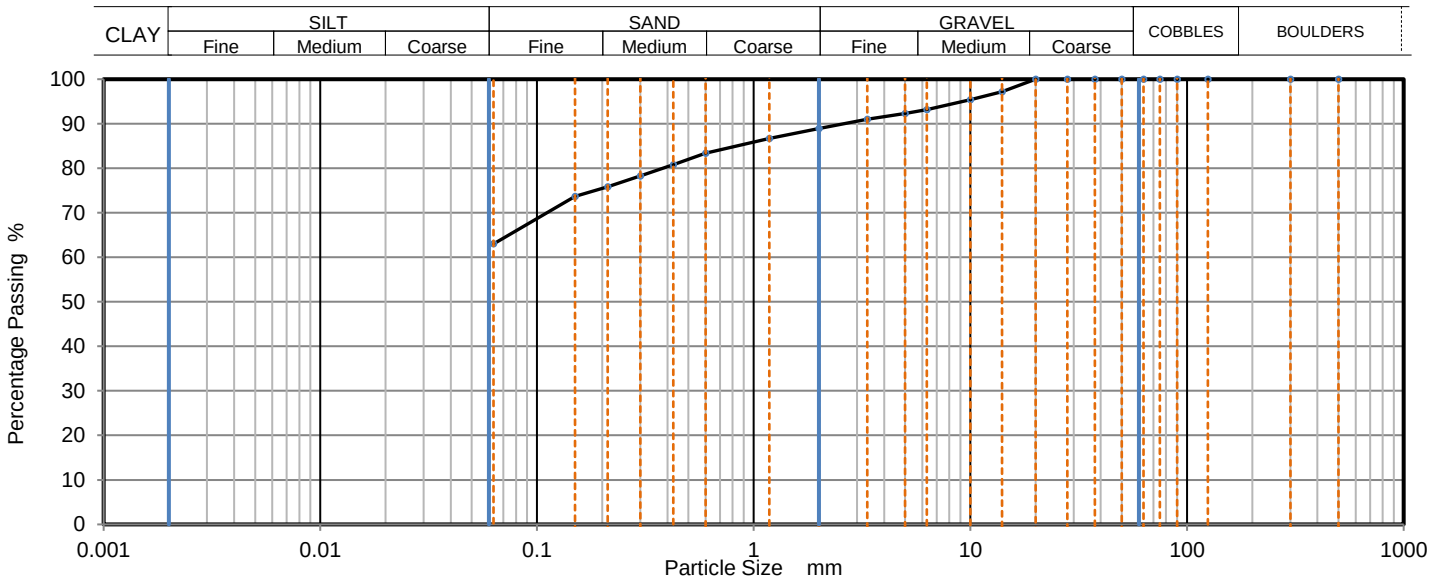
Environmental Science

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	28/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466998	Depth Top [m]:	2.00
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown gravelly sandy CLAY		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	97		
10	95		
6.3	93		
5	92		
3.35	91		
2	89		
1.18	87		
0.6	83		
0.425	81		
0.3	78		
0.212	76		
0.15	74		
0.063	63.7		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	11.10
Sand	25.20
Fines <0.063mm	63.70

Grading Analysis		
D100	mm	20
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 100.16

