



Certificate of Analysis

Certificate Number 22-20871

Issued: 25-Oct-22

Client Lithos Consulting Ltd
Parkhill
Walton Rd
Wetherby
LS22 5DZ

Our Reference 22-20871

Client Reference 4511

Order No PO19787

Contract Title Denby Lane, Grnage Moor

Description 30 Soil samples, 1 Misc sample.

Date Received 17-Oct-22

Date Started 17-Oct-22

Date Completed 25-Oct-22

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072614	2072615	2072616	2072617	2072618	2072619
Sample ID	TP06	TP09	TP13	TP13	TP14	TP15
Depth	2.20	0.80	0.50	2.90	0.80	0.70
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	11/10/2022	11/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Stones >10mm	DETSC 1003*	1	% m/m		4.0	29	18	14	25
Moisture Content	DETSC 1004	0.1	%		9.4	9.3	13	11	8.9
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		97	53	150	80	34
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg		0.3	0.4	0.7	0.6	0.3
Cadmium	DETSC 2301#	0.1	mg/kg		< 0.1	< 0.1	0.1	0.4	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg		7.3	14	15	12	16
Chromium III	DETSC 2301*	0.15	mg/kg		7.3	14	15	12	16
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg		37	44	60	65	35
Lead	DETSC 2301#	0.3	mg/kg		46	58	44	62	29
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l		< 10	< 10	< 10	< 10	< 10
Mercury	DETSC 2325#	0.05	mg/kg		0.19	0.09	0.12	0.17	0.07
Nickel	DETSC 2301#	1	mg/kg		15	23	36	24	23
Selenium	DETSC 2301#	0.5	mg/kg		0.6	0.6	1.5	< 0.5	0.8
Vanadium	DETSC 2301#	0.8	mg/kg		21	22	39	26	24
Zinc	DETSC 2301#	1	mg/kg		58	68	48	240	63
Inorganics									
pH	DETSC 2008#		pH		5.4	5.7	4.2	5.7	4.7
Calorific Value	DETSC 5008	1	MJ/kg	22.5	15.7		8.3		4.5
Total Organic Carbon	DETSC 2084#	0.5	%		35	15	21	19	12
Chloride Aqueous Extract	DETSC 2055	1	mg/l		2.2	3.2	3.8	3.8	2.8
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l		1.5	1.9	1.1	4.3	< 1.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l		30	58	82	25	34
Sulphate, Total Potential as SO4	*	0.03	%		0.49	0.63	2.7	1.0	0.49
Sulphur as S, Total	DETSC 2320	0.01	%		0.16	0.21	0.90	0.33	0.16
Petroleum Hydrocarbons									
EPH (C6-C10)	DETSC 3321*	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
EPH (C10-C12)	DETSC 3311	10	mg/kg		15	< 10	< 10	< 10	< 10
EPH (C12-C16)	DETSC 3311	10	mg/kg		54	15	< 10	11	< 10
EPH (C16-C21)	DETSC 3311	10	mg/kg		73	17	10	14	12
EPH (C21-C35)	DETSC 3311	10	mg/kg		100	23	< 10	18	< 10
EPH (C35-C40)	DETSC 3311	10	mg/kg		< 10	< 10	< 10	< 10	< 10
EPH (C10-C40)	DETSC 3311#	10	mg/kg		250	61	29	45	28
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		0.05	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		0.45	0.06	0.07	0.12	0.08
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		0.21	< 0.03	< 0.03	0.08	< 0.03

Summary of Chemical Analysis Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072614	2072615	2072616	2072617	2072618	2072619
Sample ID	TP06	TP09	TP13	TP13	TP14	TP15
Depth	2.20	0.80	0.50	2.90	0.80	0.70
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	11/10/2022	11/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Pyrene	DETSC 3303#	0.03	mg/kg		0.17	< 0.03	< 0.03	0.09	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		0.06	< 0.03	< 0.03	0.04	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		0.09	< 0.03	< 0.03	0.08	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		0.11	< 0.03	< 0.03	0.05	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		0.04	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		0.04	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		1.2	< 0.10	< 0.10	0.46	< 0.10

