APPENDIX G

Chemical test results

Fraser Chamley
Card Geotechnics Ltd
4 Godalming Business Centre
Woolsack Way
Godalming
Surrey
GU7 1XW

t: 01483 310600
f: 01483 527285
e: fraserc@cgl-uk.com

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

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

Analytical Report Number : 16-17466

Replaces Analytical Report Number : 16-17466, issue no. 1

Project / Site name:	Centric Close	**Samples received on:**	11/05/2016
Your job number:	CG-18804	**Samples instructed on:**	11/05/2016
Your order number:	3184	**Analysis completed by:**	23/05/2016
Report Issue Number:	2	**Report issued on:**	23/05/2016
Samples Analysed:	13 soil samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 16-17466

Project / Site name: Centric Close
Your Order No: 3184

Lab Sample Number				572592	572593	572594	572595	572596
Sample Reference				WS01	WS01	FIP01	WS02	FIP02
Sample Number				ES01	ES03	ES02	ES04	ES05
Depth (m)				0.40	2.70	0.50	0.60	0.50
Date Sampled				10/05/2016	10/05/2016	10/05/2016	10/05/2016	10/05/2016
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	13	15	15	24	9.9
Total mass of sample received	kg	0.001	NONE	2.0	1.0	2.0	1.2	2.0
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Chrysotile	Chrysotile	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.002	< 0.001	0.003	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.002	< 0.001	0.003	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	10.2	8.3	8.3	8.0	11.4
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	4300	7200	4700	2000	3800
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.82	-	0.20	0.37	-
Total Sulphur	mg/kg	50	NONE	-	-	-	-	-
Organic Matter	%	0.1	MCERTS	1.5	0.3	1.2	0.9	0.6
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	2.0	< 0.05	0.57	0.23	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	0.32	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	2.1	< 0.10	1.6	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	1.4	< 0.10	2.2	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	28	< 0.10	31	1.7	1.4
Anthracene	mg/kg	0.1	MCERTS	7.8	< 0.10	15	0.42	0.44
Fluoranthene	mg/kg	0.1	MCERTS	54	0.51	54	2.9	5.7
Pyrene	mg/kg	0.1	MCERTS	45	0.49	45	2.5	4.6
Benzo(a)anthracene	mg/kg	0.1	MCERTS	27	0.28	24	1.4	2.4
Chrysene	mg/kg	0.05	MCERTS	22	0.24	22	1.1	2.3
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	28	0.24	22	1.5	3.1
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	15	0.21	9.5	0.62	1.1
Benzo(a)pyrene	mg/kg	0.1	MCERTS	26	0.22	20	1.2	2.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	13	< 0.10	9.3	0.54	1.2
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	3.0	< 0.10	2.8	< 0.10	0.22
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	15	< 0.05	11	0.61	1.7
Coronene	mg/kg	0.05	NONE	4.2	< 0.05	3.3	< 0.05	0.25
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	290	2.2	270	15	27
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	3.4	< 1.0	5.7	2.8	2.7
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	18	22	17	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	170	53	220	130	130
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	0.34	0.95	1.2	0.59
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	1.1	1.9	1.3	1.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	0.5
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	31	12	21	36	19
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	12	21	36	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	32	17	32	63	67
Lead (aqua regia extractable)	mg/kg	1	MCERTS	350	320	800	380	210
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	3.5	1.2	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	8.9	17	30	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	47	28	64	76	30
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	190	100	170	130	130

Analytical Report Number: 16-17466

Project / Site name: Centric Close
Your Order No: 3184

Lab Sample Number				572592	572593	572594	572595	572596
Sample Reference				WS01	WS01	FIP01	WS02	FIP02
Sample Number				ES01	ES03	ES02	ES04	ES05
Depth (m)				0.40	2.70	0.50	0.60	0.50
Date Sampled				10/05/2016	10/05/2016	10/05/2016	10/05/2016	10/05/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/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	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	17	< 2.0	< 2.0	< 2.0	2.4
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	40	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	130	< 8.0	< 8.0	18	25
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	190	< 10	11	22	32
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	3.7	< 1.0	2.1	< 1.0	1.4
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	67	< 2.0	30	< 2.0	9.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	370	< 10	200	< 10	59
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	480	< 10	140	< 10	120
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	910	< 10	380	16	190