TEST CERTIFICATE

Particle Size Distribution

Tested in Accordance with: BS 1377-2: 1990

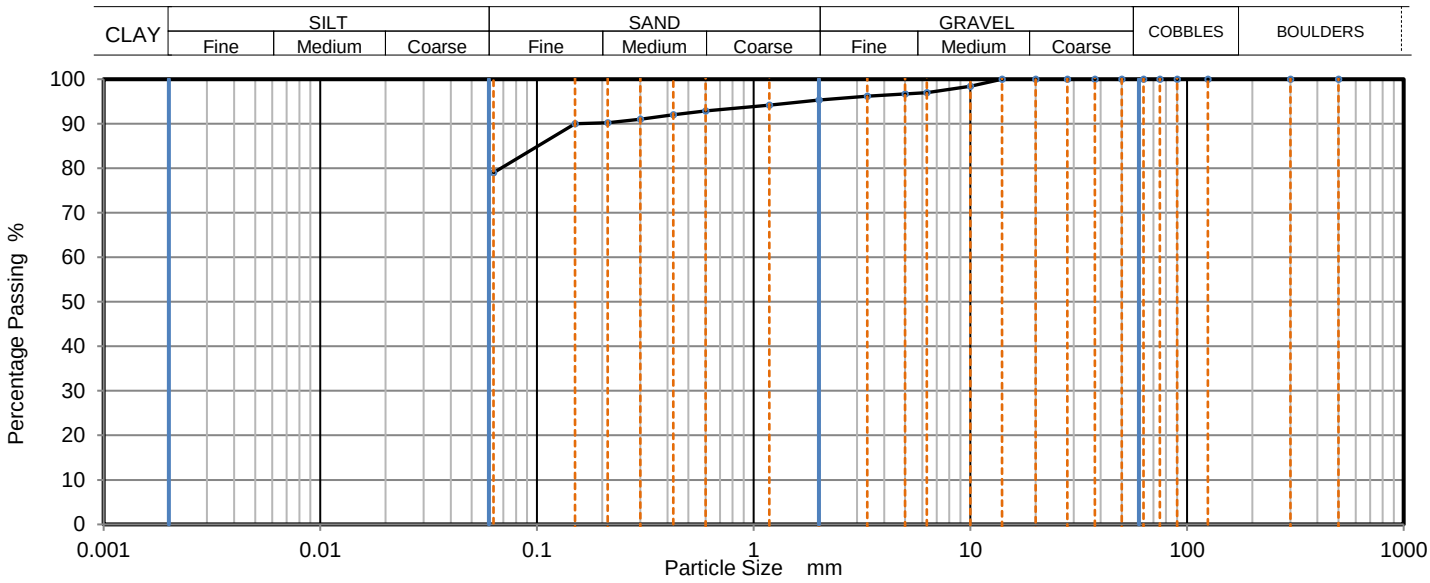
i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client:	Card Geotechnics Ltd	Client Reference:	CG-38293
Client Address:	4 Godalming Business Centre, Woolsack Way, Godalming, Surrey, GU7 1XW	Job Number:	20-91551
		Date Sampled:	28/02/2020
		Date Received:	02/03/2020
Contact:	Jess Whelan	Date Tested:	17/03/2020
Site Address:	West End Lane, West Hampstead	Sampled By:	Not Given

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	1466999	Depth Top [m]:	3.00
Hole No.:	BH2	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	B
Sample Description:	Brown slightly gravelly sandy CLAY		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	98		
6.3	97		
5	97		
3.35	96		
2	95		
1.18	94		
0.6	93		
0.425	92		
0.3	91		
0.212	90		
0.15	90		
0.063	79.8		

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	4.70
Sand	15.50
Fines <0.063mm	79.80

Grading Analysis		
D100	mm	14
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks: Preliminary report

Signed:

Mon ka Janoszek
PL Deputy Head of Geotechnical Section
for and on behalf of i2 Analytical Ltd

Date Reported: 23/03/2020

GF 100.16

APPENDIX H

Contamination Assessment

ASSESSMENT CRITERIA

Table H1 below sets out CGL's rationale for generic assessment criteria (GAC) adoption in order to evaluate risks posed to potential receptors at 156 West End Lane from identified chemical contamination. Potential receptors have been identified with reference to the Part IIA regime and associated DEFRA guidance. As with the Part IIA regime, under the planning regime all receptors (humans, controlled waters, ecology, crops/livestock and buildings) have been considered if there is the potential for them to be adversely affected by exposure to contamination. The results of the assessment for 156 West End Lane are then presented in Tables H2 to H6 of this appendix.