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072620	2072621	2072622	2072623	2072624	2072625
Sample ID	TP15	TP16	TP17	TP21	TP22	TP11
Depth	2.50	0.90	0.50	1.70	1.00	1.40
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	10/10/2022	12/10/2022	12/10/2022	10/10/2022	11/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Stones >10mm	DETSC 1003*	1	% m/m	26	< 1.0	8.0	10	17	31
Moisture Content	DETSC 1004	0.1	%	9.9	15	11	9.0	10	15
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	35	90	69	230	210	43
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.4	1.9	0.4	0.5	0.6	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	< 0.1	0.2	< 0.1	< 0.1	0.2
Chromium	DETSC 2301#	0.15	mg/kg	16	28	15	16	10	15
Chromium III	DETSC 2301*	0.15	mg/kg	16	28	15	16	10	15
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	34	57	67	74	46	190
Lead	DETSC 2301#	0.3	mg/kg	26	41	50	56	43	200
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	< 10	< 10	< 10	< 10	< 10	
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05	0.12	0.29	0.22	0.14
Nickel	DETSC 2301#	1	mg/kg	39	19	45	17	8.8	22
Selenium	DETSC 2301#	0.5	mg/kg	1.0	< 0.5	< 0.5	2.0	1.9	0.6
Vanadium	DETSC 2301#	0.8	mg/kg	23	51	48	36	22	34
Zinc	DETSC 2301#	1	mg/kg	68	52	63	30	24	140
Inorganics									
pH	DETSC 2008#		pH	5.1	4.1	6.2	3.8	3.5	7.8
Calorific Value	DETSC 5008	1	MJ/kg			7.8	7.9	9.7	
Total Organic Carbon	DETSC 2084#	0.5	%	11	< 0.5	23	20	20	7.0
Chloride Aqueous Extract	DETSC 2055	1	mg/l	3.6	5.2	3.0	6.3	2.0	
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	< 1.0	2.1	2.2	< 1.0	
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	39	43	29	67	33	
Sulphate, Total Potential as SO4	*	0.03	%	0.52	3.5	0.50	2.5	2.1	
Sulphur as S, Total	DETSC 2320	0.01	%	0.17	1.2	0.17	0.83	0.68	
Petroleum Hydrocarbons									
EPH (C6-C10)	DETSC 3321*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
EPH (C10-C12)	DETSC 3311	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
EPH (C12-C16)	DETSC 3311	10	mg/kg	11	< 10	< 10	22	15	83
EPH (C16-C21)	DETSC 3311	10	mg/kg	13	< 10	< 10	31	18	490
EPH (C21-C35)	DETSC 3311	10	mg/kg	14	< 10	< 10	37	32	1300
EPH (C35-C40)	DETSC 3311	10	mg/kg	< 10	< 10	< 10	< 10	< 10	67
EPH (C10-C40)	DETSC 3311#	10	mg/kg	40	< 10	23	92	68	1900
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	0.03	0.45
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.97
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.18
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	1.2
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.10	< 0.03	0.21	0.14	0.20	3.4
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	2.2
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.14	0.03	0.08	8.6

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072620	2072621	2072622	2072623	2072624	2072625
Sample ID	TP15	TP16	TP17	TP21	TP22	TP11
Depth	2.50	0.90	0.50	1.70	1.00	1.40
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	10/10/2022	12/10/2022	12/10/2022	10/10/2022	11/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.12	< 0.03	0.05	11
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.04	0.04	0.05	6.5
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	0.10	< 0.03	0.04	8.6
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.07	< 0.03	< 0.03	9.0
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	4.3
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	9.5
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	2.3
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	1.0
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	2.4
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	0.67	0.17	0.43	71