Analytical Report Number: 16-17466

Project / Site name: Centric Close
Your Order No: 3184

Lab Sample Number				572597	572598	572599	572600	572601
Sample Reference				WS03	FIP04	FIP03	WS02	WS03
Sample Number				ES07	ES08	ES10	D4	D7
Depth (m)				0.40	0.70	1.10	3.30	2.70
Date Sampled				10/05/2016	10/05/2016	10/05/2016	10/05/2016	10/05/2016
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	8.9	11	15	26	26
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0	1.2	0.73
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Amosite	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.003	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	0.003	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	10.2	8.1	7.8	8.0	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	1900	300	480	660	740
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	0.016	0.12	0.15
Total Sulphur	mg/kg	50	NONE	-	-	-	-	-
Organic Matter	%	0.1	MCERTS	0.3	0.5	2.1	2.0	0.5
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	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	0.35	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	0.21	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	3.9	< 0.10	0.39	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	1.4	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	12	< 0.10	0.95	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	11	< 0.10	1.0	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	5.3	< 0.10	0.53	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	3.9	< 0.05	0.44	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	7.0	< 0.10	0.69	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	1.6	< 0.10	0.25	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	4.6	< 0.10	0.44	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	2.8	< 0.10	0.21	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	0.52	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.2	< 0.05	0.31	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	0.79	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	58	< 1.6	5.2	< 1.6	< 1.6
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.0	1.5	12	3.5	2.7
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	11	39	16	11
Barium (aqua regia extractable)	mg/kg	1	MCERTS	180	36	190	110	76
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.57	0.58	1.8	1.5	1.9
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7	1.2	0.9	2.7	2.0
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 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	24	21	38	48	52
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	21	38	48	52
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	12	120	49	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	230	50	320	130	40
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	1.2	1.1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	18	31	35	40
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	36	37	65	96	100
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	78	34	270	96	89

Analytical Report Number: 16-17466

Project / Site name: Centric Close
Your Order No: 3184

Lab Sample Number				572597	572598	572599	572600	572601
Sample Reference				WS03	FIP04	FIP03	WS02	WS03
Sample Number				ES07	ES08	ES10	D4	D7
Depth (m)				0.40	0.70	1.10	3.30	2.70
Date Sampled				10/05/2016	10/05/2016	10/05/2016	10/05/2016	10/05/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/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	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 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	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	39	< 8.0	8.6	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	44	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
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	15	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	110	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	240	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	370	< 10	< 10	< 10	< 10

Analytical Report Number: 16-17466

Project / Site name: Centric Close
Your Order No: 3184

Lab Sample Number				572602	572603	572604		
Sample Reference				WS03	WS04	FIP02		
Sample Number				D11	D13	ES11		
Depth (m)				4.70	3.90	0.50		
Date Sampled				10/05/2016	10/05/2016	10/05/2016		
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	-		
Moisture Content	%	N/A	NONE	21	21	-		
Total mass of sample received	kg	0.001	NONE	1.2	1.6	-		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-		
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-		
General Inorganics								
pH	pH Units	N/A	MCERTS	7.7	8.0	-		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	-		
Total Sulphate as SO_4	mg/kg	50	MCERTS	8200	700	-		
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	3.1	0.31	-		
Total Sulphur	mg/kg	50	NONE	3600	300	-		
Organic Matter	%	0.1	MCERTS	0.3	0.5	-		
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	0.1	MCERTS	< 0.10	< 0.10	-		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	-		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-		
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	-		
Total PAH								
Total WAC-17 PAHs	mg/kg	1.6	NONE	< 1.6	< 1.6	-		
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.3	1.7	-		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.8	12	-		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	31	140	-		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	1.4	-		
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	1.4	-		
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	53	50	-		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	53	50	-		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	19	-		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	31	-		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	40	41	-		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	100	92	-		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	78	80	-		