Table H1. Rationale for Assessment Criteria Adoption

Source / Media	CGL's Approach & Rationale
Risks to Human Health (long-term chronic risks)	
Soil contaminants	• Laboratory test results have been compared against Generic Assessment Criteria (GACs) derived in-house by CGL using the Contaminated Land Exposure Assessment (CLEA) model and version 1.06 of the CLEA software. Where Soil Guideline Values (SGVs) have been published previously by the Environment Agency, the CGL GACs have updated these based on current exposure parameters (e.g. updated inhalation rates). • The GACs have been generated assuming a sandy loam soil type and a Soil Organic Material of 1% for the Made Ground (measured range 0.1 – 5.9%) and 1% for the natural soils (measured 0.2 – 1.0%). • In the event impacts are identified on a site above the GAC level for arsenic, cadmium, chromium VI, benzene or benzo(a)pyrene, the results have been compared to the applicable Category 4 Screening Level (C4SL) published by DEFRA to further assess risks. • The exception to the above relates to lead. The SGV for lead has been withdrawn and the C4SL for lead is used by CGL directly as a first tier of assessment. • The CGL GACs represent conservative screening criteria (set at acceptable or minimal risk) and have generally been calculated using the default parameters for the standard land use scenarios set out in the CLEA technical report and toxicological inputs in line with the requirements of Science Report SC050021/SR2 and, in the case of petroleum hydrocarbons, Science Report P5-080/TR3. • Where a CGL GAC has not been derived alternative assessment criteria will be sourced from current commercially-available sources (including international standards where no suitable UK assessment criteria exists). • Concentrations of cyanide above the laboratory reporting limit are assessed against a Soil Screening Value (SSV) developed by Atkins. Atkins have based this assessment criteria on acute exposure to a 0 to 6 year old child. • Where the dataset is of appropriate size, assessment against the applicable GAC or C4SL is carried out at the 95th percentile of the sample mean (designated US_{95}), which is considered to represent a reasonable worst-case scenario. An assessment of the normality of the data has been undertaken. Where datasets are normally distributed the one sample t-test has been applied to calculate the US_{95}. In the case of non-parametric datasets, the Chebychev Theorem has been applied. The Grubbs Test has also been used to identify potential outliers within datasets. • It is noted that the British Geological Survey has published background levels for a number of organic and inorganic constituents. In the event that the C4SL or a GAC is found to be exceeded, the risk may still be considered to be low, unlikely to meet the definition of contaminated land under Part IIA and potentially suitable for use from a development perspective, if the contaminant concentrations are below local background levels, assuming no other contributing factors. • At this time an authoritative GAC is not available for asbestos fibres in soil. A positive identification of asbestos fibres in a soil sample by the laboratory is considered sufficient to warrant additional assessment of risks. Laboratory identification and quantification by microscopy may be required subject to source of material.
Dissolved contaminants	• Concentrations of organic constituents detected above the laboratory reporting limit in shallow groundwater or perched water have been assessed against groundwater vapour generic assessment criteria (GAC_{gwvap}) developed by the Society of Brownfield Remediation Risk Assessment (SoBRA). These assess chronic risks to human health via the indoor and outdoor air inhalation pathway only. The values assume a sand soil type, a soil organic matter of 1% and a depth below ground level of 650mm.

Source / Media	CGL's Approach & Rationale
Ground gas	• Concentrations and flow rates of carbon dioxide and methane in ground gas are converted to Gas Screening Values (GSVs) in accordance with CIRIA (2007). Potential risks associated with gas chemistry are evaluated in accordance with guidance presented in CIRIA (2007), NHBC (2007), BSI (2007).
Radon	• Risks from the radon content of soil gas are evaluated in accordance with BRE (2011).
Risks to Controlled Waters	
Soil contaminants	• Results from any eluted liquids have been directly compared to Environmental Quality Standards (EQS) and Drinking Water Values (DWV) as an initial screen of water quality. These are considered to be conservative screening criteria.
Dissolved contaminants	• Results have been directly compared to Environmental Quality Standards (EQS) and Drinking Water Values (DWV) as an initial screen of water quality. These are considered to be conservative screening criteria.
Risks to Buildings & Structures	
Water supply pipes	• The evaluation of water supply pipe requirements at the site has been undertaken in general accordance with guidance and criteria produced by the UK Water Industry (2011).
Sulfate & pH conditions	• The evaluation of risks to buried concrete has followed the guidance and criteria produced by BRE (2005).
Risks to Vegetation & Plants	
Soil contaminants	• Risks to plant growth (i.e. phytotoxicity) have been assessed for specific contaminants where the limits for phytotoxic effect proposed (e.g. by BS 3882) are significantly lower than the health GAC.