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072626	2072627	2072628	2072629	2072630	2072631
Sample ID	TP03	TP04	TP11	TP03	TP12	TP13
Depth	0.60	0.50	0.60	0.20	0.30	0.10
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	12/10/2022	11/10/2022	10/10/2022	12/10/2022	10/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Stones >10mm	DETS 1003*	1	% m/m	3.0	5.0	7.0	2.0	1.0	8.0
Moisture Content	DETS 1004	0.1	%	17	18	11	17	20	23
Metals									
Arsenic	DETS 2301#	0.2	mg/kg	48	31	27	58	37	59
Boron, Water Soluble	DETS 2311#	0.2	mg/kg	1.0	0.9	0.3	0.7	1.1	1.2
Cadmium	DETS 2301#	0.1	mg/kg	0.3	0.4	0.1	0.5	0.7	0.4
Chromium	DETS 2301#	0.15	mg/kg	32	28	13	20	29	13
Chromium III	DETS 2301*	0.15	mg/kg	32	28	13	20	29	13
Chromium, Hexavalent	DETS 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETS 2301#	0.2	mg/kg	61	58	40	69	120	55
Lead	DETS 2301#	0.3	mg/kg	120	85	71	120	170	110
Magnesium Aqueous Extract	DETS 2076*	10	mg/l	< 10	< 10	< 10			
Mercury	DETS 2325#	0.05	mg/kg	0.21	0.76	0.07	0.20	0.16	0.15
Nickel	DETS 2301#	1	mg/kg	20	18	21	25	24	19
Selenium	DETS 2301#	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5	0.7	0.6
Vanadium	DETS 2301#	0.8	mg/kg	38	38	26	41	40	32
Zinc	DETS 2301#	1	mg/kg	100	170	54	110	220	140
Inorganics									
pH	DETS 2008#		pH	6.8	6.8	7.4	7.1	7.0	6.1
Calorific Value	DETS 5008	1	MJ/kg						
Total Organic Carbon	DETS 2084#	0.5	%	10	7.7	8.1	9.9	16	20
Chloride Aqueous Extract	DETS 2055	1	mg/l	1.8	2.1	3.1			
Nitrate Aqueous Extract as NO3	DETS 2055	1	mg/l	3.7	5.5	1.1			
Sulphate Aqueous Extract as SO4	DETS 2076#	10	mg/l	120	47	28			
Sulphate, Total Potential as SO4	*	0.03	%						
Sulphur as S, Total	DETS 2320	0.01	%						
Petroleum Hydrocarbons									
EPH (C6-C10)	DETS 3321*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
EPH (C10-C12)	DETS 3311	10	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10
EPH (C12-C16)	DETS 3311	10	mg/kg	< 10	< 10	< 10	< 10	13	12
EPH (C16-C21)	DETS 3311	10	mg/kg	16	25	10	23	31	32
EPH (C21-C35)	DETS 3311	10	mg/kg	86	280	21	120	86	120
EPH (C35-C40)	DETS 3311	10	mg/kg	19	75	< 10	24	14	33
EPH (C10-C40)	DETS 3311#	10	mg/kg	130	380	44	170	150	200
PAHs									
Naphthalene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETS 3303#	0.03	mg/kg	< 0.03	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETS 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETS 3303#	0.03	mg/kg	0.16	0.31	0.08	0.21	0.29	0.26
Anthracene	DETS 3303	0.03	mg/kg	< 0.03	0.07	< 0.03	0.03	0.04	< 0.03
Fluoranthene	DETS 3303#	0.03	mg/kg	0.26	0.63	< 0.03	0.42	0.66	0.40

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072626	2072627	2072628	2072629	2072630	2072631
Sample ID	TP03	TP04	TP11	TP03	TP12	TP13
Depth	0.60	0.50	0.60	0.20	0.30	0.10
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	12/10/2022	11/10/2022	10/10/2022	12/10/2022	10/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Pyrene	DETSC 3303#	0.03	mg/kg	0.24	0.59	< 0.03	0.38	0.57	0.34
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.11	0.24	< 0.03	0.14	0.16	0.09
Chrysene	DETSC 3303	0.03	mg/kg	0.17	0.33	0.04	0.23	0.28	0.18
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.20	0.41	0.03	0.22	0.24	0.14
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	0.16	< 0.03	0.09	0.08	0.06
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.10	0.24	< 0.03	0.14	0.13	0.07
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.04	0.12	< 0.03	0.07	0.05	0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.04	0.17	< 0.03	0.06	0.05	0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	1.4	3.3	0.12	1.9	2.6	1.5