Analytical Report Number: 16-17466

Project / Site name: Centric Close
Your Order No: 3184

Lab Sample Number				572602	572603	572604		
Sample Reference				WS03	WS04	FIP02		
Sample Number				D11	D13	ES11		
Depth (m)				4.70	3.90	0.50		
Date Sampled				10/05/2016	10/05/2016	10/05/2016		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	ug/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	0.1	MCERTS	< 0.1	< 0.1	-		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	-		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	-		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	-		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	-		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-		
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	< 10	< 10	-		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	-		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	-		

Analytical Report Number: 16-17466
Project / Site name: Centric Close
Your Order No: 3184

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
572592	WS01	0.40	143	Hard/Cement Type Material	**Chrysotile**	0.002	**0.002**
572593	WS01	2.70	136	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
572594	FIP01	0.50	139	Loose Fibres & Hard/Cement Type Material	**Chrysotile**	0.003	**0.003**
572597	WS03	0.40	152	Loose Fibres & Hard/Cement Type Material	**Chrysotile & Amosite**	0.003	**0.003**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditatior

Analytical Report Number : 16-17466

Project / Site name: Centric Close

* 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 *
572592	WS01	ES01	0.40	Brown loam and sand with gravel and brick.
572593	WS01	ES03	2.70	Brown sandy gravel.**
572594	FIP01	ES02	0.50	Brown loam and sand with gravel.
572595	WS02	ES04	0.60	Brown clay and sand with gravel.
572596	FIP02	ES05	0.50	Brown loam and sand with gravel.
572597	WS03	ES07	0.40	Brown sandy loam with gravel and brick.
572598	FIP04	ES08	0.70	Brown loam and sand with gravel.
572599	FIP03	ES10	1.10	Brown loam and sand with gravel.
572600	WS02	D4	3.30	Brown clay and loam.
572601	WS03	D7	2.70	Brown clay and loam.
572602	WS03	D11	4.70	Brown clay with gravel.
572603	WS04	D13	3.90	Brown clay with gravel.
572604	FIP02	ES11	0.50	-

**Non MCerts matrix

Analytical Report Number : 16-17466

Project / Site name: Centric Close

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

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
Asbestos Quantification - Gravimetric	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	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.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	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 in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	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	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
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 based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	NONE

Analytical Report Number : 16-17466

Project / Site name: Centric Close

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-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.

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

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
WS02	D4	S	16-17466	572600	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WS02	D4	S	16-17466	572600	b	Monohydric phenols in soil	L080-PL	b
WS02	D4	S	16-17466	572600	b	Speciated WAC-17 PAHs in soil	L064-PL	b
WS02	D4	S	16-17466	572600	b	TPHCWG (Soil)	L076-PL	b
WS03	D11	S	16-17466	572602	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WS03	D11	S	16-17466	572602	b	Monohydric phenols in soil	L080-PL	b
WS03	D11	S	16-17466	572602	b	Speciated WAC-17 PAHs in soil	L064-PL	b
WS03	D11	S	16-17466	572602	b	TPHCWG (Soil)	L076-PL	b
WS03	D7	S	16-17466	572601	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WS03	D7	S	16-17466	572601	b	Monohydric phenols in soil	L080-PL	b
WS03	D7	S	16-17466	572601	b	Speciated WAC-17 PAHs in soil	L064-PL	b
WS03	D7	S	16-17466	572601	b	TPHCWG (Soil)	L076-PL	b
WS04	D13	S	16-17466	572603	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
WS04	D13	S	16-17466	572603	b	Monohydric phenols in soil	L080-PL	b
WS04	D13	S	16-17466	572603	b	Speciated WAC-17 PAHs in soil	L064-PL	b
WS04	D13	S	16-17466	572603	b	TPHCWG (Soil)	L076-PL	b