Job Number:
Job Reference:

Table H2. Data assessment summary - potential soil risks to human health								
Land Use Category:		**Residential without homegrown produce consumption**					**SOM:**	1.00%
Stratum:		**[MADE GROUND]**					**No. Samples**	13
Determinand	**GAC** mg/kg	**SSL** mg/kg (See Note A)	**Min recorded (mg/kg)**	**Max recorded (mg/kg)**	**No. Samples exceeding GAC**	**No. Samples exceeding SSL**	**US_{95} (mg/kg)**	**US_{95} > GAC**
Arsenic	30	-	11	52	2	0	37.65	EXCEED
Beryllium	1.72	-	0.54	1.4	0	0	0.96	OK
Boron	10800	-	0 3	3.2	0	0	1.89	OK
Cadmium	85.3	-	< 0.2	0.8	0	0	0.43	OK
Chromium (III)	887	-	15	41	0	0	29 57	OK
Chromium (VI)	5.75	-	< 1.2	< 1.2	0	0	0.60	OK
Copper	7130	-	9 2	75	0	0	40.61	OK
Lead (note E)	310	-	21	570	4	0	324.18	EXCEED
Mercury	75.3	-	< 0.3	1.2	0	0	0.70	OK
Nickel	182	-	13	59	0	0	43.19	OK
Selenium	596	-	< 1	2.4	0	0	1.28	OK
Vanadium	651	-	27	76	0	0	54 58	OK
Zinc	40400	-	38	260	0	0	175.28	OK
Benzene	0.448	-	< 0 001	< 0.001	0	0	0.00	OK
Toluene	1010	869	< 0 001	< 0.001	0	0	0.00	OK
Ethyl benzene	274	-	< 0 001	0 004	0	0	0.00	OK
m-Xylene	91.1	-	< 0 001	0 016	0	0	0.01	OK
o-Xylene	97.9	-	< 0 001	0.0046	0	0	0.00	OK
p-Xylene	87.7	-	< 0 001	0 016	0	0	0.01	OK
Total Phenols (note C)	1180	-	< 1	< 1	0	0	0.50	OK
Total Cyanide (note D)	34	-	< 1	< 1	0	0	0.50	OK
Aliphatic EC5-6	39.7	-	< 0 001	< 0.001	0	0	0.00	OK
Aliphatic EC6-8	85	-	< 0 001	< 0.001	0	0	0.00	OK
Aliphatic EC8-10	18.7	-	< 0 001	0 041	0	0	0.02	OK
Aliphatic EC10-12	93.3	50 2	< 1	5.5	0	0	2.56	OK
Aliphatic EC12-16	797	22 2	< 2	8.4	0	0	4.78	OK
Aliphatic EC16-35	129000	0	< 16	317	0	0	157.85	OK
Aromatic EC5-7	0.448	0	< 0 001	< 0.001	0	0	0.00	OK
Aromatic EC7-8	1010	869	< 0 001	< 0.001	0	0	0.00	OK
Aromatic EC8-10	30.1	-	< 0 001	0 041	0	0	0.02	OK
Aromatic EC10-12	159	-	< 1	1.6	0	0	0.95	OK
Aromatic EC12-16	758	170	< 2	18	0	0	10 92	OK
Aromatic EC16-21	1940	-	< 10	190	0	0	85.62	OK
Aromatic EC21-35	1940	-	< 10	300	0	0	137.45	OK
Naphthalene	2.53	-	< 0.05	0.8	0	0	0.44	OK
Acenaphthylene	2060	86.1	< 0.05	1.8	0	0	0.78	OK
Acenaphthene	2120	57	< 0.05	5.7	0	0	2.43	OK
Fluorene	2170	30 9	< 0.05	7.4	0	0	3.13	OK
Phenanthrene	1360	36	< 0.05	27	0	0	12.72	OK
Anthracene	27400	1.17	< 0.05	15	0	2	6.45	OK
Fluoranthene	1500	-	< 0.05	80	0	0	34.69	OK
Pyrene	3600	-	< 0.05	68	0	0	29.48	OK
Benzo(a)Anthracene	12.4	-	< 0.05	46	1	0	20.47	EXCEED
Chrysene	30.7	-	< 0.05	27	0	0	12 27	OK
Benzo(b)fluoranthene	4	-	< 0.05	48	3	0	21 39	EXCEED
Benzo(k)fluoranthene	106	-	< 0.05	23	0	0	10.40	OK
Benzo(a)Pyrene	3.19	-	< 0.05	47	3	0	21 00	EXCEED
Indeno(1,2,3,cd)pyrene	45.2	-	< 0.05	21	0	0	9.50	OK
Dibenzo(a,h)anthracene	0.33	-	< 0.05	5.8	3	0	2.67	EXCEED
Benzo(g,h,i)perylene	357	-	< 0.05	23	0	0	10.63	OK
Asbestos in Soils	(Number of samples in which Asbestos detected)				0	0	0.00	0

A. SSL (Soil Saturation Limit) presented for contaminants where GAC exceeds the calculated saturation limit using CLEA. Where the SSL is exceeded, there is the potential for free product.