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072632	2072633	2072634	2072635	2072636	2072638
Sample ID	TP14	TP16	TP19	TP20	TP22	TP12
Depth	0.20	0.20	0.20	0.10	0.20	2.20
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	10/10/2022	12/10/2022	10/10/2022	10/10/2022	11/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Stones >10mm	DETS 1003*	1	% m/m	15	13	2.0	3.0	2.0	4.0
Moisture Content	DETS 1004	0.1	%	13	13	25	15	14	26
Metals									
Arsenic	DETS 2301#	0.2	mg/kg	110	64	61	64	130	52
Boron, Water Soluble	DETS 2311#	0.2	mg/kg	0.7	0.6	0.9	1.0	0.7	0.7
Cadmium	DETS 2301#	0.1	mg/kg	0.2	0.5	0.5	0.6	0.2	0.2
Chromium	DETS 2301#	0.15	mg/kg	13	14	14	18	15	14
Chromium III	DETS 2301*	0.15	mg/kg	13	14	14	18	15	14
Chromium, Hexavalent	DETS 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETS 2301#	0.2	mg/kg	78	55	47	79	79	66
Lead	DETS 2301#	0.3	mg/kg	86	85	130	180	160	63
Magnesium Aqueous Extract	DETS 2076*	10	mg/l						
Mercury	DETS 2325#	0.05	mg/kg	0.23	0.33	0.15	0.21	0.26	0.18
Nickel	DETS 2301#	1	mg/kg	24	17	16	20	21	36
Selenium	DETS 2301#	0.5	mg/kg	1.3	0.5	0.7	< 0.5	1.5	0.8
Vanadium	DETS 2301#	0.8	mg/kg	38	25	30	37	45	33
Zinc	DETS 2301#	1	mg/kg	88	220	120	330	140	75
Inorganics									
pH	DETS 2008#		pH	5.9	5.6	5.7	6.5	6.4	6.1
Calorific Value	DETS 5008	1	MJ/kg						
Total Organic Carbon	DETS 2084#	0.5	%	20	17	18	14	18	15
Chloride Aqueous Extract	DETS 2055	1	mg/l						
Nitrate Aqueous Extract as NO3	DETS 2055	1	mg/l						
Sulphate Aqueous Extract as SO4	DETS 2076#	10	mg/l						
Sulphate, Total Potential as SO4	*	0.03	%						
Sulphur as S, Total	DETS 2320	0.01	%						
Petroleum Hydrocarbons									
EPH (C6-C10)	DETS 3321*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
EPH (C10-C12)	DETS 3311	10	mg/kg	< 10	< 10	< 10	< 10	< 10	
EPH (C12-C16)	DETS 3311	10	mg/kg	17	14	< 10	14	< 10	
EPH (C16-C21)	DETS 3311	10	mg/kg	29	31	14	34	16	
EPH (C21-C35)	DETS 3311	10	mg/kg	50	110	52	72	34	
EPH (C35-C40)	DETS 3311	10	mg/kg	< 10	27	10	< 10	< 10	
EPH (C10-C40)	DETS 3311#	10	mg/kg	100	180	83	130	65	
PAHs									
Naphthalene	DETS 3303#	0.03	mg/kg	< 0.03	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.04	< 0.03	< 0.03
Fluorene	DETS 3303	0.03	mg/kg	< 0.03	0.03	< 0.03	0.03	< 0.03	< 0.03
Phenanthrene	DETS 3303#	0.03	mg/kg	0.15	0.56	0.27	0.75	0.40	0.12
Anthracene	DETS 3303	0.03	mg/kg	< 0.03	0.07	0.03	0.15	0.06	< 0.03
Fluoranthene	DETS 3303#	0.03	mg/kg	0.15	0.86	0.34	1.4	0.73	0.03

Summary of Chemical Analysis Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072632	2072633	2072634	2072635	2072636	2072638
Sample ID	TP14	TP16	TP19	TP20	TP22	TP12
Depth	0.20	0.20	0.20	0.10	0.20	2.20
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	10/10/2022	12/10/2022	10/10/2022	10/10/2022	11/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Pyrene	DETSC 3303#	0.03	mg/kg	0.16	0.71	0.30	1.2	0.63	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.06	0.23	0.07	0.60	0.33	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.13	0.40	0.16	0.72	0.40	0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.10	0.33	0.10	0.75	0.40	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04	0.14	0.05	0.30	0.16	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.05	0.19	0.06	0.49	0.26	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	< 0.03	0.21	0.12	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05	0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	< 0.03	0.21	0.12	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.84	3.7	1.4	6.9	3.6	0.12