Fraser Chamley
Card Geotechnics Ltd
4 Godalming Business Centre
Woolsack Way
Godalming
Surrey
GU7 1XW

t: 01483 310600
f: 01483 527285
e: fraserc@cgl-uk.com

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

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

Analytical Report Number : 16-17885

Project / Site name:	Centric Close	**Samples received on:**	17/05/2016
Your job number:	18804	**Samples instructed on:**	17/05/2016
Your order number:	3184	**Analysis completed by:**	20/05/2016
Report Issue Number:	1	**Report issued on:**	20/05/2016
Samples Analysed:	1 water sample		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 16-17885

Project / Site name: Centric Close

Your Order No: 3184

Lab Sample Number				575203				
Sample Reference				WS02				
Sample Number				WS2-1				
Depth (m)				None Supplied				
Date Sampled				16/05/2016				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.9				
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	< 1.0				
Sulphate as SO_4	µg/l	45	ISO 17025	439000				
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	8.72				
Hardness - Total	mgCaCO3/l	1	ISO 17025	1160				
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0				
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01				
Fluorene	µg/l	0.01	ISO 17025	< 0.01				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01				
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	NONE	< 0.16				
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	0.4	ISO 17025	2.2				
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.32				
Barium (dissolved)	µg/l	0.06	ISO 17025	24				
Beryllium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Boron (dissolved)	µg/l	10	ISO 17025	350				
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02				
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0				
Chromium (III)	µg/l	1	NONE	< 1.0				
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2				
Copper (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Lead (dissolved)	µg/l	0.2	ISO 17025	0.5				
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.52				
Nickel (dissolved)	µg/l	0.5	ISO 17025	25				
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.5				
Vanadium (dissolved)	µg/l	0.2	ISO 17025	0.4				
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.2				
Calcium (dissolved)	mg/l	0.012	ISO 17025	240				
Magnesium (dissolved)	mg/l	0.005	ISO 17025	140				

Analytical Report Number: 16-17885

Project / Site name: Centric Close

Your Order No: 3184

Lab Sample Number				575203				
Sample Reference				WS02				
Sample Number				WS2-1				
Depth (m)				None Supplied				
Date Sampled				16/05/2016				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

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

Analytical Report Number : 16-17885

Project / Site name: Centric Close

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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.	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.	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 distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-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.	In-house method based on USEPA 8270	L0102B-PL	W	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	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.

Fraser Chamley
Card Geotechnics Ltd
4 Godalming Business Centre
Woolsack Way
Godalming
Surrey
GU7 1XW

t: 01483 310600
f: 01483 527285
e: fraserc@cgl-uk.com

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

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

Analytical Report Number : 16-18041

Project / Site name:	Centric Close	**Samples received on:**	11/05/2016
Your job number:	CG-18804	**Samples instructed on:**	17/05/2016
Your order number:	3184	**Analysis completed by:**	23/05/2016
Report Issue Number:	1	**Report issued on:**	23/05/2016
Samples Analysed:	2 leachate samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 16-18041

Project / Site name: Centric Close

Your Order No: 3184

Lab Sample Number				576047	576048			
Sample Reference				FIP01	FIP03			
Sample Number				ES02	ES10			
Depth (m)				0.50	1.10			
Date Sampled				10/05/2016	10/05/2016			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	8.6	9.0			
Total Cyanide (Low Level 1 µg/l)	µg/l	1	ISO 17025	6.2	< 1.0			
Sulphate as SO_4	µg/l	100	ISO 17025	1740000	3670			
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	2.47	2.50			
Total Phenols								
Total Phenols (monohydric)	µg/l	1	ISO 17025	< 1.0	< 1.0			
Speciated PAHs								
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01			
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01			
Phenanthrene	µg/l	0.01	NONE	0.65	< 0.01			
Anthracene	µg/l	0.01	NONE	0.29	< 0.01			
Fluoranthene	µg/l	0.01	NONE	2.3	< 0.01			
Pyrene	µg/l	0.01	NONE	2.0	< 0.01			
Benzo(a)anthracene	µg/l	0.01	NONE	0.94	< 0.01			
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	µg/l	0.01	NONE	0.63	< 0.01			
Benzo(k)fluoranthene	µg/l	0.01	NONE	0.28	< 0.01			
Benzo(a)pyrene	µg/l	0.01	NONE	1.1	< 0.01			
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01			
Total PAH								
Total EPA-16 PAHs	µg/l	0.2	NONE	8.2	< 0.2			
Heavy Metals / Metalloids								
Antimony (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7			
Arsenic (dissolved)	µg/l	1.1	ISO 17025	< 1.1	13			
Barium (dissolved)	µg/l	0.05	ISO 17025	85	9.0			
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2			
Boron (dissolved)	µg/l	10	ISO 17025	160	11			
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08			
Chromium (hexavalent)	µg/l	5	NONE	< 5.0	< 5.0			
Chromium (III)	µg/l	1	NONE	3.0	< 1.0			
Chromium (dissolved)	µg/l	0.4	ISO 17025	3.0	1.0			
Copper (dissolved)	µg/l	0.7	ISO 17025	3.7	3.5			
Lead (dissolved)	µg/l	1	ISO 17025	190	< 1.0			
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5			
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.8	2.5			
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0			
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	< 1.7			
Zinc (dissolved)	µg/l	0.4	ISO 17025	5.6	2.5			
Calcium (dissolved)	mg/l	0.012	ISO 17025	580	15			