B. Concentrations for total xylenes should be compared against m-xylene for fresh spills and o-xylene for all other cases.

C. GAC relates to phenol (C_6H_5OH) only.

D. Cyanide GAC based on acute exposure of 0-6 year old child (Atkins value).

E. Published C4SL.

E. Published C4SL.

E. Published C4SL.

Job Number:
Job Reference:

Table H2. Data assessment summary - potential soil risks to human health								
Land Use Category:		**Residential without homegrown produce consumption**					**SOM:**	1.00%
Stratum:		**Natural Soils**					**No. Samples**	2
Determinand	**GAC** mg/kg	**SSL** mg/kg (See Note A)	**Min recorded (mg/kg)**	**Max recorded (mg/kg)**	**No. Samples exceeding GAC**	**No. Samples exceeding SSL**	**US_{95} (mg/kg)**	**Max Value > GAC**
Arsenic	30	-	10	21	0	0	NR	OK
Beryllium	1.72	-	0.82	1.6	0	0	NR	OK
Boron	10800	-	1 8	2.2	0	0	NR	OK
Cadmium	85.3	-	< 0.2	< 0.2	0	0	NR	OK
Chromium (III)	887	-	33	62	0	0	NR	OK
Chromium (VI)	5.75	-	< 1.2	< 1.2	0	0	NR	OK
Copper	7130	-	16	28	0	0	NR	OK
Lead (note E)	310	-	49	68	0	0	NR	OK
Mercury	75.3	-	< 0.3	< 0.3	0	0	NR	OK
Nickel	182	-	15	45	0	0	NR	OK
Selenium	596	-	< 1	< 1	0	0	NR	OK
Vanadium	651	-	53	97	0	0	NR	OK
Zinc	40400	-	82	87	0	0	NR	OK
Benzene	0.448	-	< 0 001	< 0.001	0	0	NR	OK
Toluene	1010	869	< 0 001	< 0.001	0	0	NR	OK
Ethyl benzene	274	-	< 0 001	< 0.001	0	0	NR	OK
m-Xylene	91.1	-	< 0 001	< 0.001	0	0	NR	OK
o-Xylene	97.9	-	< 0 001	< 0.001	0	0	NR	OK
p-Xylene	87.7	-	< 0 001	< 0.001	0	0	NR	OK
Total Phenols (note C)	1180	-	< 1	< 1	0	0	NR	OK
Total Cyanide (note D)	34	-	< 1	< 1	0	0	NR	OK
Aliphatic EC5-6	39.7	-	< 0 001	< 0.001	0	0	NR	OK
Aliphatic EC6-8	85	-	< 0 001	< 0.001	0	0	NR	OK
Aliphatic EC8-10	18.7	-	< 0 001	< 0.001	0	0	NR	OK
Aliphatic EC10-12	93.3	50 2	< 1	< 1	0	0	NR	OK
Aliphatic EC12-16	797	22 2	< 2	< 2	0	0	NR	OK
Aliphatic EC16-35	129000	0	< 16	< 16	0	0	NR	OK
Aromatic EC5-7	0.448	0	< 0 001	< 0.001	0	0	NR	OK
Aromatic EC7-8	1010	869	< 0 001	< 0.001	0	0	NR	OK
Aromatic EC8-10	30.1	-	< 0 001	< 0.001	0	0	NR	OK
Aromatic EC10-12	159	-	< 1	< 1	0	0	NR	OK
Aromatic EC12-16	758	170	< 2	< 2	0	0	NR	OK
Aromatic EC16-21	1940	-	< 10	< 10	0	0	NR	OK
Aromatic EC21-35	1940	-	< 10	< 10	0	0	NR	OK
Naphthalene	2.53	-	< 0.05	< 0.05	0	0	NR	OK
Acenaphthylene	2060	86.1	< 0.05	< 0.05	0	0	NR	OK
Acenaphthene	2120	57	< 0.05	< 0.05	0	0	NR	OK
Fluorene	2170	30 9	< 0.05	< 0.05	0	0	NR	OK
Phenanthrene	1360	36	< 0.05	< 0.05	0	0	NR	OK
Anthracene	27400	1.17	< 0.05	< 0.05	0	0	NR	OK
Fluoranthene	1500	-	< 0.05	< 0.05	0	0	NR	OK
Pyrene	3600	-	< 0.05	< 0.05	0	0	NR	OK
Benzo(a)Anthracene	12.4	-	< 0.05	< 0.05	0	0	NR	OK
Chrysene	30.7	-	< 0.05	< 0.05	0	0	NR	OK
Benzo(b)fluoranthene	4	-	< 0.05	< 0.05	0	0	NR	OK
Benzo(k)fluoranthene	106	-	< 0.05	< 0.05	0	0	NR	OK
Benzo(a)Pyrene	3.19	-	< 0.05	< 0.05	0	0	NR	OK
Indeno(1,2,3,cd)pyrene	45.2	-	< 0.05	< 0.05	0	0	NR	OK
Dibenzo(a,h)anthracene	0.33	-	< 0.05	< 0.05	0	0	NR	OK
Benzo(g,h,i)perylene	357	-	< 0.05	< 0.05	0	0	NR	OK
Asbestos in Soils	(Number of samples in which Asbestos detected)				0	0	NR	OK
A. SSL (Soil Saturation Limit) presented for contaminants where GAC exceeds the calculated saturation limit using CLEA. Where the SSL is exceeded, there is the potential for free product.								
B. Concentrations for total xylenes should be compared against m-xylene for fresh spills and o-xylene for all other cases.								
C. GAC relates to phenol (C_6H_5OH) only.								
D. Cyanide GAC based on acute exposure of 0-6 year old child (Atkins value).								
E. Published C4SL.								
E. Published C4SL.								
E. Published C4SL.								