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072639	2072640	2072641	2072642	2072643	2072644
Sample ID	TP02	TP05	TP06	TP07	TP08	TP10
Depth	0.20	0.10	0.20	0.20	0.20	0.30
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Stones >10mm	DETS 1003*	1	% m/m	1.0	1.0	5.0	3.0	5.0	1.0
Moisture Content	DETS 1004	0.1	%	22	24	21	24	22	22
Metals									
Arsenic	DETS 2301#	0.2	mg/kg	48	46	45	45	30	44
Boron, Water Soluble	DETS 2311#	0.2	mg/kg	0.6	0.7	0.6	1.1	0.4	1.5
Cadmium	DETS 2301#	0.1	mg/kg	0.2	0.5	0.4	0.6	0.1	0.4
Chromium	DETS 2301#	0.15	mg/kg	17	44	35	50	16	19
Chromium III	DETS 2301*	0.15	mg/kg	17	44	35	50	16	19
Chromium, Hexavalent	DETS 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETS 2301#	0.2	mg/kg	49	57	53	59	35	54
Lead	DETS 2301#	0.3	mg/kg	74	90	96	92	31	80
Magnesium Aqueous Extract	DETS 2076*	10	mg/l						
Mercury	DETS 2325#	0.05	mg/kg	0.10	0.29	0.20	0.35	0.10	6.4
Nickel	DETS 2301#	1	mg/kg	16	21	23	23	19	20
Selenium	DETS 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.6	< 0.5	0.8
Vanadium	DETS 2301#	0.8	mg/kg	39	36	41	40	24	39
Zinc	DETS 2301#	1	mg/kg	170	96	100	120	48	110
Inorganics									
pH	DETS 2008#		pH	5.9	6.2	6.4	5.8	4.6	6.6
Calorific Value	DETS 5008	1	MJ/kg						
Total Organic Carbon	DETS 2084#	0.5	%	9.9	7.5	6.4	8.4	9.4	8.1
Chloride Aqueous Extract	DETS 2055	1	mg/l						
Nitrate Aqueous Extract as NO3	DETS 2055	1	mg/l						
Sulphate Aqueous Extract as SO4	DETS 2076#	10	mg/l						
Sulphate, Total Potential as SO4	*	0.03	%						
Sulphur as S, Total	DETS 2320	0.01	%						
Petroleum Hydrocarbons									
EPH (C6-C10)	DETS 3321*	0.1	mg/kg						
EPH (C10-C12)	DETS 3311	10	mg/kg						
EPH (C12-C16)	DETS 3311	10	mg/kg						
EPH (C16-C21)	DETS 3311	10	mg/kg						
EPH (C21-C35)	DETS 3311	10	mg/kg						
EPH (C35-C40)	DETS 3311	10	mg/kg						
EPH (C10-C40)	DETS 3311#	10	mg/kg						
PAHs									
Naphthalene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETS 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.03
Fluorene	DETS 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETS 3303#	0.03	mg/kg	0.17	0.10	0.07	0.08	< 0.03	0.30
Anthracene	DETS 3303	0.03	mg/kg	0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.05
Fluoranthene	DETS 3303#	0.03	mg/kg	0.27	0.15	0.14	0.11	< 0.03	0.46

Summary of Chemical Analysis

Soil/Misc Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	2072639	2072640	2072641	2072642	2072643	2072644
Sample ID	TP02	TP05	TP06	TP07	TP08	TP10
Depth	0.20	0.10	0.20	0.20	0.20	0.30
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	10/10/2022
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Pyrene	DETSC 3303#	0.03	mg/kg	0.24	0.13	0.13	0.10	< 0.03	0.37
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.13	0.05	0.07	0.04	< 0.03	0.15
Chrysene	DETSC 3303	0.03	mg/kg	0.16	0.07	0.09	0.06	< 0.03	0.19
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.17	0.07	0.10	0.06	< 0.03	0.18
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	< 0.03	0.04	< 0.03	< 0.03	0.06
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.10	< 0.03	0.05	< 0.03	< 0.03	0.10
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.06	< 0.03	0.04	< 0.03	< 0.03	0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.06	< 0.03	0.04	< 0.03	< 0.03	0.05
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	1.4	0.57	0.72	0.46	< 0.10	2.0