Analytical Report Number: 16-18041

Project / Site name: Centric Close

Your Order No: 3184

Lab Sample Number				576047	576048			
Sample Reference				FIP01	FIP03			
Sample Number				ES02	ES10			
Depth (m)				0.50	1.10			
Date Sampled				10/05/2016	10/05/2016			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Leachate Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Monoaromatics								
Benzene	µg/l	1	NONE	< 1.0	< 1.0			
Toluene	µg/l	1	NONE	< 1.0	< 1.0			
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0			
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0			
o-xylene	µg/l	1	NONE	< 1.0	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/l	10	NONE	< 10	< 10			
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
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	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10			
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10			
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			

Analytical Report Number : 16-18041

Project / Site name: Centric Close

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
BTEX and MTBE in leachates (Monoaromatics)	Determination of BTEX and MTBE in leachates by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
Cr (III) in leachate	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L023-PL	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in leachate - LOW LEVEL 1 ug/l	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
pH in leachate	Determination of pH in leachate by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Speciated EPA-16 PAHs in leachate	Determination of PAH compounds in leachate by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total cyanide in leachate - 1µg/l	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
TPHCWG (Leachates)	Determination of dichloromethane extractable hydrocarbons in leachate by GC-MS.	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.

4041
Fraser Chamley
Card Geotechnics Ltd
4 Godalming Business Centre
Woolsack Way
Godalming
Surrey
GU7 1XW

t: 01483 310600
f: 01483 527285
e: fraserc@cgl-uk.com

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

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

Analytical Report Number : 16-18420

Project / Site name:	Centric Close	**Samples received on:**	11/05/2016
Your job number:	CG-18804	**Samples instructed on:**	23/05/2016
Your order number:		**Analysis completed by:**	31/05/2016
Report Issue Number:	1	**Report issued on:**	31/05/2016
Samples Analysed:	3 10:1 WAC samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

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

Waste Acceptance Criteria Analytical Results

Report No:	**16-18420**						
					Client:	**CARDGEO**	
Location	**Centric Close**						
Lab Reference (Sample Number)	578124 / 578125				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	10/05/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS01 ES01						
Depth (m)	0.40						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	4.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	83				500	--	--
Total PAH (WAC-17) (mg/kg)	270				100	--	--
pH (units)**	11.3				--	>6	--
Acid Neutralisation Capacity (mol / kg)	140				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:01	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0011			< 0.0110	0.5	2	25
Barium *	0.0291			0.243	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0026			0.022	0.5	10	70
Copper *	0.014			0.12	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0041			0.0345	0.5	10	30
Nickel *	0.0016			0.014	0.4	10	40
Lead *	0.0052			0.044	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0074			0.062	4	50	200
Chloride *	30			250	800	4000	25000
Fluoride	0.38			3.1	10	150	500
Sulphate *	84			700	1000	20000	50000
TDS	120			1000	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.20			35.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	87						
Moisture (%)	13						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