Table H4. Data assessment summary – Potential Soil Risk to Vegetation and Plants

Determinant	Assessment Criteria (mg/kg)	Measured range (mg/kg)	US_{95} (mg/kg)	US_{95} > Assessment Criteria? (Y/N) #- outlier detected
Copper[1]	135	9.2 to 75	40.6	N #
Zinc[1]	200	38 to 260	175.3	N
Nickel[1]	75	13 to 59	43.2	N #
Boron (water soluble)[2]	5	0.3 to 3.2	1.9	N

[1] BSI, (2015). *Specification for topsoil and requirements for use. BS 3882:2015*. Values taken for pH 6-7

[2] Limit for phytotoxic effect. Nable, Banuelos and Paul, (1997). *Boron Toxicity*. Plant and Soil, Volume 193, pp 181-198

Table H6. Standard Water Supply Pipe Assessment

Test Group[1]	Testing Required?	PE threshold (mg/kg)	Metal Pipes / Barrier Pipe	Laboratory Detection Limit (mg/kg)	Testing UKAS accredited Y/N	Maximum concentration at proposed pipeline depth[2] (mg/kg)	Maximum site concentration[3] (mg/kg)	Locations and depths where concentrations exceed proposed pipeline threshold.
Total BTEX & MTBE	**Where Preliminary Risk Assessment (PRA) has identified land potentially affected by contamination**	**0.1**	**Pass**	0.001	MCERTS	<0.001	0.04	None
EC5–EC10 aliphatic and aromatic hydrocarbons		**2**	**Pass**	0.001	MCERTS	<0.001	0.082	None
EC10-EC16 aliphatic and aromatic hydrocarbons		**10**	**Pass**	1	MCERTS	15	18	BH2 0.8m FIP4 0.75m FIP4 0.8m
EC16-EC40 aliphatic and aromatic hydrocarbons		**500**	**Pass**	10 - 16	MCERTS	177	807	None
Phenols		**2**	**Pass**	1	MCERTS	<1	<1	None
Corrosive	**Conductivity** **Redox** **pH**	**Pass**	**Note[4]**	- - -	- - MCERTS	- - 10.5	- - 11.8	- - None

[1] Tests Groups as per Appendix G of UKWIR Guidance.

[2] Water pipes are normally laid 0.75-1.35 metres below finished ground level.

[3] State if liquid free product is present in soil or groundwater.

[4] Threshold: For wrapped steel, corrosive if pH<7 and conductivity >400 µs/cm. For wrapped ductile iron corrosive if pH<5, Eh not neutral and conductivity >400 µs/cm. For copper, corrosive if pH<5 or>8 and Eh positive.