Summary of Asbestos Analysis Soil Samples

Our Ref 22-20871

Client Ref 4511

Contract Title Denby Lane, Grnage Moor

Lab No	Sample ID	Sample Location	Material Type*	Result	Comment*	Analyst
2072615	TP09 0.80		SOIL	NAD	none	Vicky Convery
2072616	TP13 0.50		SOIL	NAD	none	Vicky Convery
2072617	TP13 2.90		SOIL	NAD	none	Vicky Convery
2072618	TP14 0.80		SOIL	NAD	none	Vicky Convery
2072620	TP15 2.50		SOIL	NAD	none	Vicky Convery
2072622	TP17 0.50		SOIL	NAD	none	Vicky Convery
2072623	TP21 1.70		SOIL	NAD	none	Vicky Convery
2072624	TP22 1.00		SOIL	NAD	none	Vicky Convery
2072625	TP11 1.40		SOIL	NAD	none	Vicky Convery
2072626	TP03 0.60		SOIL	NAD	none	Vicky Convery
2072627	TP04 0.50		SOIL	NAD	none	Vicky Convery
2072628	TP11 0.60		SOIL	NAD	none	Vicky Convery
2072629	TP03 0.20		SOIL	NAD	none	Vicky Convery
2072630	TP12 0.30		SOIL	NAD	none	Vicky Convery
2072631	TP13 0.10		SOIL	NAD	none	Vicky Convery
2072632	TP14 0.20		SOIL	NAD	none	Vicky Convery
2072633	TP16 0.20		SOIL	NAD	none	Vicky Convery
2072634	TP19 0.20		SOIL	NAD	none	Vicky Convery
2072635	TP20 0.10		SOIL	NAD	none	Vicky Convery
2072636	TP22 0.20		SOIL	NAD	none	Vicky Convery
2072638	TP12 2.20		SOIL	NAD	none	Vicky Convery
2072639	TP02 0.20		SOIL	NAD	none	Vicky Convery
2072640	TP05 0.10		SOIL	NAD	none	Vicky Convery
2072641	TP06 0.20		SOIL	NAD	none	Vicky Convery
2072642	TP07 0.20		SOIL	NAD	none	Vicky Convery
2072643	TP08 0.20		SOIL	NAD	none	Vicky Convery
2072644	TP10 0.30		SOIL	NAD	none	Vicky Convery
2072645	SP1		Cement	Chrysotile	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 22-20871
 Client Ref 4511
 Contract Denby Lane, Grnage Moor

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Hold time exceeded for tests	Inappropriate container for tests
2072614	TP06 2.20 SOIL	11/10/22	PT 1L		
2072615	TP09 0.80 SOIL	11/10/22	GJ 250ml, PT 1L		
2072616	TP13 0.50 SOIL	10/10/22	GJ 250ml, PT 1L		
2072617	TP13 2.90 SOIL	10/10/22	GJ 250ml, PT 1L		
2072618	TP14 0.80 SOIL	10/10/22	GJ 250ml, PT 1L		
2072619	TP15 0.70 SOIL	10/10/22	GJ 250ml, PT 1L		
2072620	TP15 2.50 SOIL	10/10/22	GJ 250ml, PT 1L		
2072621	TP16 0.90 SOIL	12/10/22	GJ 250ml, PT 1L		
2072622	TP17 0.50 SOIL	12/10/22	GJ 250ml, PT 1L		
2072623	TP21 1.70 SOIL	10/10/22	GJ 250ml, PT 1L		
2072624	TP22 1.00 SOIL	11/10/22	GJ 250ml, PT 1L		
2072625	TP11 1.40 SOIL	10/10/22	GJ 250ml, GJ 60ml, PT 1L		
2072626	TP03 0.60 SOIL	12/10/22	GJ 250ml, PT 1L		
2072627	TP04 0.50 SOIL	11/10/22	GJ 250ml, PT 1L		
2072628	TP11 0.60 SOIL	10/10/22	GJ 250ml, PT 1L		
2072629	TP03 0.20 SOIL	12/10/22	GJ 250ml, PT 1L		
2072630	TP12 0.30 SOIL	10/10/22	GJ 250ml, PT 1L		
2072631	TP13 0.10 SOIL	10/10/22	GJ 250ml, PT 1L		
2072632	TP14 0.20 SOIL	10/10/22	GJ 250ml, PT 1L		
2072633	TP16 0.20 SOIL	12/10/22	GJ 250ml, PT 1L		
2072634	TP19 0.20 SOIL	10/10/22	GJ 250ml, PT 1L		
2072635	TP20 0.10 SOIL	10/10/22	GJ 250ml, PT 1L		
2072636	TP22 0.20 SOIL	11/10/22	GJ 250ml, PT 1L		
2072637	TP01 0.20 SOIL	12/10/22	GJ 250ml, PT 1L		
2072638	TP12 2.20 SOIL	10/10/22	GJ 250ml, PT 1L		
2072639	TP02 0.20 SOIL	11/10/22	GJ 250ml, PT 1L		
2072640	TP05 0.10 SOIL	11/10/22	GJ 250ml, PT 1L		
2072641	TP06 0.20 SOIL	11/10/22	GJ 250ml, PT 1L		
2072642	TP07 0.20 SOIL	11/10/22	GJ 250ml, PT 1L		
2072643	TP08 0.20 SOIL	11/10/22	GJ 250ml, PT 1L		
2072644	TP10 0.30 SOIL	10/10/22	GJ 250ml, PT 1L		
2072645	SP1 MISC	10/10/22	PT 1L		

Key: P-Plastic T-Tub G-Glass J-Jar

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report