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

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

Waste Acceptance Criteria Analytical Results

Report No:	**16-18420**						
					Client:	**CARDGEO**	
Location	**Centric Close**						
Lab Reference (Sample Number)	578126 / 578127				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	10/05/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	FIP01 ES02						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.7				3%	5%	6%
Loss on Ignition (%) **	3.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	23				500	--	--
Total PAH (WAC-17) (mg/kg)	280				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mol / kg)	30				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:01	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0077			0.0660	0.5	2	25
Barium *	0.0270			0.231	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0068			0.058	0.5	10	70
Copper *	0.018			0.15	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0021			0.0179	0.5	10	30
Nickel *	0.0042			0.036	0.4	10	40
Lead *	0.034			0.29	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0072			0.062	4	50	200
Chloride *	1.3			11	800	4000	25000
Fluoride	1.2			10	10	150	500
Sulphate *	42			360	1000	20000	50000
TDS	90			770	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.23			36.1	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	2.0						
Dry Matter (%)	85						
Moisture (%)	15						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

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

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

Waste Acceptance Criteria Analytical Results

Report No:	**16-18420**						
					Client:	**CARDGEO**	
Location	**Centric Close**						
Lab Reference (Sample Number)	578128 / 578129				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	10/05/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS02 ES04						
Depth (m)	0.60						
Solid Waste Analysis							
TOC (%)**	0.4				3%	5%	6%
Loss on Ignition (%) **	4.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	22				500	--	--
Total PAH (WAC-17) (mg/kg)	15				100	--	--
pH (units)**	8.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	47				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:01	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0017			0.0150	0.5	2	25
Barium *	0.0218			0.192	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0048			0.042	0.5	10	70
Copper *	0.0085			0.075	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0091			0.0808	0.5	10	30
Nickel *	0.0026			0.023	0.4	10	40
Lead *	0.0047			0.041	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	0.0068			0.060	0.1	0.5	7
Zinc *	0.0066			0.058	4	50	200
Chloride *	5.6			49	800	4000	25000
Fluoride	0.73			6.5	10	150	500
Sulphate *	50			440	1000	20000	50000
TDS	110			970	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	3.25			28.7	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.2						
Dry Matter (%)	76						
Moisture (%)	24						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

Analytical Report Number : 16-18420

Project / Site name: Centric Close

* 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 *
578124	WS01	ES01	0.40	Brown loam and sand with gravel and brick.
578126	FIP01	ES02	0.50	Brown loam and sand with gravel.
578128	WS02	ES04	0.60	Brown clay and sand with gravel.

Analytical Report Number : 16-18420

Project / Site name: Centric Close

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-UK	W	NONE
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033-PL	D	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-UK	W	ISO 17025
Mineral Oil (Soil)	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	in-house method	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

Analytical Report Number : 16-18420

Project / Site name: Centric Close

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

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

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.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
FIP01	ES02	S	16-18420	578126	c	BTEX in soil (Monoaromatics)	L073B-PL	c
FIP01	ES02	S	16-18420	578126	c	Mineral Oil (Soil)	L076-PL	c
FIP01	ES02	S	16-18420	578126	c	Organic matter in soil	L023-PL	c
FIP01	ES02	S	16-18420	578126	c	Total BTEX in soil (Poland)	L073-PL	c
WS01	ES01	S	16-18420	578124	c	BTEX in soil (Monoaromatics)	L073B-PL	c
WS01	ES01	S	16-18420	578124	c	Mineral Oil (Soil)	L076-PL	c
WS01	ES01	S	16-18420	578124	c	Organic matter in soil	L023-PL	c
WS01	ES01	S	16-18420	578124	c	Total BTEX in soil (Poland)	L073-PL	c
WS02	ES04	S	16-18420	578128	c	BTEX in soil (Monoaromatics)	L073B-PL	c
WS02	ES04	S	16-18420	578128	c	Mineral Oil (Soil)	L076-PL	c
WS02	ES04	S	16-18420	578128	c	Organic matter in soil	L023-PL	c
WS02	ES04	S	16-18420	578128	c	Total BTEX in soil (Poland)	L073-PL	c

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature